SEPTEMBER, 1957

ORTHOPEDIC & PROSTHETIC APPLIANCE JOURNAL

The Journal of the Limb and Brace Profession

Prosthetics at The U. S. Capitol

OALMA President Hennessy demonstrating the adjustable leg before the Senate Committee on Labor and Public Welfare. The room is the historic old Senate Chamber.

publishers: Orthopedic Appliance & Limb Mfrs. Assn. and American Board for Certification

DATES TO REMEMBER

1957-1958

What • When • Where

SEPTEMBER

27-28	CERTIFICATION EXAMINATION FOR ORTHOTISTS AND PROSTHETISTS	*Washington, D. C.*
29	NATIONAL ASSEMBLY OF THE LIMB AND BRACE PROFESSION—OALMA and Certification Meetings conclude October 2.	*Washington, D. C. Statler Hotel*

OCTOBER

1-2	NATIONAL ASSEMBLY—Sponsored by OALMA and Certification Board	*Washington, D. C. Statler Hotel*
2-4	NATIONAL REHABILITATION ASSOCIATION MEETING—(Session on Orthopedic Appliances presented by OALMA the morning of October 4th)	*Minneapolis, Minn. Nicollet Hotel*

DECEMBER

3-6	AMERICAN MEDICAL ASSOCIATION — Clinical Meeting	*Philadelphia, Pa.*

1958

FEBRUARY

1-6	ACADEMY OF ORTHOPAEDIC SURGEONS MEETING	*New York City Waldorf-Astoria Hotel*

THE COVER SCENE

The scene on the cover took place in the famous Old Chamber of the United States Senate on Capitol Hill. Charles A. Hennessy, President of OALMA and Prosthetics Instructor at the University of California, is demonstrating the use of the adjustable leg. This was a part of the presentation to the Senate Committee on Labor and Public Welfare, arranged by the Prosthetics Research Board May 24. The amputee is Herbert Kramer, Technical Assistant with the Prosthetic Devices Study at New York University (*Journal*, March, 1957, 65-66).

Orthopedic and Prosthetic Appliance Journal

(Title registered U. U. Patent Office)

VOLUME 11 • SEPTEMBER, 1957 • NO. 3

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CONTENTS

Notes from the Editor's Desk

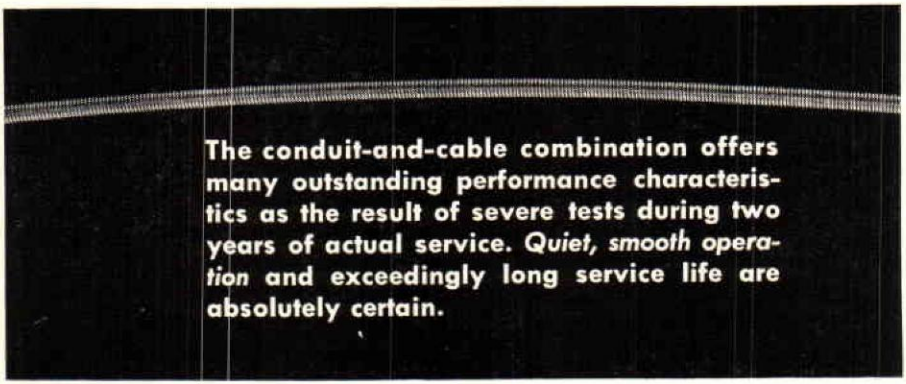
Do you notice something *new* on the Table of Contents page?—the Notice of Second Class Mailing Privilege. Yes, as it says there, our *Journal* has been "entered as Second Class Material in the Post Office at Washington, D. C." That's an important landmark. First, of course, it means a reduction in mailing costs, from $107 to about $24 an issue. But even more important, is the status it gives. Congress established Second Class Mail Privileges to encourage "the dissemination of information of a public character or devoted to literature, the sciences, or for some special industry." Magazines must meet strict requirements to obtain these privileges. They must have a legitimate list of subscribers, must be published at stated intervals, etc.

"To see ourselves as others see us." That's what the Scottish poet said. He might also have said, "To see ourselves better, look at others." We better understand our own opportunities when we look overseas at our colleagues. Take for instance, Bill Tosberg's excellent article in this issue, which gives us a first-hand view of prosthetics abroad.

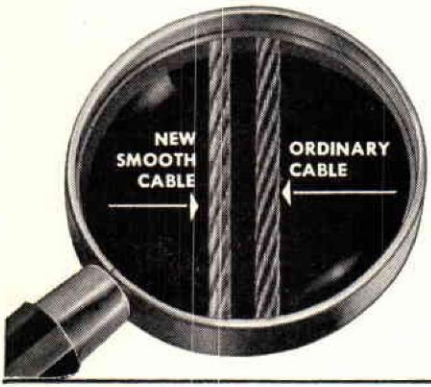
We begin in this issue a new column. This is "The Idea Exchange," pages 56-57. And from Texas comes a suggestion for a column which strikes us as another effective exchange. Al Muilenburg of Houston suggests a "Laboratory and Shop Notes" column devoted to methods and equipment used in actual fabrication of appliances. Al writes that some people have been using certain methods for years, which may be new to other people. Send in some items for the December, 1957 issue. Drawings and photographs will be welcome.

See you soon!—The Editor.

QUIET, SMOOTH OPERATION... with this new ACCO lined



The conduit-and-cable combination offers many outstanding performance characteristics as the result of severe tests during two years of actual service. *Quiet, smooth operation* and exceedingly long service life are absolutely certain.



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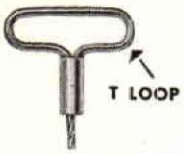


LOOP TERMINAL ASSEMBLY

This **T** loop terminal is swaged to the button-and-cable assembly. The small, inexpensive button fitting is not re-usable.

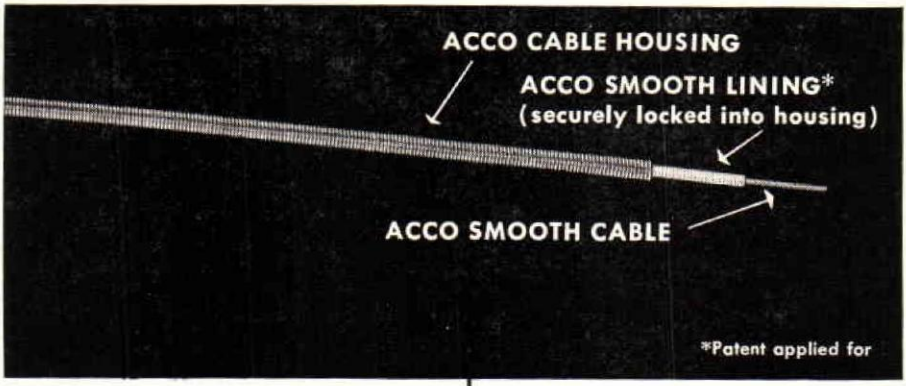
BUTTON TERMINAL ASSEMBLY

This is the basic cable assembly. The small, inexpensive button is swaged to the cable and is not re-usable.

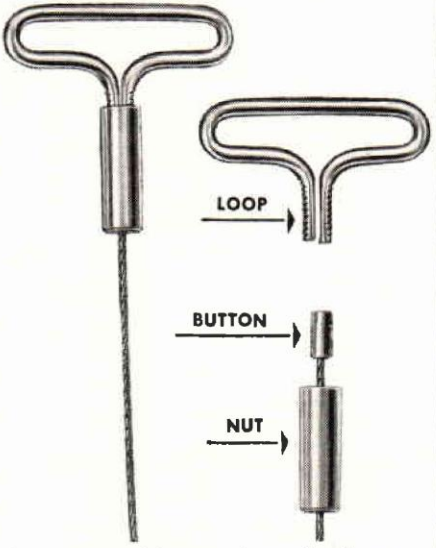
HALF-BALL FITTING ASSEMBLY

This fitting consists of a half-ball with a shank for easy swaging. Illustration shows this assembly threaded through ACCO smooth lined conduit. The small half-ball, like the button, is swaged and is not reclaimable.

No Grunts! No Squeals! No Jerks! conduit and ACCO smooth cable



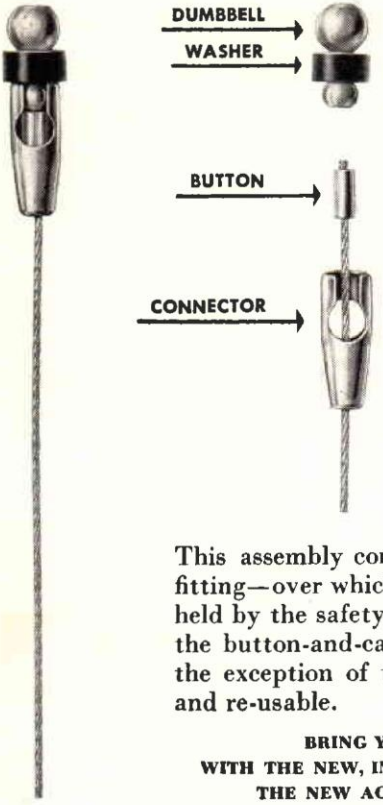
STRAP HANGER ASSEMBLY



This assembly consists of a loop which screws into a threaded nut which holds the basic button assembly. Both loop and nut are easily reclaimable with no need to melt out solder.

TUNNEL PIN SAFETY CONNECTOR ASSEMBLY

This assembly consists of a safety connector which holds the half-ball assembly. It is designed to handle loads limited to protect the user from damage at the surgical attachment. The connection will pull out with a 30-pound pull —no danger of torn muscles.



DUMBBELL and CONNECTOR ASSEMBLY

This assembly consists of a dumbbell—double-ball fitting—over which a rubber washer is fitted. This is held by the safety connector which is threaded over the button-and-cable assembly. These fittings, with the exception of the small button, are reclaimable and re-usable.

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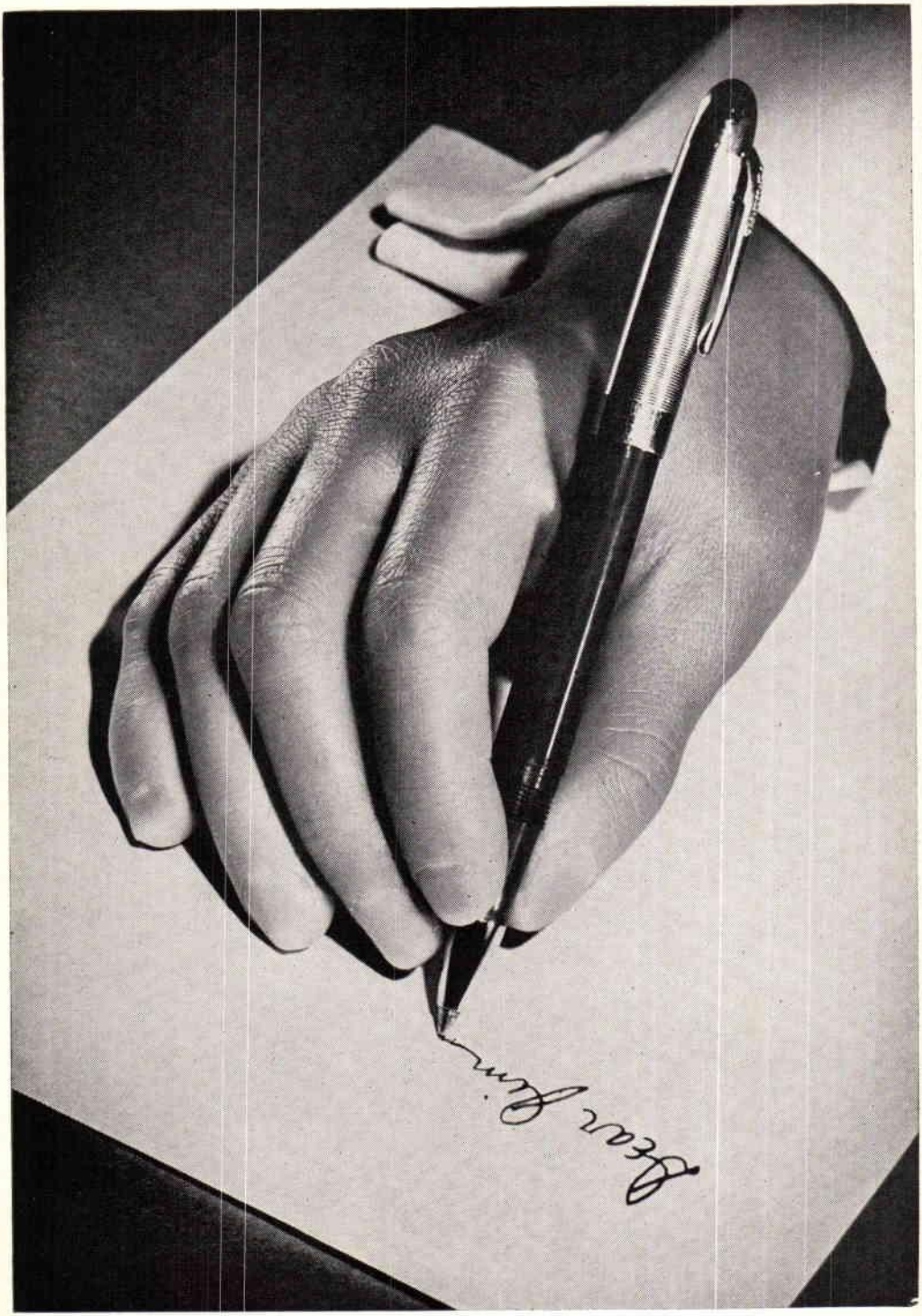

Dear Jim,

Limb and Brace Profession to Meet in Washington—Program Opens September 29

1957 Assembly

The 1957 National Assembly of the Limb and Brace Profession is to be held in Washington, D. C., the city where 40 years ago the first national organization of the limb and brace field was developed.

Now in 1957 OALMA returns to Washington. The dates are September 29 to October 2, 1957, and the place is the Statler Hotel. The program theme, "Education for Better Service to the Handicapped" is in line with the modern interest in rehabilitation.

A variety of seminars, workshops and scientific sessions have been arranged to carry out this theme.

Preliminary Events

Well in advance of the official opening date, OALMA officials and Certification Examiners will convene in Washington. A corps of examiners led by Edward W. Snygg, Examiner-in-Chief, will meet with Certification Board President Carlton Fillauer and Educational Adviser, Dr. Miles W. Anderson, the evening of Wednesday, October 25, to review plans for the Certification Examinations.

Approximately 80 candidates have received detailed instructions and will be reporting for the practical, written and oral tests. Half of the candidates will be taking the practical tests, September 26, with the remainder scheduled Sepember 28. The entire class will assemble for the written tests on Friday, September 27.

OALMA officers and Regional Directors will be in session on Friday, September 27, reviewing current projects and making plans for the future.

Many OALMA members are planning to come early and stay late, combining attendance at the Assembly with a vacation trip. For their convenience the Registration Booth will open the afternoon of September 28.

PROGRAM CHECKLIST—"FOR YOUR SCHEDULE"

Sunday, September 29—Morning—Assembly Opens

9:00 — Exhibits open in the Congressional Room
Registration Desk opens—Mezzanine Floor. An OALMA Registration Badge is required for admission to all meetings and to the Exhibits display.

Afternoon

2:00 — Seminar: Functional Anatomy Related to Orthotics and Prosthetics. John Bray, C.P.&O., Instructor.

Evening

7:00 — "Get Acquainted" Party and Reception. The exhibitors will be guests of honor at this informal "get-together" for all persons attending the Assembly. Your Registration Badge is your admission card.

Monday, September 30—Morning

8:00 — President's Breakfast. Setting the keynote for the Assembly—"Rehabilitation—Worldwide"—a preview of the scientific, technical and entertainment features planned for you.

10:00 — Opening Business Session. Nomination of officers. Under OALMA's By-Laws, nominations are made today. These lie on the table until the Wedneday session, when other nominations may be made and voting will take place.

POST-ASSEMBLY TRIP

OALMA is sponsoring a three-day all-expense visit to colonial Williamsburg and historic Jamestown in Virginia. Arrangements for this tour are being made by *Travel Inc.*, 1001 Connecticut Ave., N.W., Washington 6, D. C., to whom reservations should be sent. The tour via air-conditioned motorcoach will take visitors to Fredericksburg, Williamsburg, Jamestown and Stratford, boyhood home of Washington —the Lee House, which stands today as it did over 200 years ago. Overnight accommodations will be made at the famous Tides Inn.

Monday, September 30—Morning (Continued)

10:15 — Management Workshops. Presidential Ballroom, Statler Hotel. You will be assigned to one of our work groups to study management problems in the limb and brace field. Noted authorities will be present as "resource persons"—not to make long speeches, but to take part in the discussions, hear your problems at first hand and contribute from their wealth of experience.

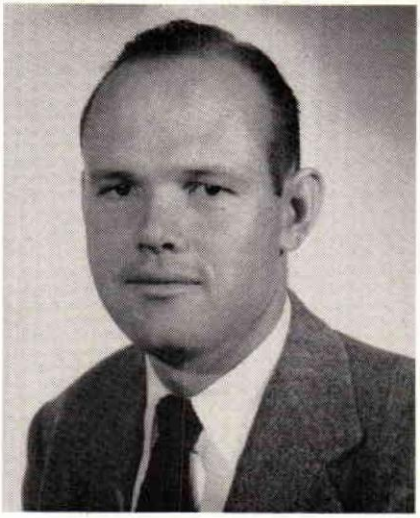
1. *Personnel and Management* (Education and Training, Pay Scales, etc.)
2. *Financial Management Problems* (Operating ratios—Inventory), (Profitable Sidelines such as Corsets, Wheelchairs, Shoes and Belts, etc.)
3. *Shop Efficiency Workshops* (Time Studies; Case Records; Purchasing; New Materials; Machines; Materials, etc.)
4. *Rehabilitation of the Veteran and Civilian*—Where Is It Going and What Are the Desirable Standards? (The Prosthetic Representative; Clinic; Non-profit Agencies; Veterans Administration; the Federal Government and Vocational Rehabilitation).

Afternoon

3:00 to
4:30 — The Newington Brace and Other Developments in Cerebral Palsy Bracing. Admission by Seminar ticket only. Register for this at the time of your registration.
Russell V. Fuldner, M.D., New Haven, Conn—Clinical Applications.
Joseph Rosenberger, C.O.&P., New Haven—Technical Applications.

Evening

6:00 to
7:00 — Greetings To Our German Colleagues. The German Embassy, New Hampshire Ave. and R St., N.W. Persons registered for the National Assembly will be guests of the German Ambassador at this special reception-ceremony to be held at the German Embassy.
President Hennessy will present a Scroll of Greetings to the German Orthopedic and Artificial Limb Field from OALMA. A representative of the Embassy will respond, accepting the Citation on behalf of the German group.
There is a growing tradition of cooperation between our colleagues in Germany and the limb and brace profession in this country. In 1956 George W. Fillauer, Sr., of Chattanooga was OALMA delegate and William Wagenseil of Brooklyn alternate, at the convention of the German field in Berlin.



From the University of California: James Foort (left) and Charles Radcliffe will teach sessions on The SACH Foot, The Symes Prosthesis and Canadian Hip Disarticulation.

Monday, September 30—Evening (Continued)

8:00 — Alumni Reunions. For the first time students and faculty of the courses in Upper and Lower Extremity Prosthetics will hold a get-together. The session for the graduates of New York University is being arranged by Dr. Sidney Fishman. The UCLA meeting is being planned by Dr. Miles Anderson. You will have an opportunity to talk about old times with classmates and faculty—and hear of the new developments which the two schools are introducing.

8:00 — Manufacturers' and Suppliers' Roundtable. What are the problems that beset supplier and manufacturer in the prosthetic and orthopedic appliance field? And what can be done to solve them?

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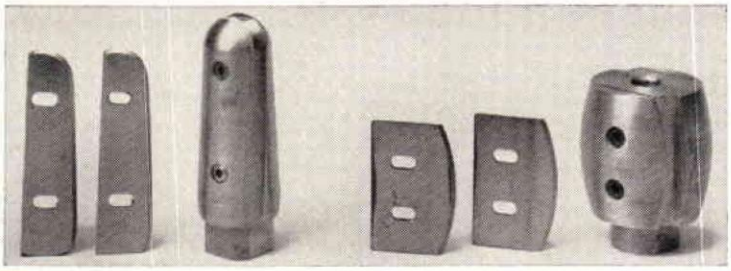


ATTACHMENTS

No. 2100C No. 2100D No. 2100E No. 2100F No. 2100G

PLASTIC FIBRE LIMB COMPANY
523 South Fourth Street, Minneapolis, Minnesota

Tuesday, October 1—Morning

9:30 — Bracing the Paralyzed Patient—Lower Extremities—panel discussion Panel Members: Charles S. Wise, M.D., Professor of Physical Medicine and Rehabilitation, George Washington University; Herbert Hart, C.O.&P., Manager, Hittenberger Co., Oakland, Calif.; H. H. Maddox, Certified Orthotist, Georgia Warm Springs Foundation; Karl Buschenfeldt, Certified Orthotist, Buschenfeldt Orthopedic Appliances, Stoughton, Mass.

11:15 — Upper Extremity Prosthetics—What's New in Prostheses for the Arm Amputee. A report by Maurice J. Fletcher, Colonel, U.S., Director, Army Prosthetics Research Laboratory. Arrangements: Howard Thranhardt, C.P.; Carlton Fillauer, C.O.&P.

Afternoon

1:00 — Certification Luncheon—Tributes to retiring Board members, Carlton Fillauer and Edward C. Holscher, M.D.
Annual Business Meeting
"Are We Becoming Professional: The Role of Certification"
A Panel discussion including "The Challenge" from an eminent physician; and reports as to "Competitors and Colleagues" by OALMA President Hennessy, as to rehabilitation agencies—by Board Member W. Frank Harmon of Atlanta; "as to the physician" by John Buckley of Providence, R. I., and "as to the patient" by Ivan Dillee.

4:00 — Seminar: SACH Foot
Discussion and demonstration by Charles W. Radcliffe, Associate Professor of Engineering Design, the University of California, Berkeley, Calif.

Evening

8:00 — Seminar: The Symes Prosthesis, James W. Foort.

Wednesday, October 2—Morning

9:30 — Balance and Brace Construction in Leg Deformities, under the direction of Alfons Glaubitz, Certified Orthotist and Prosthetist and in charge of the brace establishment of the Pennsylvania Hospital for Crippled Children of Elizabethtown. Problems of balance and weight-bearing have long been the concern of this gifted orthotist. First in his own establishment and later with the Pennsylvania State Hospital he has worked out principles of value and has many constructive suggestions.

11:30 — The Canadian Hip Disarticulation. Charles W. Radcliffe, Associate Professor of Engineering Design, the University of California, Berkeley, Calif.; James Foort, University of California, Prosthetics Research, Berkeley.

12:00 — OALMA Meeting to Elect Officers (Nominations made at the Monday session. Other nominations may be made at this time.)

Afternoon

2:00 — New Developments in Functional Arm Bracing Correlated with Reconstructive Surgery. Jacquelin Perry, M.D., Rancho Los Amigos: Roy Snelson, Certified Orthotist, Rancho Los Amigos.

Wednesday, October 2—Afternoon (Continued)

4:30 — Below Knee Prosthetics. Some of America's leading prosthetists spent a week at the U. S. Naval Hospital, Oakland, this spring reviewing procedures in BK Prosthetics. The results of their deliberations make possible this session. Among the topics: Biomechanics of BK Prosthetics; Measurements; Patterns; Socket Fitting; Cast Modification Techniques (carved wood sockets, molded leather or plastic sockets, soft sockets); Alignment—Socket-Shank-foot relationships, side joint location.

Evening

7:00 — Reception. Invited to meet you will be leading figures in rehabilitation and the national scene.

7:30 — The Assembly Banquet

8:00 — Presentation of the OALMA Citation to the Eisenhower Administration for leadership in rehabilitation to the handicapped.
Past President Citation to W. Frank Harmon (President 1955-1956)
Installation of Officers
Adjournment

Post Assembly Events—October 3-5

OALMA pilgrimage to historic Virginia. A tour of Williamsburg and Jamestown by private air-conditioned motor coach. (Travel arranged for OALMA by Travel, Inc.)

Suppliers Feature Modern Appliances

Exhibits Display

More than thirty leading suppliers to the limb and brace field are joining forces for the 1957 National Assembly in Washington. The exhibiting firms and the orthotist-prosthetist will be given an unusual opportunity to become better acquainted in their mutual task of serving the handicapped. Supplier firms are anxious to show the limb and brace fraternity the very latest in a myriad of products, equipment and up-to-date necessities for orthopedic appliance practice.

Qualified representatives will be on hand to answer the questions and to acquaint visitors with the products and policies of the houses they represent.

Exhibits will be set up the afternoon of September 28, with the formal opening exercises set for 9:00 A.M., Sunday morning the 29th. That evening exhibitors will be guests of OALMA at the Assembly "get-together" and cocktail party in the South American Room.

Booth locations assigned as of the day the *Journal* goes to press include:

Booth No. 1—Kessler Associates, Jerome and Sanford Kessler and Walter Pavelchek are coming from Newark to display new appliances which will interest every limb and brace establishment in America. The emphasis of their line of products is on efficiency of performance and upkeep.

Booth No. 5—Truform Anatomical Supports. Each Truform support has been approved by their technical and medical staff before being offered. Pete Pease, Russell Johnson, Ed Trageser, and Henry Bates will be in attendance at the Assembly. Truform is well known for its concern in catering only to the requirements of the ethical surgical appliance dealer.

Booth No. 6—The Dorrance Company. Noel and Agnes Brown will display the complete Dorrance line of terminal devices. Jerry Leavy will alternate between the Hosmer Booth No. 7, and the Dorrance display.

Booth No. 7—A. J. Hosmer Corporation. Many new items, ranging from an oval shaped wrist unit to a medium-sized Canadian Hip Joint, will be on display. Lloyd Brown and Jerry Leavy will be at the booths.

Booth No. 8—Kingsley Manufacturing Company. Kenneth Kingsley reports that the display will include the APRL Cosmetic Glove, the SACH Foot for Men, Women and Children, Passive Hands, Cosmetic Leg Coverings for both Men and Women, the Nay-Vee Leg, the Western Leg. Accessories will include: Standard Arm Colors, Standard Leg Colors, Wrist Cuffs and Hook Fairings. Also, on display will be samples of the Hydraulic Swing Phase Control Mechanisms.

Booth No. 9—L. Hirsch Leather Company of New York City. This firm carries a complete line of leather for orthopedic appliances. Among the many items on display will be the color fast Beige Elk, which is being used for all types of Braces, and the Cream Orthopedic Cowhide, which can be matched to any desired color or weight.

Booth No. 10—Markell Shoe Co. This display will include modern corrective shoes for every orthopedic need, including tarsal supinator for the postural correction of flat feet.

Booth No. 11—Keystone Cane and Crutch Co. Charles L. Yancey, owner of the company, will have on display a variety of canes, crutches, walkers, drying frames for stump socks, leather anklets and hands. This company is national distributor for the Bosworth modified Thomas Collar and Denis Browne Splints. Aluminum Canes with the rubber handles are a specialty of this company.

Booth No. 12—Levy and Rappel, New York City. This company will display a variety of foot appliances. Their products are well-known to orthopedic surgeons. Mr. Levy and Mr. Rappel will be on hand for the Assembly.

Booth No. 13—Tenenbaum Prosthetics. Milton and Adele Tenenbaum recently returned from London and Paris, where they represented OALMA at the World Congress of the International Society for the Welfare of Cripples. They will display a large selection of cosmetic hands, gloves, fingers and partial hands in various colors and sizes.

Booth No. 14—Accurate Knitting Mills. This company has been reorganized and is now under the leadership of Gerald Shearer. This company will display its complete line of stump socks.

Booth No. 16—S. H. Camp and Co. C. E. Yesalius, Sales Manager of the company, will be at the booth showing the new medical products which the Research Department has made available. These include Traction Extension, Lymphedema Arm Sleeve and Legging, Abduction Pillow, Special Stockings, Hinged Knee Brace, Cervical Flexion Collars and Spinal Braces.

Booth No. 15—C. D. Denison Orthopaedic Appliance Co. This company is nationally known for the services which they have rendered in bracing of the cerebral palsy patient. Their unique supply service program to other Certified facilities will be shown in the display.

Booth No. 17—Sierra Engineering Company. Arthur Ritterrath, Vice President and Sales Manager, will be in charge of the display of Sierra products, including the new model No. 44 APRL Hand. This positive locking hand is a fine product made even better by smooth action, precision control and natural appearance used with the Cosmetic Glove.

Booth No. 18—U. S. Manufacturing Co. of Glendale, Calif. With its new and enlarged plant this company is able to supply prefabricated brace parts, prosthetic equipment, with quick delivery featured. Jay Greene, President, and Edward Strong, Field Representative, will be at the booth.

Booth No. 19—Florida Brace Co. of Winter Park, Fla. Terry Moore will exhibit *The Jewett Brace*, for hyperextension of the spine in the treatment of spinal conditions requiring positive hyperextension such as simple compression fractures, Osteoporosis, Adolescent Epiphysitis, and Marie Struempell's Disease. He will also show the *Myo-Cervical Collar*, a rigid modification of the Thomas Collar, with the unusual feature of adjustability of height and degree of hyperextension.

Booth No. 20—Hersco Arch Products Corp. of New York City. Leo Waller, Sales Manager, reports that the latest developments of the Hersco Laboratory will be featured for the inspection of Assembly visitors. On display will be many types of flexible Arch Supports, including Amputation Fillers, numerous Stainless Steel Supports, as well as Dural Foot Appliances specially treated against corrosion, Moulded Leather and Rubber Shells of all description, Rubber Scaphoids and other Longitudinals, Metatarsal Pads, Air-foam, Foam on sheeting, Ortho-Cork.

Booth No. 21—Pope Brace Division. The latest developments in prefabricated brace parts for the orthotist will be shown. Of special interest will be the bale lock drop ring brace and the Newington cerebral palsy brace, which features single bar, aluminum and stainless steel construction with all pivotal joints bearing mounted.

Booth No. 22—Bennington Stump Sock Corporation, Bellmore, N. Y. Milton Katz, President. This company will exhibit a comprehensive line of its products. Among the items are "BESSCO" Amputee Stump Socks made in many fabrics and shapes, Orthopedic Stockinette made in two types of fabrics, "BESSCO'S" new Cast covering sock which is worn over Ankle of Leg Casts, and "BESSCO'S" Surgical Thermo Guard Warmers. These give the wearer relief, comfort and protection from Arthritis, Rheumatism and Myositis.

Booth No. 23—Becker Orthopedic Appliance Co. of Birmingham, Mich. Otto Becker will have on display his complete line of brace parts and braces. Included are his cerebral palsy brace joints constructed of 24 S. T. Aluminum.

Booth No. 24—John J. McCann Company, Burlington, N. J. John A. McCann, President, and his associates will display the variety of products which have made this prosthetic supply house world famous. The variety of their products are almost too numerous for cataloging, bearing out the firm's motto, "If we don't have it and it is available, we'll glady try to get it for you." This is the fiftieth anniversary year of the McCann Company.

Booth No. 25—Apex Foot Health Products Co., New York City. Charles and David Schwartz will present their company's complete line of arch supports and orthopedic products.

Booth No. 26—Ohio Willow Wood Company, Mount Sterling, Ohio. Edwin and John Arbogast will have a display of their products including the "Sterling Stump Stocking." This company is also celebrating its fiftieth anniversary. Their Quadrilateral Socket Blocks are available in small, medium and large sizes and meet NYU's specifications.

Booth No. 27—I. Sabel, Inc., Brockton, Mass. Eugene Sabel and other representatives of this firm and their affiliated factories will be in attendance at the Assembly. On display will be (1) A new improved Pre-Walker Club Foot shoe along with a new size range, (2) a new Night Brace Shoe to be used for night braces and splints. This shoe has been designed for night wear; (3) New styles for men, women, and children made on famous Sabel lasts.

Booth No. 29—American Rawhide. This company with headquarters in Chicago, specializes in supreme rawhide and quality leathers for the artificial limb field. It also provides many precut leather parts to save the prosthetist time and money. Mr. and Mrs. Howard Emery, well known members of OALMA, will be in attendance at the Assembly.

Booth No. 30—Prosthetic Services of San Francisco. This firm under the leadership of Mr. and Mrs. C. O. Anderson have made famous the trade mark name, "Realastic" of the Cosmetic Glove, Partial Hand, Facial and Body Restorations.

Booth No. 31—George W. Freeman Co., Sturgis, Mich. The Freeman Surgical Supports were developed in close cooperation with members of the medical profession. The result is a sound basic design which makes available the right model for every surgical garment application the doctor may prescribe.

Booth No. 32—Otto Bock Orthopedic Appliance Industry of Duderstadt, Germany. Mr. Max Nader, who made so many friends at the 1956 National Assembly in San Francisco, is coming from Germany to display the many products of this large orthopedic supply house.

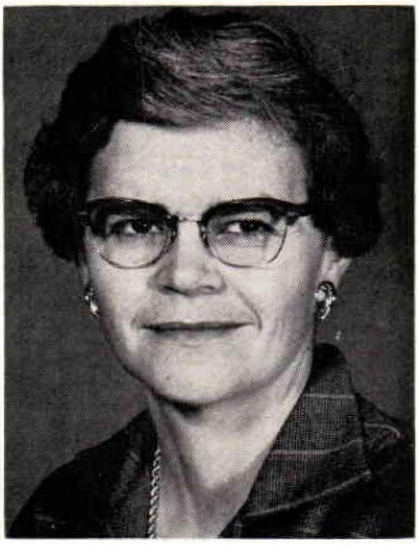
Booth No. 35—Southern Prosthetic Supply Co. of Atlanta, Ga. This company was originally established to service facilities in the South, but now furnishes prosthetic and orthopedic supplies to manufacturers in all areas. An efficient shipping department makes possible quick delivery. Among the new items handled by this company are: (1) "Woolite" a cold water soap powder which quickly cleans stump socks; (2) The SACH type foot made by this company is machine carved to natural foot shapes.

Booth No. 28—The Knit-Rite Company. On hand to welcome you will be Lorraine Dillard, Lee Fawver, and Ted Smith. Their display will feature Knit-Rite Stump Socks, artificial limb parts and supplies, and they also will have several items that will be of interest to orthotists, such as Heger Cervical Collars, Taylor, Chair Back, and Williams Spinal Braces.

Booth No. 34—Tiedemann Leather Company. Kimble L. Atkinson, president of this well-known leather supply house will be on hand at the Assembly.

Assembly To Hear Report On Bracing And Reconstructive Surgery Summary Of Assembly Paper

EDITOR'S NOTE: *The OALMA Assembly this year will hear a special paper on "New Developments in Functional Arm Bracing Correlated with Reconstructive Surgery." Because of its importance we have asked the authors for a summary, for the benefit of those unable to attend.*



Jacquelin Perry, M.D.

The authors of this paper are Vernon Nickel, M.D., Jacquelin Perry, M.D., Roy Snelson, C.O. and Jack Conry, C.O.

Dr. Nickel is a graduate in medicine of the College of Medical Evangelists, where he is now Assistant Professor of Orthopedic Surgery. He is currently Chief of Surgical Service and Head Orthopedist at Rancho Los Amigos Hospital.

Dr. Jacquelin Perry has her Bachelor's Degree in Education from the University of California at Los Angeles and her Medical Degree from the University of California at Berkeley. Formerly a Resident in Orthopedic Surgery at the University of California, she is now Orthopedic Surgeon on the staff of Rancho Los Amigos Hospital.

Roy Snelson, is Certified as an orthotist. He was on the staff of Logan and Company facility in Los Angeles from 1947 to 1956. Currently he is Chief Orthotist at Rancho Los Amigos Hospital and Clinical Instructor in Orthotics at the University of California at Los Angeles.

In her presentation, Dr. Perry will comment that:

"Research in Upper Extremity Prosthetics has provided much data that can be applied to the loss of the use of upper extremities. It is with this group that the authors have been working at Rancho Los Amigos Respiratory Center in Functional Arm Bracing Program. Successful prescription of the functional arm brace is facilitated by evaluating the activities of the upper extremity by five major components; stability of the shoulder and wrist joints are essential and moderate flexion of the shoulder to approximately 45° is most desirable. The elbow must not only be able to go through the full range of flexion but must also be able to be locked in the various positions.

Passive pronation of the forearm must be possible and a moderate range of supination is desirable. An active pinch, of course, is the most essential factor." The technique for producing these functions will be described by Mr. Snelson.

Mr. Snelson will also point out that:

"There are still many limiting factors in functional arm bracing. The main ones being: the bulkiness of the brace that supplies function of the entire upper extremity, the appearance of the orthesis, pressure on atrophied parts and the complexity of using accessory control sources. These problems may be met in part by the judicious application of reconstructive surgery. The basic requirement of reconstructive surgery is to correct deformities which prohibit effective bracing, of which the release of fixed supination is an example. It is our feeling that bracing and surgery frequently may be correlated, with the preference for a brace when surgery cannot produce satisfactory reults where weak effective function requires stabilization or reinforcement."

A Functional Bracing Unit Demonstrated for the Meeting of Region VI, OALMA

At the Chicago Meeting, John De Bender, C.O. is shown demonstrating the functional bracing unit which he made for the patient. Patient is a post polio, respiratory case, who has bilateral, flail upper extremities with the exception of the hand and wrist which are functional. He was fitted with a Robin-Aids reciprocator and shoulder suspension hoop. This unit enables the patient to use the muscles of the leg to provide flexion and extension of the arm. With the aid of this unit the patient has been able to return to his job.

Coming in the Next Issue

The Tenenbaums report on "The World Congress"
Charles Hennessy describes "Local Arbitrations"

OALMA Presents Orthopedic Program at Rehabilitation Conference

OALMA is presenting a program on new developments in orthopedic appliances at the 1957 Rehabilitation Conference in Minneapolis the morning of October 4. This is by invitation of the *National Rehabilitation Association,* which is in charge of the conference.

The program has been arranged to give rehabilitation workers a report on new developments in orthopedic appliances and training. A similar program on prosthetics was presented by invitation at the 1955 meeting of the National Rehabilitation Association in St. Louis.

Robert C. Gruman of Minneapolis, who is in charge of arrangements, reports that OALMA President Hennessy will preside at the Minneapolis session. He and other members of OALMA who are appearing in the program will leave Washington the morning of October 3, immediately after the National Assembly of OALMA in order to be present for the last day of the Minneapolis meeting.

Features of the program include:

ORTHOPEDIC APPLIANCES TODAY—A REPORT TO THE REHABILITATIONIST—PRESENTED BY THE ORTHOPEDIC APPLIANCE AND LIMB MANUFACTURERS ASSOCIATION

1. *Introduction*—Charles A. Hennessy, presiding.

2. *Orthopedic Appliances Now and Then—A Demonstration with Comments*

Presentation of Appliances—C. E. Medcalf, C.O.

Comments by—Roy Snelson, C.O.—Supervisor of the Brace Establishment, Rancho Los Amigos Hospital, Hondo, Calif.
Gordin G. Plorin, C.O.

Comments by the Physician—Dr. A. Ray Dawson, Head of Physical Medicine and Rehabilitation, Veterans Hospital, Richmond.

3. *New Development in Functional Arm Bracing Correlated with Reconstructive Surgery in Severely Paralyzed Upper Extremities*

Jacquelin Perry, M.D., Vernon L. Nickel, M.D. Roy Snelson, C.O.

4. *Modern Training in Orthotics and Prosthetics*:

Miles Anderson, Director of Prosthetics Education, University of California, Los Angeles; Robert C. Gruman, C.P., the Winkley Company, Minneapolis, Minn.; Charles A. Hennessy, C.P., Associate in Prosthetics, University of California, Los Angeles; Lucius Trautman, C.P., President, Ray Trautman & Son, Inc.

5. *Prosthetic Appliance Today—A Report on Developments in Physical Restoration Devices Since the NRA Session Report of* 1955

Daniel B. Becker, President, D. B. Becker Co., St. Paul; George H. Botko, C.P., George H. Botko Co., Minneapolis; Oscar W. Chelberg, C.P., J. F. Rowley Co., Minneapolis; Walter H. Erickson, C.P., President, E. H. Erickson Artificial Limb Co.; Robert C. Gruman, C.P., Winkley Artificial Limb Co., Minneapolis; Chester C. Nelson, C.P., Secretary, Minneapolis Artificial Limb Co., Minneapolis, Minn.; H. J. Niessen, C.P., President Northwestern Artificial Limb Co., Minneapolis.

Bracing For The Paraplegic Patient

By DONALD A. COVALT, M.D.,
Associate Director, Institute of Physical Medicine and Rehabilitation of New York University—Bellevue Medical Center, and

JOHN RETZLER, C.O.,
Vice President, Winterkorn Orthopedic Appliance Company, New York City

Figure I—The hip joint showing attachment to the pelvic band and the ring lock.

Figure II—The knee joint, demonstrating the ring lock and the thigh and calf cuffs and the knee pad.

We have a "rule of the thumb" that patients with paraplegia at the level of D-10 and above will need long leg braces, pelvic band and Knight spinal attachment. Below D-10, the patient can usually get along with long leg braces with a pelvic band, and, depending upon the amount of return, we may use long leg braces alone. If there is sufficient musculature around the hip and knee, only short leg braces are prescribed to take care of a dropped foot.

Braces should be fitted to the patient with careful attention to any pressure points, for many paraplegic patients have no sensation and their skin is apt to break down with decubitus ulcers. At the same time, the braces should be fitted snugly to the human form in order to be as neat as possible.

Hip (Figure I) and knee (Figure II) joints are usually fitted with ordinary ring or drop lock. Some patients have used the Swiss lock at the knee joint for years and like it. We ordinarily would not try to change it if the patient is used to it and likes it. But, if original braces are being prescribed, we use the simple ring lock. Patients with adductor spasm should not be fitted with Swiss locks for they are apt to trip the knee lock inadvertently.

Braces should be as physiological as possible. We feel that when a patient is standing in his braces, his hip joint should be over the knee joint, and his knee joint over the ankle joint. Looking at the patient laterally, all joints should fall on a straight vertical line at a right angle to the floor.

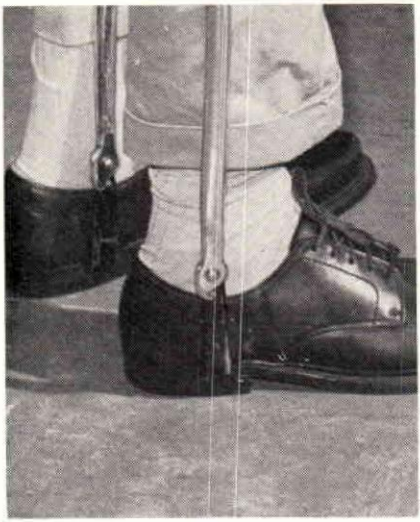


Figure III—Demonstrates the stirrup attachment and the ninety degree stop. Notice that the ankle joint of the braces is in line with the patient's ankle joint.

Figure IV—Double bar long leg braces with pelvic band and stirrup attachment. Proper fitting of the pelvic band is most important.

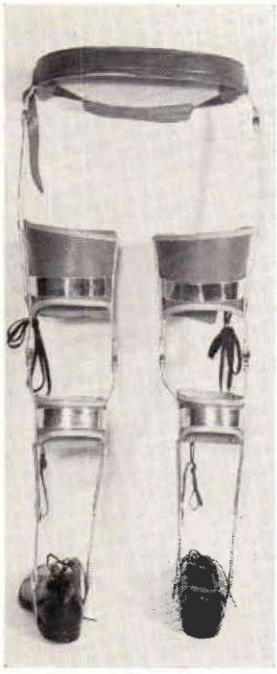
IV

For the patient who needs only long leg braces without a pelvic band, the lateral bar should extend to just below the greater trochanter and the upper thigh cuff should fit smoothly into the gluteal fold. The upper thigh cuff is ordinarily made so as not to provide ischial weight bearing from the band. A knee pad is used to prevent flexion at the knee. The calf band cuff should be full and strapped in front.

Stirrups are of forged steel with sole extension. The ankle joint is placed at the level of the patient's ankle joint and, with the usual paraplegia, we use a ninety degree stop to prevent foot drop (Figure III). For the patient who needs long leg braces and a pelvic band, the band must be well fitted with hip extensions attached to the pelvic hip joints. The hip joints on the brace should fall at the point of the patient's hip joint and possibly a quarter of an inch posteriorly.

When checking out patients with new braces, it is important to have him sit. Hip, knee and ankle joints should all be at a ninety degree angle.

In our experience, the pelvic band is very important. A lot of attention and care towards fitting the patient properly is necessary. The pelvic band should fit smoothly and rather low on the buttocks of the patient, and the band is slanted outward from above to below. The pelvic band is not horizontal. As it curves to the back, it is curved downward and tilted out (Figure IV). For those patients with lesions at D-10 or above, a back support or a spinal brace is attached to the pelvic band.



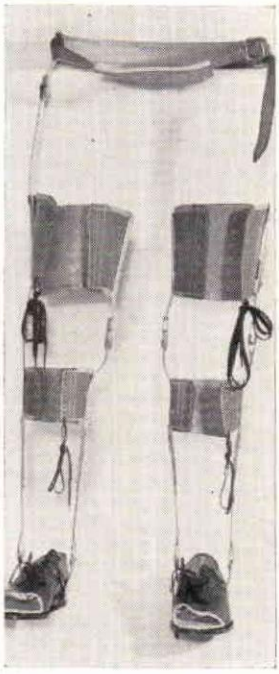


Figure V—(at left)—Front view of double bar long braces with pelvic band and stirrup attachment.

Figure VI—(center, above)—This pelvic band is horizontal and actually fits the patient around the waist so that he tends to fall through the braces and jack-knife.

Figure VII—(right, above)—Leather cuffs at thigh and calf bands are hot and lacing takes extra time.

The question of using steel or dural aluminum is decided by the patient's weight and the amount of wear and tear the patient may be expected to give the brace. It is, of course, important to make them as light as possible, but, they must be strong enough to do the job.

Specifications:

Stirrups—steel, one piece forging with sole extension.

Uprights—steel or dural aluminum, half round or edges ground.

Thigh bands—steel or aluminum.

Pelvic bands—half-round, steel.

Bars with hip lock—steel.

All leather fittings are lined with medium weight horsehide leather and the outside of the bands are covered with a good grade of leather.

Shoes for paraplegic patients should have soft toes—not a box toe—and a stiff shank. Very spastic patients should have high top shoes.

A typical prescription would be as follows:

1. Double long leg braces with pelvic band with stirrup attachment.
2. Ring lock at hip and knee.
3. Ninety degree ankle stop.

The team approach is utilized at the Institute. We have found it advisable to have a Brace Clinic, at a definite time, once a week and patients are reviewed at that time. Ordinarily, a patient has had a complete examination and evaluation with a range of motion and manual muscle test before he comes before the Brace Clinic.

At that time, the orthotist, therapist and the physician carefully examine the patient, and, after consultation, the prescription is written. After the braces have been fitted and delivered, the patient is again seen in the Clinic and checked out at that time. Any necessary adjustments are made at that time. We have found it to be very helpful to take care of minor adjustments as they occur, and, as many as 18 to 20 patients may be seen in one Clinic session.

Every patient is again checked out in the Brace Clinic just before discharge.

JOHN RETZLER

John Retzler was born in 1908. He entered the orthopedic appliance field in 1924 and in the years since then has fitted thousands of orthopedic appliances in the leading New York City hospitals. Mr. Retzler was Certified as an orthotist in 1950, holding Certificate No. 138. Throughout his career he has been associated with the Winterkorn Orthopedic Appliance Company of New York City and is now serving as Vice President of the firm.

DONALD A. COVALT, M.D.

Donald A. Covalt was graduated from the Medical School of Indiana University in 1923. He is now Associate Director of New York University's Institute of Physical Medicine and Rehabilitation. He is also Associate Professor in the Department of Physical Medicine and Rehabilitation of the University's College of Medicine. Currently, Dr. Covalt is a consultant in his specialty to the U. S. Department of Health, Education and Welfare. He is a Diplomate of the American Board of Physical Medicine and Rehabilitation.

A Suction Socket Prosthesis Without Suction*

By CHARLES G. HUTTER, M.D.
Hollywood, Calif.

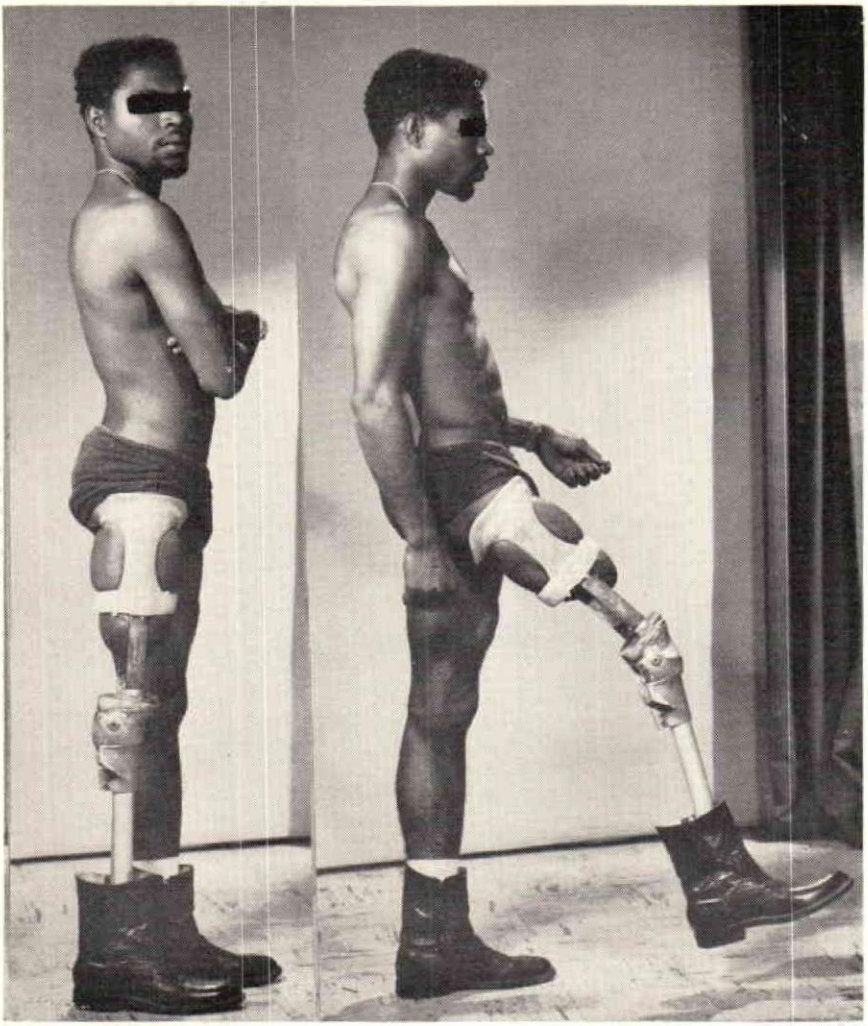
The term "suction socket" prosthesis has become common with usage among prosthetists and physicians concerned with fitting an artificial limb which does not require any harness to maintain it in place. The name implies that the socket is held in place by "suction." Gravity attempts to pull the socket from the stump, causing a reduction of the air-pressure within the sealed space between the socket and the stump. This results in a relative increase of the air-pressure on the outside of the socket and produces this so-called "suction action." It is the opinion of this observer that this term "suction" has been misleading to many of the prosthetists concerned with the manufacture of this type. The correct term should be "lowered atmospheric pressure." Like the airplane which stays aloft due to a decrease of atmospheric pressure on the upper surface of the wing, the prosthesis remains attached due to decreased pressure within the confines of the socket.

With observation and study of these amputees in five years of fitting suction sockets it became apparent that other factors were involved in the maintenance of socket in position than "lowered atmospheric pressure." It was shortly after the suction socket program was instituted that we discovered some patients were able to maintain the socket in position by contracture of their stump musculature. It was also noted that the sockets which were most satisfactory and produced the least complications due to strangulation of the end of the stump, were those which were under-cut anteriorly and posteriorly. From these initial observations, alterations in the configuration and concept of the shape of the socket gradually developed.

In order to demonstrate an important role which anatomy and kinesiology (muscle function) plays in the suction socket prosthesis an entirely new type of socket was manufactured. This socket does not employ any suction whatsoever. The socket is maintained in position by the contracture of the thigh musculature, the tissue mass at the end of the stump, and the anatomical configurations of the socket. (See illustration No. 1 and No. 2.)

The socket demonstrated in these photographs consists of a carefully shaped inlet, adhering closely to the anatomical configuration of the thigh at the hip joint. The socket compresses the thigh along its medial and lateral aspects. It is open along the anterior and posterior aspects, allowing the muscle tissues of the thigh to extend out of these open areas. When the wearer contracts the thigh musculature it becomes larger in circumference than the inlet of the socket. As a result the ischial seat becomes more securely pressed against the ischium and better control of the prosthesis is possible. This male amputee was able to run without losing his prosthesis; to play basketball and even touch football without any circulatory complications or cramping of the muscles of the stump. He did not develop edema of the end of the stump. In several cases, edema of the end of the stump has been corrected by fitting the patient with this type of socket. Since

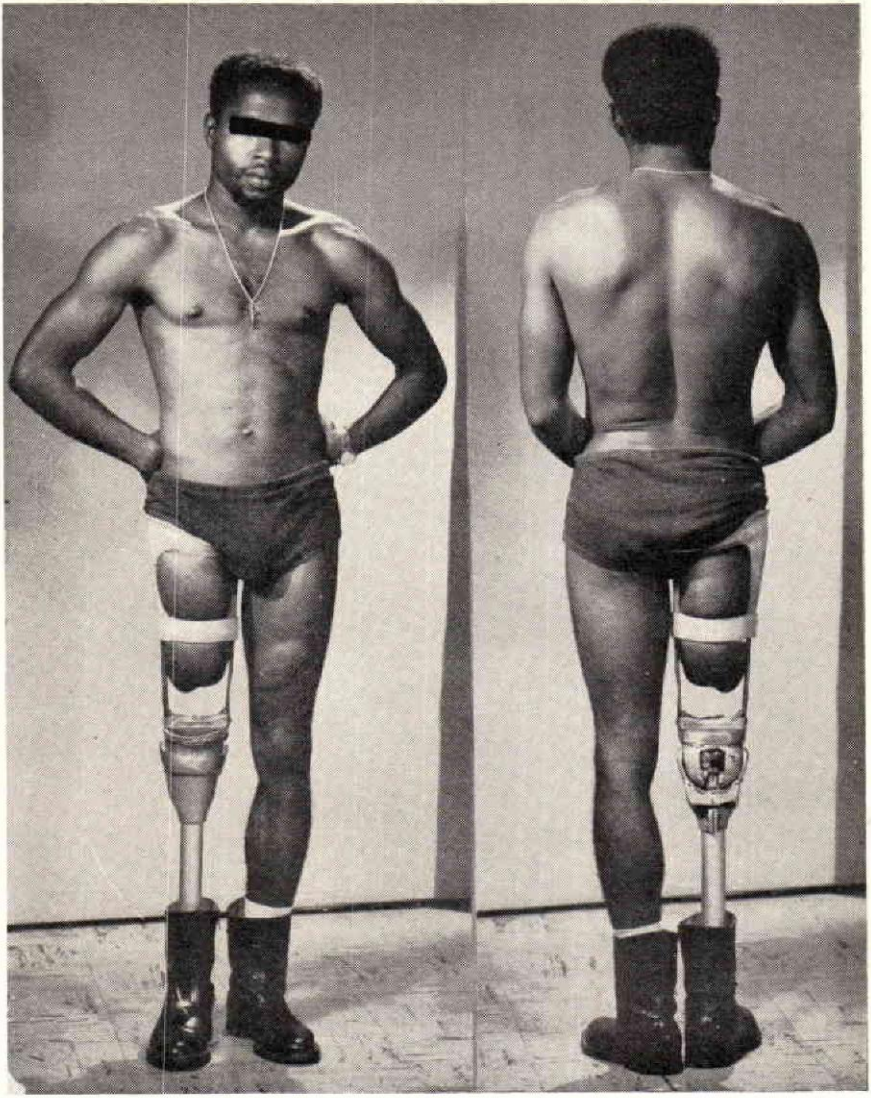
* The Carl Woodall Artificial Limb Co., Los Angeles, provided the photographic material and fabricated the sockets.



No. 1. Plastic covered metal forms the socket. Notice the bulging muscle distal to the inlet.

there is no encircling band below the femoral triangle there is no physical cause for edema to develop. The woman amputee demonstrates an alteration in the original socket: the front and back openings of the socket being partially closed by leather. This young woman is a professional dance instructor and entertainer who is able to do complicated dance routines in spite of her above-knee amputation.

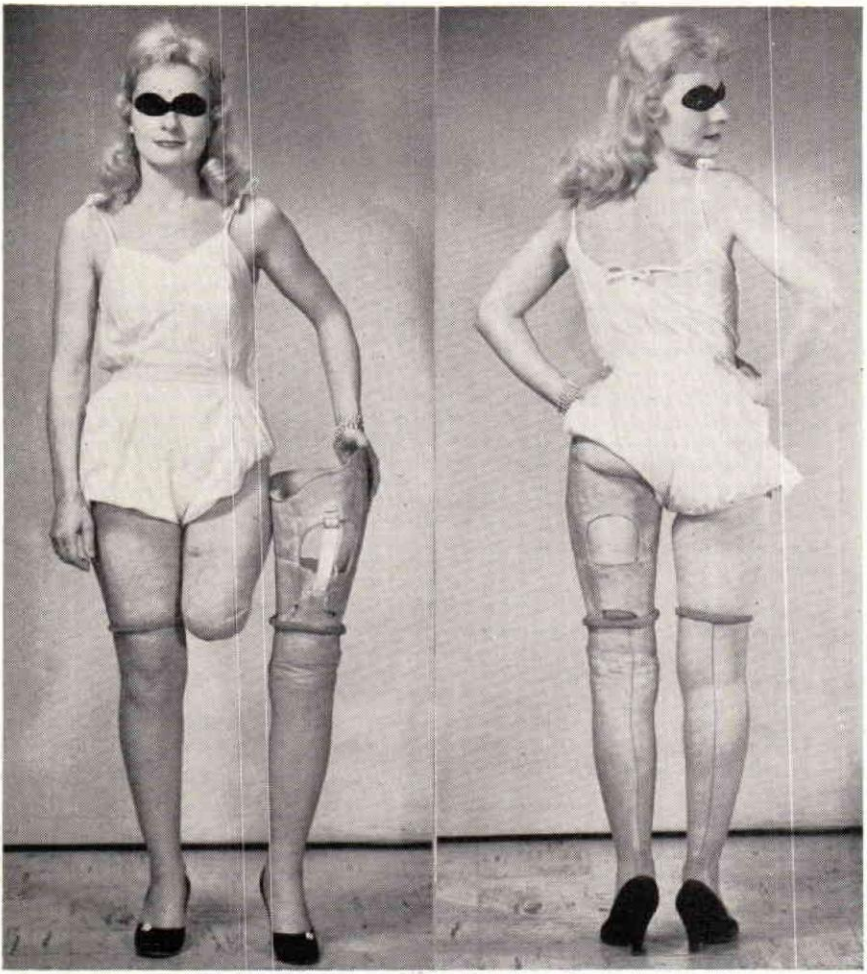
The fact that this type of socket can be successfully fitted and worn without complications indicates that a review of our concept of the anatomy of the stump is indicated. If one considers a muscle and its function, one immediately appreciates that with contracture of a muscle the muscle changes in size and shape. The muscle becomes shorter and of greater circumference. This is invariably true of all skeletal muscles. These muscles would become



No. 2. The end of the stump can be free, or supported by leather.

compressed and embarrassed in their function if they were placed adjacent to joints where motion takes place. Nature has accommodated for this situation by forming tendinous and fascial extensions of the muscles in these areas. Thus we find about the knee, elbow, hip, ankle and wrist, tendons and fascia rather than muscle mass. This is also true of the anatomical organization of the muscles about the hip joint.

When a muscle is divided and its insertion removed so that no change in length of the muscle is possible, the muscle atrophies and becomes replaced by fibrous tissue. On amputation of a leg above the knee, all muscles originating on the femur and having their insertion in the upper tibia atrophy.



No. 3. Socket is plastic. The leather covering over the distal end of the stump is soft and adjustable in circumference.

There are only a few muscles in the thigh which originate on the femur and insert on the tibia. The greater majority of thigh muscles pass across the hip joint and insert on the pelvis. This allows a range of motion for the muscle and makes contracture possible, even after thigh amputation. With use these muscles will maintain contractile power and muscle mass. It is the shortening and increase in circumference produced by the contracture of these muscles which is utilized in the fitting of this special type of socket.

The principles in fitting this socket are not new. The first appliance utilizing these principles was the ischial weight bearing brace. This socket is an improvement upon the fitting of the ischial weight bearing ring and is especially designed for the functioning muscles remaining in a amputation stump. There is the rectus femoris anteriorly, the adductor muscle medially, the gluteus maximus and hamstring muscles posteriorly which need space for their contracture. The remaining musculature can be compressed to secure stabilization as it atrophies completely due to disuse. The vastus lateralis is one of these muscles.

No. 4. Again note the muscle protruding through the openings in the socket.

In order that this socket be given an adequate trial we have postponed this report until twenty-five were fitted and in use. Some of the patients have worn them for more than a year now. All are pleased with the prosthesis and several have recovered from rather persistent and severe edema and ecchymotic berets of the end of the stump.

This report on this contoured socket with an opening in front and in back is presented with hopes that it will stimulate your thinking regarding the shape and fit of the "suction socket."

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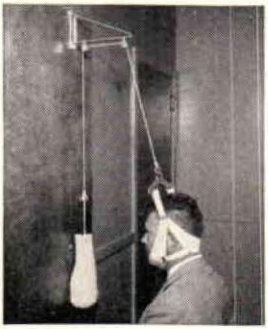

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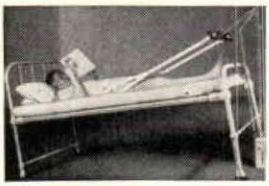

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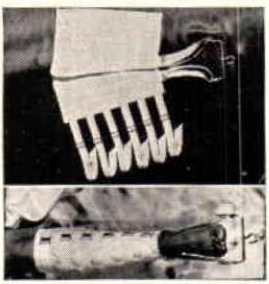

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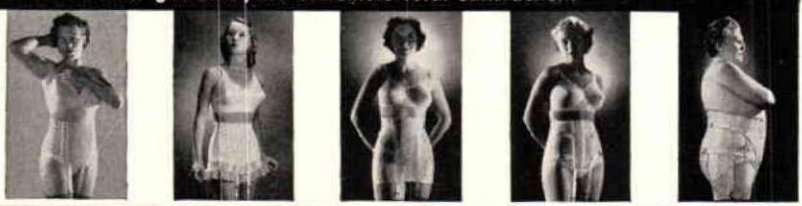

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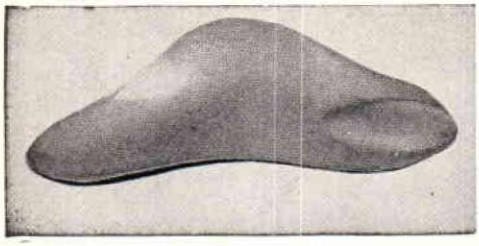

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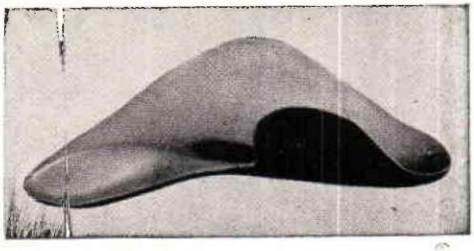

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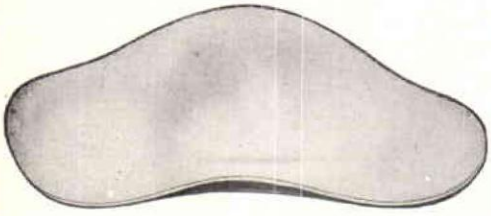

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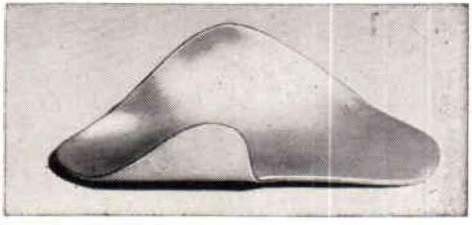

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Improvements and Cost Reductions in Arch Support Fabrication

By ANTHONY STAROS

Chief, VA Prosthetics Center

I. Introduction

An improved and cheaper method of fabricating simple arch supports, using a new material (Naugahyde) for covering of these items, has been developed by the VA Prosthetics Center in New York. While it is believed that the majority of arch supports can be fabricated by this method, it is realized that in some problem cases other methods will have to be used.

During the six-year period from Fiscal Year 1951 through Fiscal Year 1956, a total of almost 29,000 arch supports, or an average of approximately 4,833 per year, were fabricated in VA Orthopedic Shops. During the same six-year period, the Veterans Administration procured a total of 69,563 arch supports, or an average of 11,594 per year, from local commercial orthopedic shops. In comparing costs of arch supports fabricated in the different VA Orthopedic Shops, and/or procured from commercial dealers by different VA field stations, it has been noted that there is great variation in the costs reported, indicating a wide variation in methods of fabrication and materials used. One of the purposes of the VA Prosthetics Center is to outline uniform methods and materials for fabrication of specific devices which, after thorough research evaluation and development, are determined to be highly satisfactory for the purpose intended but which eliminate frills and unnecessary added features.

The "New" method of arch support fabrication outlined herein was developed by I. Zamosky, C.O., Orthopedic Technician, Limb and Brace Section, VA Prosthetics Center, and is currently in use at the Center. The substitution of Naugahyde as a covering material was suggested by W. Fortgang, Supply Clerk, VA Prosthetics Center.

II. The "Old" Method

Starting with an *unfinished* arch support shell (Figure 1), the following operations are necessary to produce a *semi-finished* arch support shell, as in Figure 9C:

A. Cutting and Skiving, Figures 1 and 2. B. Buffing, Figure 3. C. Contouring Springs, Figure 4. D. Riveting Springs, Figure 5. E. Cutting Cork Filler, Figure 6. F. Assembling Cork Filler, Figure 7. G. Buffing Cork Filler, Figure 8.

Total Labor Expended in the above operations per pair of shells equals 1 man hour.

III. Cost Analysis of "Old" Method

Cost of fabrication of semi-finished arch support pair in VA Orthopedic Shop:

Materials	*1 Spring Type*	*2 Spring Type*
Cork Filler (4"x6"x⅛")	$0.04	$0.04
2 or 4 springs at $.08	.16	.32
1 pair of unfinished shells	.73	.73
Total Cost of Materials	$0.93	$1.09
Add Labor Cost for Technician, 1 hr. at $1.96	1.96	1.96
Total Cost of Orthopedic Shop Fabrication	$2.89	$3.05

IV. The "New" Method

Semi-finished shells are procured from a commercial contractor who had formerly provided the unfinished shells. Each pair of the semi-finished shells have the longitudinal springs in place and are covered (or filled) with 1/8-inch cork. The semi-finished shells (Figure 9C), as supplied, have been skived, sanded, and buffed sufficiently so that only the metatarsal pad need be positioned and the shells covered with naugahyde. Semi-finished shells of the one spring or two spring type are purchased on a Supply Contract contining the above specifications and the estimated annual needs.

For 240 pair per year of the one spring type, from sizes 9 through 14, the low bid price* averaged approximately $1.50 per pair. For the same annual quantity of the two spring type, from sizes 9 through 14, the low bid price averaged $1.98 per pair.

V. Cost Comparisons: "Old" vs. "New" Methods

	Average Costs, per pair	
	1 Spring Type	*2 Spring Type*
"Old" Method	$2.89	$3.05
"New" Method	1.50	1.98
Average Savings per pair	$1.39	$1.07

VI. Further Improvements and Savings

After the metatarsal pad has been placed, the semi-finished arch support requires a covering material. Formerly, Vici Kid leather was used. However, this type of leather caused staining of the patient's stockings. Natural calf leather can be substituted, but this material is more expensive than Vici Kid.

Naugahyde**, a vinyl plastic bonded to a fabric base, has many advantages over the leathers. Staining does not result from its use. It is stronger, more durable, and perspiration resistant. It is easier to stretch over the complex shape of a support shell. A sheet of Naugahyde has more uniform quality than do skins of leather. Naugahyde is also less expensive. Even assuming that the average leather skin has no defects, cost comparisons favor the Naugahyde:

Covering Material	*Approximate Material Costs Per Square Foot*
Vici Kid	$0.49
Natural Calf	0.66
Naugahyde	0.25

About one (1) square foot of covering material is used per arch support; savings, per *pair* of supports, resulting from the use of Naugahyde will be as follows:

Naugahyde instead of Vici Kid	$0.48
Naugahyde instead of Natural Calf	0.82

* From Apex Foot Health Products Company, 695 Sixth Avenue, New York, N. Y.

** Procured from distributors of U. S. Rubber Co., Naugatuck Chemical Division, 203 Elm Street, Naugatuck, Conn. VAPC uses 34 oz. Sandalwood BA104PD, in 25 yard rolls 54 inches wide at approximately $84.00 per roll.

FIGURE 1—CUTTING UNFINISHED SHELL

FIGURE 2—SKIVING UNFINISHED SHELL

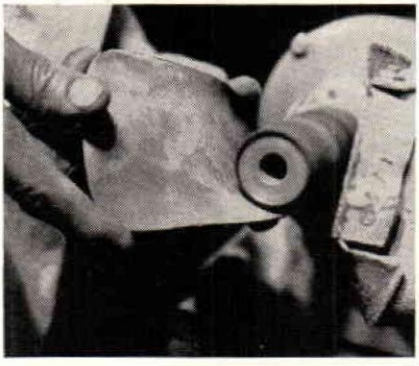


FIGURE 3—BUFFING SHELL

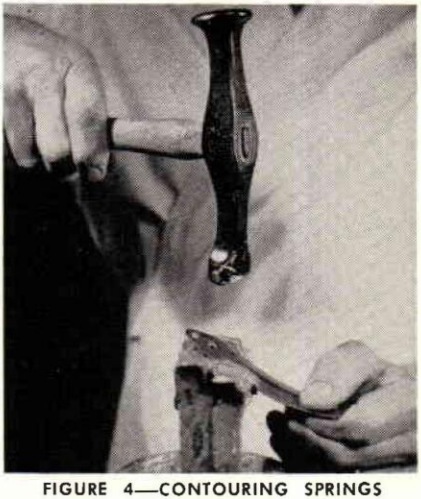


FIGURE 4—CONTOURING SPRINGS

FIGURE 5—RIVETING SPRINGS

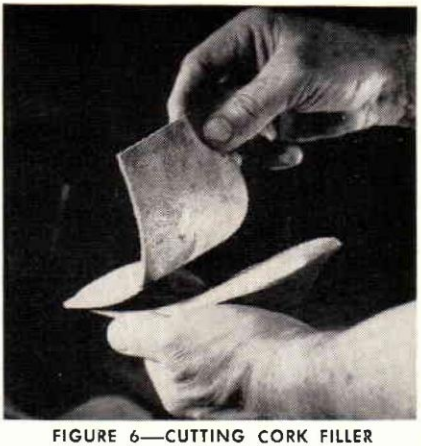


FIGURE 6—CUTTING CORK FILLER

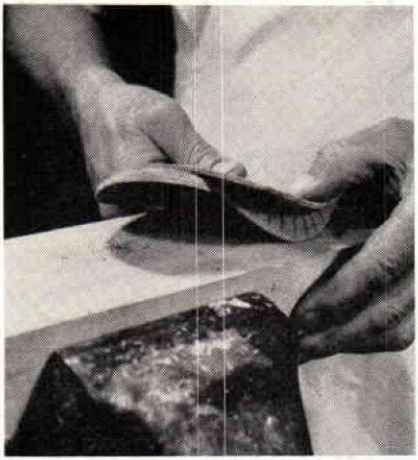


FIGURE 7—ASSEMBLING CORK FILLER

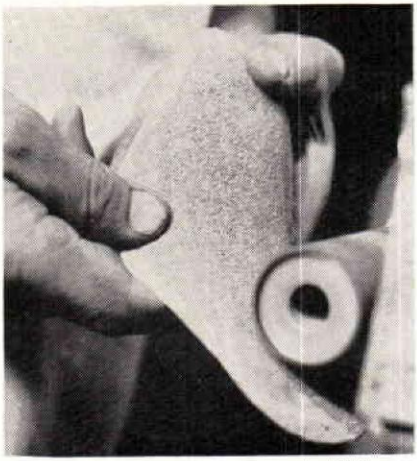
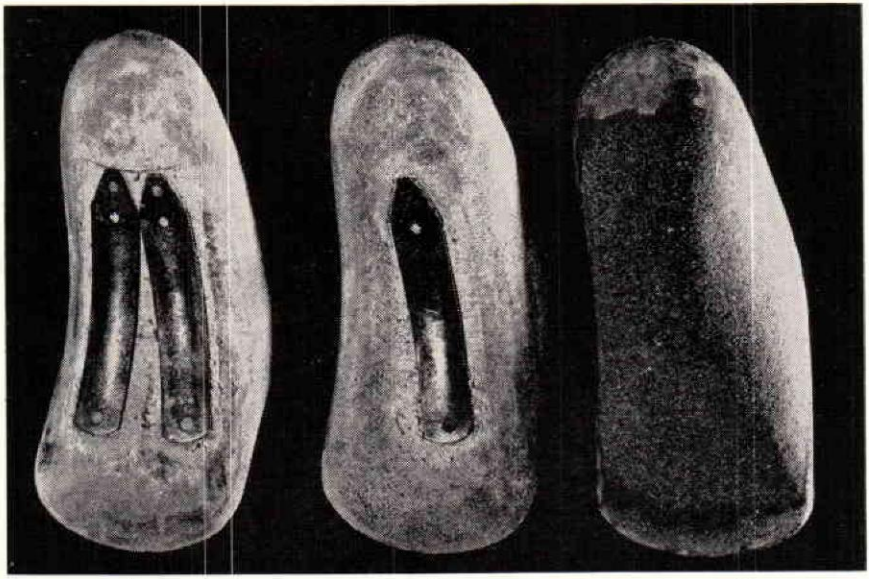


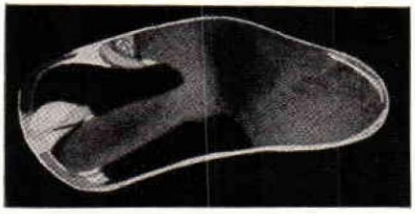
FIGURE 8—BUFFING CORK FILLER



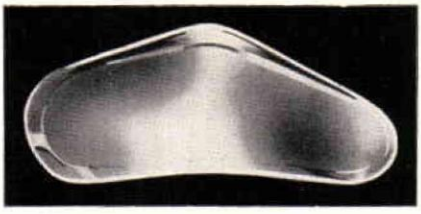
A B C

FIGURE 9—A. TWO SPRING ARCH SUPPORT SHELL. B. ONE SPRING ARCH SUPPORT SHELL. C. SEMI-FINISHED ARCH SUPPORT SHELL.

"ORTHODUR" PLASTIC ARCH SUPPORTS FOR MAXIMUM FOOT COMFORT

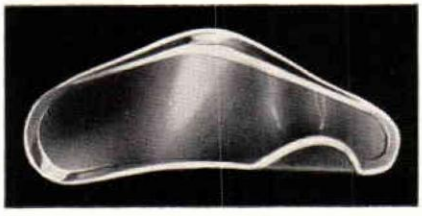


Style 79
Regular, Most Popular Style.
Longitudinal and Metatarsal Arch Support

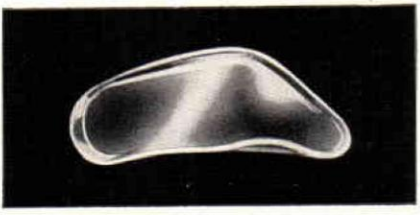


Style 77
With High Inner Flange, and Low Metatarsal Support

ALL REGULAR SIZES CARRIED IN STOCK



Style 83
With High Inner and Outer Flange



Style 69
Special Design for Children

"ORTHODUR" Plastic Arch Supports Are Superior In:

- **DURABILITY**
- **FLEXIBILITY**
- **HYGIENE AND**
- **EASE OF ADJUSTMENT**

They have proved successful in practical use on a large scale and have stood up to the very critical and suspicious tests of Doctors, orthopedic experts, hospitals and insurance companies.

HOLDWELL ARCH PRODUCTS

SPECIALISTS IN MODERN FOOT SUPPORTS

P.O. Box 205, Gracie Station New York 28, N. Y.

Ends Fitting Problems

Kendrick
EXPANDED-TOP
Elastic Stocking

Having Trouble Properly Fitting Customers With Extra Large Thighs?

Then show — and you'll sell — the Kendrick stocking that's especially designed for those problem legs. It's full-fashioned in two-way stretch surgical elastic with *extra* width in the top . . . ends stretching and pulling. The Kendrick Expanded Top is *knitted* to fit, not stretched to fit. Customers will say it's the most comfortable they've ever worn.

This exclusive sales feature is available in two Kendrick styles — the Kennit, a *strong* light-weight stocking reinforced with nylon or fine cotton — the Kenlite, an all-nylon stocking for *gentle* support and high-style beauty. High quality and custom, full-fashioned fit build sales . . . a Kendrick feature for over 100 years.

JAMES R. KENDRICK CO., INC.
6139 Germantown Avenue, Philadelphia 44 : : 76 Madison Avenue, New York 16

Kendrick

OVER ONE HUNDRED YEARS OF SERVICE

With Complete Confidence

DOCTORS PRESCRIBE . . . DEALERS SELL

Freeman

SURGICAL SUPPORTS

MODEL 422
Sacro-Lumbar Back Support for Men

MODEL 423
Sacro-Lumbar Back Support for Women

SOUND BASIC DESIGN—In developing the corset type of support, Freeman has worked closely with the medical profession. The result of this work and cooperation is a sound basic design that can give the exact degree of support or immobilization desired and still retain comfort for the wearer whether he's sitting, standing or reclining.

COMPLETE LINE—When you handle Freeman surgical supports you have available the *right* model for every surgical garment application the doctor may prescribe. You can be sure that each is correctly designed for its job and *will be worn* because it will be comfortable. That's why you can fit and sell Freeman garments with confidence.

FREEMAN QUALITY FEATURES • *Self-smoothing, Non-Wrinkle Fly. Exclusive. Speeds putting on garment, assures extra comfort* • *Petal-Soft Interior Finish. Cushions stays, avoids irritation* • *Nylon Laces at points of greatest strain* • *Soft Plush Padding under hooks and eyes* • *Superb Needle Work* • *Correct Materials.*

FREEMAN MANUFACTURING COMPANY, Dept. 809, Sturgis, Michigan

Send me complete literature on Freeman surgical supports ☐. Send on approval, without obligation, a Freeman Sacro-Lumbar Back Support for my inspection ☐.

Men's ☐ Women's ☐ Size_____.

Name_____

Address_____

City_____ State_____

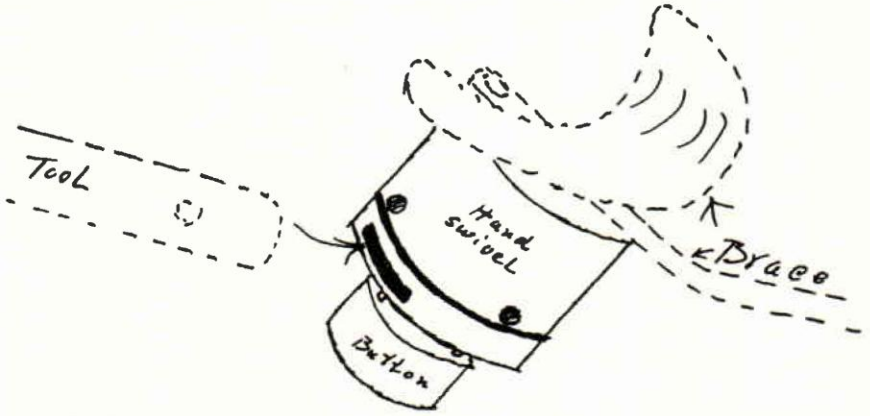
Hand Swivel: An Attachment for The Paralyzed Hand

By K. B. NELSON, C.O.

Nelson Orthopedic Company, Pittsburgh, Pa.

The patient with one or both hands paralyzed has always been a serious problem in the brace shop. We want to do something to enable him to help himself. A number of means have been taken to attach such instruments as a spoon or pencil to a wrist splint. Usually, however, it has been necessary for someone else to prepare the patient to use these tools and to attach whatever devise is used.

To meet this need, we have developed a Hand Swivel. This consists of a simple forearm trough with a bar extending to the palm. To the end of the bar the Swivel is attached. The Swivel has an opening in which can be inserted any one of a variety of attachments useful to the patient in his daily living. Among them are a knife, fork, a spoon, a pencil, a comb, a toothbrush, a razor, a cigarette holder, a water glass holder.



The Swivel is made of aluminum with a button on the under side which activates a steel wheel inside and permits rotation of the portion of the Swivel that holds the tools, to select one of fifteen positions. In releasing he button the tool locks in position and also locks into the Swivel. The Swivel rotates 360°. The release button is so sensitive that merely resting the hand on the table or against a part of the body will release it. Then the attachments can be changed without force. The change can be made by the teeth if necessary.

We have developed an attachment that may be inserted into the Swivel and used to pick up things from the floor, such as a paper, handbag or towel, or any one of the other attachments. This tool may be closed by simply pressing it down on the floor. It can be opened by sliding it over a ridge or over the other arm without use of fingers.

We have found this Hand Swivel most successful where the patient has reasonably good elbow and shoulder motion. For wheelchair cases, the tools may be carried in a tray clamped in front of the lap board and within easy reach. The Hand Swivel with proper tools handy, makes it possible for many handicapped persons to take care of themselves for a considerable period of time, thus releasing the services of an attendant.

The Hand Swivel modeled by Catherine Keane, Nelson Orthopedic Company.

The Swivel is precision made and requires dies and special tools. We are prepared to supply the Swivel with or without the attachments from our Pittsburgh shop at moderate cost. We shall be glad to supply any information desired by other facilities interested. The Swivel unit is in the process of being patented, the attachments are not.

The Hand Swivel was developed in the facility of the Custom Brace and Appliance Company over a three-year period. Since then we have fitted several patients with this Swivel. Dr. Jessie Wright of Pittsburgh has used and demonstrated the Hand Swivel with attachments at the Geneva Conference on Poliomyelitis in Switzerland and in other places in Europe this summer. It was well received there and every other place where shown.

George Zetts, Manager of the Washington branch of the Custom Brace & Appliance Co., was of considerable assistance to the author in developing this Hand Swivel.

REVIEWS

A MANUAL FOR OCCUPATIONAL THERAPISTS ON THE REHABILITATION OF UPPER EXTREMITY AMPUTEES

By Thelma L. Wellerson, A.M., OTR

Published by the Institute for the Crippled and Disabled, New York 10, N. Y.; 1957; 144 pages.

Although this Manual was prepared for occupational therapists it will be found very helpful to prosthetists, particularly those who are preparing for the Certification Examination.

In addition to the chapter on historical development which is reprinted elsewhere in this issue of the *Journal*, the Manual includes chapters on the team concept, the nomeclature and function of U.E. apliances, stump shrinkage and other pre-prosthetic training, and the training of the amputee in the use of his appliance. It is one of the most practical publications in its field.

(*See page 73 in this issue*)

Orthopedic-Prosthetic Idea Exchange

A New Column for Readers of the Journal

Contributing Committee: Everett J. Gordon, M.D., *Chairman;* Joseph Ardizzone, P.T.; Raymond Beales, C.P.; Edwin M. Brown, Prosthetic Representative; Victor L. Caron, C.P.; Charles Ross, C.O.&P.

Editor's Note: One of the long-felt needs in the limb and brace field has been an exchange of information between the orthopedic and prosthetic appliance clinics in various parts of the country. Many valuable procedures and helpful data are developed in local centers—information which deserves to be made available to all parts of the country. To help meet this need, Dr. E. J. Gordon, Director of the Orthopedic and Prosthetic Appliance Clinic, Veterans Administration in Washington and his associates at the Clinic have agreed to serve as an Editorial and Clearing House Committee for such items.

We hope to make this a regular feature of the *Journal.* Contributions from all members of the limb and brace profession, physicians, therapists and allied groups are invited. This includes prosthetists in private practice as well as those associated with clinics. These may be sent to either the Editor of the *Journal,* OALMA, 411 Associations Bldg. or to Dr. E. J. Gordon, 2007 Eye St., N.W., Washington 6, D. C.

Greetings! This is *your* column to exchange news notes and items of general interest to all groups interested in prosthetics. Many of you, undoubtedly, have ingenuous ideas and "gimmicks" which you are utilizing in your local practice and which may be of value to other groups. This is the opportunity to "spread the gospel" for the benefit of all and the advancement of our chosen field of study and practice.

Last spring the idea was conceived by our clinic team to contact all of the orthopedic and prosthetic clinics operating through the Veterans Administration to exchange ideas in the operation of our clinics. The response was quite enthusiastic and all agreed that we should have a medium for the interchange of suggestions, helpful hints, ideas, etc. We have been most fortunate in obtaining a column in this *Journal,* which is distributed to all interested clinics and physicians.

The first item circulated was the editor's paper on "Control of Amputation Stump Infection with an Antiseptic Skin Detergent," published in the Medical Annals of the District of Columbia, July, 1956, and reprinted in part in this *Journal* in December, 1956. (Reprints available.) Many of the groups had already been using PHisohex regularly and have found it equally effective. Among these were the medical group under Dr. Iver J. Larson, in Honolulu, Hawaii, the Orthopedic and Prosthetic Clinic in Buffalo, N. Y., under Frank N. Potts, the Clinic Group in Philadelphia, Pa., headed by Dr. R. D. Heath, and the San Francisco Prosthetic Team of Dr. M. T. Sax.

A pertinent comment was made by *Dr. Roy Ciccone* of the Newark, N. J. Orthopedic and Prosthetic Appliance Clinic: "While we have not employed

any detergents in the treatment of stump conditions, it is our earnest belief that the use of PHisohex should prove very effective in reducing the instances of stump infections and resultant complications . . . We are, therefore, contemplating the use of PHisohex in the routine prophylactic care of amputation stumps . . ."

From the Pacific Northwest, *Dr. F. A. Short* of Portland, Ore., heartily agrees with the idea of disseminating information amongst the various clinics. "Each clinic has undoubtedly developed some procedures which they feel are superior, so the other clinics could have benefit of these. I think that a section of one of the publication now in circulation, such as *Artificial Limbs*, would be the best method for spreading this type of information . . . We would be glad to submit a paper on the Otto Bock knee, with which we have had considerable experience in Portland." The editor is deeply appreciative of the comments of Dr. Short and I am sure that all of us would be very interested to learn of his experiences with the Bock knee, which has not had extensive trial, especially on the East Coast. We hope Dr. Short will send us more information on this for a subsequent issue.

Some of the problems of the suction socket have been solved by the Orthopedic and Prosthetic Clinic at San Francisco and Los Angeles, Calif., where *Dr. M. T. Sax* reports the use of a stump or cast sock of light weight in conjunction with the suction socket. Perhaps other clinics have also utilized a similar device, or, perhaps, the "wife's nylon stocking," and we would certainly like to hear about it.

We are sure that other cities also have valuable items of interest that they would like to disseminate, such as a particular idea in the administrative setup of a clinic, or the physical setup with various devices to aid in examination. For instance, in our clinic, we use knitted wool swimming trunks, which fit tightly and expose the upper edge of the socket, are easily laundered, and which facilitate examination of a veteran with a leg prosthesis.

Perhaps you have had an exhibit lately. Have you utilized your exhibit material by posting it about your clinic so that the amputees and visitors may have continued benefit from that material? We have done this, with posters relating to the use of suction sockets and other prostheses on our walls. It is surprising how much interest is generated from visiting dignitaries, and even the patients, from these posters alone.

Dr. Hamilton Allan, our regional consultant, has suggested the addition of a social service worker to the clinic team to aid in the rehabilitation of the veterans and for follow-up programs in the homes, also contacting delinquents. Do you agree, or do you feel that a vocational counsellor would be of more value and should be intimately connected with the team? So many of the veterans, we find, are relying on their monthly pension checks despite months of expensive vocational guidance and training. Could they be benefitted by a follow-up guidance worker attached to our clinic?

Another suggestion by one of our prosthetists is to furnish each member of the clinic team with a copy of the roster of appointments so that each may follow the proceedings as well as use this for notations on patients of particular interest to him.

Let us have your comments on such items—now that we have made a start, let's make this a lively and active column—*Your Column! ! !*

(NOTE: Contributions for the December 1957 *Journal* should reach Washington by December 1, 1957.)

UCLA Appoints John Bray

Announces Prosthetic Program

Another full-time instructor in prosthetics has joined the staff of the Prosthetics Education Project at the University of California. This is John Bray, C.P.&O., formerly manager of the Lanham Orthopedic Services Facility in Los Angeles, who has been serving as part-time instructor. He will now devote his full energies to the series of courses given by the Project, which is affiliated with the Department of Surgery in the School of Medicine of the University. His academic appointment is that of Assistant Research Prosthetist.

Mr. Bray will be assistant to Research Prosthetist Charles A. Hennessy in the instructional work and in the clinical consulting activities of the Project. At present Mr. Bray is engaged in a detailed study of the sockets fitted by students during the past year in an effort to formulate basic principles for application to future teaching.

UCLA Class Schedule, 1957-1958

Courses for Prosthetists: October 21-November 1—Clinical Prosthetics: Above-Knee Amputations. January 13-January 24—Clinical Prosthetics: Above-Knee Amputations. March 10-March 21—Clinical Prosthetics: Above-Knee Amputations. June 2-June 20—Clinical Prosthetics: Upper Extremities Amputations.

Courses for Therapists, (Physical, Occupational): October 28-November 1—Clinical Prosthetics: Above-Knee Amputations. January 20-January 24—Clinical Prosthetics: Above-Knee Amputations. March 17-March 21—Clinical Prosthetics: Above-Knee Amputations. June 16-June 20—Clinical Prosthetics: Upper Extremities Amputations.

Courses for Physicians: October 28-November 1—Clinical Prosthetics: Above-Knee Amputations. January 20-January 24—Clinical Prosthetics: Above-Knee Amputations. March 17-March 21—Clinical Prosthetics: Above-Knee Amputations. June 16-June 20—Clinical Prosthetics: Upper Extremities Amputations.

Courses for Personnel in Vocational Rehabilitation and Indemnity Insurance Groups, General Physicians and others who can benefit from a short survey course in Prosthetics and Orthotics: March 3-March 7—Orthopedic and Prosthetic Rehabilitation. March 24-March 28—Orthopedic and Prosthetic Rehabilitation. May 5-May 9—Orthopedic and Prosthetic Rehabilitation. May 19-May 23—Orthopedic and Prosthetic Rehabilitation.

For further information write to: Prosthetics Education, B4-229, Medical Center, University of California, Los Angeles.

The Prosthetics Education Program is entirely supported through a direct grant from The Office of Vocational Rehabilitation of the Department of Health, Education and Welfare of the United States government. The Office of Vocational Rehabilitation has made a limited number of traineeships available through the University to assist students wanting to enroll in prosthetics courses. Evidence of need for such support must be furnished on forms which will be supplied on request.

New York University Offers New Prosthetics Courses

The Prosthetics Education Program of the New York University Post-Graduate Medical School is pleased to announce its schedule of courses for the forthcoming academic year, 1957-1958.

Several noteworthy revisions are contemplated for the coming year, including a change in admission requirements and the offering of a number of new courses.

Change in Admission Requirements

It will be of interest to many members of the profession to learn that the requirements for admission to the courses for prosthetists have been changed. The American Board for Certification meeting in Washington on May 23, 1957, recommended that people preparing for certification should undertake their formal prosthetics studies in their third or fourth year of training. This recommendation has been discussed in an article in the June, 1957, issue of the *Orthopedic and Prosthetic Appliance Journal.* In line with the Board's recommendation, New York University has amended its admission requirements. The courses in Above-Knee Prosthetics and Upper Extremity Prosthetics are now open to those who are in their third or fourth year of preparation for certification, as well as to certified prosthetists.

New Course in Prosthetic Diagnosis

Several three-day advanced seminars to be known as Course No. 749, Prosthetic Diagnosis, Above-Knee, will be offered for the first time during this year. This new course will deal primarily with the diagnosis and methods of solution of fitting problems.

As is well known, amputees frequently return to limb facilities with a variety of complaints after wearing a new prosthesis for periods ranging from several days to several weeks. The types of problems likely to arise during this period, as well as during initial fitting, and their solutions are the primary concern of this three-day advanced course. Consideration will also be given to the special problems involved in fitting of children, females, bilaterals, and hip disarticulation cases. Since the ability to discuss these problems depends on familiarity and experience with the quadrilateral socket, the course is open only to students who have completed the basic Above-Knee Prosthetics course.

It should be noted that the first such course will be offered from September 26 through September 28, which will allow students to proceed directly from the course to the OALMA Convention in Washington, on September 29.

New Course for Rehabilitation Personnel

An additional new course being offered for the first time is Course No. 7410, Prosthetic Rehabilitation. This course is designed to provide anatomical, psychological, prosthetic, and vocational information to vocational counselors, social service workers, rehabilitation center directors, and other personnel concerned with prosthetic rehabilitation. A brief survey of the field of orthopedic bracing will be included.

Evening Course in Prosthetics

Section E of Course No. 743, Above-Knee Prosthetics for Prosthetists, has not been listed in the general schedule since it is available only to

Prosthetists from the Metropolitan New York area. This will be an evening course, meeting one evening per week for thirty-two weeks, and is designed to allow local Prosthetists who are unable to leave their place of business during the day to complete their studies outside of working hours.

Course Schedule

During the 1957-1958 academic year, New York University will offer two courses in Upper Extremity Prosthetics; four courses in Above-Knee Prosthetics; and three courses in Prosthetic Diagnosis, Above-Knee, for members of the prosthetic profession. The dates of these courses, as well as the courses for physician and surgeons, therapists, and rehabilitation personnel are as follows:

Fall—1957

Date	*Course No.*	*Title*
Sept. 26-28	749A	Prosthetic Diagnosis, Above-Knee *for Prosthetists*
Oct. 7-Nov. 8	746A	Upper Extremity Prosthetics *for Prosthetists*
Oct. 28-Nov. 8	745A	Upper Extremity Prosthetics *for Therapists*
Nov. 4-8	744A	Upper Extremity Prosthetics *for Physicians and Surgeons*
Nov. 11-22	7410A	Prosthetic Rehabilitation *for Rehabilitation Personnel*
Dec. 2-20	743A	Above-Knee Prosthetics *for Prosthetists*
Dec. 9-20	742A	Above-Knee Prosthetics *for Therapists*
Dec. 16-20	741A	Above-Knee Prosthetics *for Physicians and Surgeons*

1958

Jan. 13-31	743B	Above-Knee Prosthetics *for Prosthetists*
Jan. 20-31	742B	Above-Knee Prosthetics *for Therapists*
Jan. 27-31	741B	Above-Knee Prosthetics *for Physicians and Surgeons*
Feb. 13-15	749B	Prosthetic Diagnosis, Above-Knee *for Prosthetists*

Spring—1958

Feb. 17-Mar. 7	743C	Above-Knee Prosthetics *for Prosthetists*
Feb. 24-Mar. 7	742C	Above-Knee Prosthetics *for Therapists*
Mar. 3-7	741C	Above-Knee Prosthetics *for Physicians and Surgeons*
Mar. 17-Apr. 11		During this period several sections of "Prosthetic Rehabilitation" will be offered
Apr. 17-19	749C	Prosthetic Diagnosis, Above-Knee *for Prosthetists*

Apr. 21-May 9	743D	Above-Knee Prosthetics *for Prosthetists*
Apr. 28-May 9	742D	Above-Knee Prosthetics *for Therapists*
May 5-9	741D	Above-Knee Prosthetics *for Physicians and Surgeons*
May 19-June 20	746B	Upper Extremity Prosthetics *for Prosthetists*
June 9-20	745B	Upper Extremity Prosthetics *for Therapists*
June 16-20	744B	Upper Extremity Prosthetics *for Physicians and Surgeons*

International Session Planned for 1960 Physical Medicine Congress to Meet in Washington

Long range plans for an International Congress of Physical Medicine to be held in Washington in 1960 are now being made. This will be the first meeting of this international session of specialists in rehabilitation and physical medicine to be held in the United States.

The session will be held in Washington, D. C. sometime in August 1960, in conjunction with the 38th annual session of the American Congress of Physical Medicine and Rehabilitation.

A large attendance is anticipated from every part of the United States, Canada and Mexico, as well as excellent representation from the countries (Argentina, Australia, Austria, Belgium, Brazil, Canada, Denmark, Finland, France, Germany, Great Britain, Holland, Israel, Norway, Portugal, South Africa, Spain, Sweden, Switzerland, U.S.A.) comprising the International Federation of Physical Medicine.

The scientific and clinical program will present the work, study and research of experts in this field from all over the world.

Scientific and technical exhibits will be a feature of the International Congress. Information about the program and exhibits may be obtained from the headquarters of the American Congress of Physical Medicine and Rehabilitation, 30 North Michigan Avenue, Chicago, Ill.

APRL—*Realastic**

YES, It is now official . . .

Prosthetic Services of San Francisco is a recognized supplier of cosmetic gloves for the Research hand. In November 1956, we successfully bid for and purchased the APRL Pilot Plant for producing cosmetic gloves. This was the result of years of work on the part of government engineers, at a cost in excess of $25,000.

Since that date, PS has spent an almost equal sum for installation of the plant, tooling, and training men for production. A Prosthetic Research Board Color Difference Meter has been installed on the premises so that PS can meet standards in matching the APRL color guide.

Seamless gloves at competitive prices for the APRL Hand are now available with the distinctive PS insignia in the forearm—a sign that they are *REALASTIC.*

Yet, this is only a part of the picture, PS intends to use the Pilot Plant to produce cosmetic restorations of practically all types, for every segment of the population. PS is in the process of installing mold producing equipment that will permit fabrication of the same type of dies as used with APRL gloves.

Tentative plans call for development of over 50 new molds which will provide cosmetic gloves, for men, women and children, leg covers, and gloves for all types of mechanical hands. Already in production is the super-lightweight passive hand for the present APRL-*REALASTIC* glove. Cosmetic covers and appliances will be mass produced, stocked and supplied from inventory. *All these items may be had for less than half our present charge of a corresponding custommade device.*

The extension of this service has potential benefit for every amputee—for every person connected with the prosthetics profession. We need and ask your support in our making it available.

Present plans call for distribution through recognized suppliers. This will be elastic for a little time to come, as only Hosmer Corporation of Santa Clara, California now carries a complete stock of available items. However, new distributors will be announced shortly, as will new developments as they mature.

FAITH IN THE FUTURE

The staff at Robin-Aids Mfg. Co.,
specialists in upper extremity prosthetics,
is pleased to present their new facilities at
3353 Broadway, Vallejo, Calif.
Phone MIdway 2-2727

Your loyalty and faith in making this expansion
possible is greatly appreciated.

Alaska Adventure; The Story of the Alaska Orthepedic Appliance Company

A. O. and Julia Rogers enjoy a brief rest at their Bird Creek Cabin.

The Alaska Orthopedic Appliance Company begins its fifth year of service to Alaska with a 20-fold increase in the number of patients treated. The company was started in a converted garage in Anchorage in July, 1953 as a part-time enterprise, while the owner, Mr. A. O. Rogers was employed by the Health Department. In August, 1954, the property was purchased at the present location, a store front built on the existing building, and stocked with children's orthopedic shoes.

The polio epidemic of 1954 brought about a heavy load of brace work and it was necessary for Mr. Rogers to resign from the Health Department to work full time as an orthotist and prosthetist. In a short time growing business made it necessary to enlarge the shop, for aside from the government brace shop at Sitka, this is the only facility of this type in the territory.

Mr. Rogers began his training in 1938 as an apprentice in Clyde Aunger's Arizona Brace Shop at Phoenix, Ariz. He later worked at the A. L. Schenk Orthopedic Laboratories in Los Angeles, the Grunow Clinic Brace Shop at Phoenix and R. E. Huck Company in San Francisco. For a short time during the war he was in charge of the government brace shop at Finney General Hospital at Thomasville, Ga. Mr. Rogers is a Certified Orthotist and Prosthetist and attended the Suction Socket School for Prosthetists at UCLA Medical Center.

The Rogers family consists of his wife, Julia, three sons, Burl 14, Ronnie, 12 and Chris, 20 months, and each does his share in making the business successful. Mrs. Rogers works full time in the office, does most of the

Alaska Facts—The World of the Rogers

Alaska is twice as large as Texas, covering 586,000 square miles. Present population of the territory is 222,100.

The coast line of Alaska is longer than that of the continental United States. Anchorage, Alaska's largest city, has more airplanes per capita than any other city under the American Flag.

The smallest distance separating North America from Asia occurs between Little and Big Diomede Islands; on Little Diomede the picture of Abraham Lincoln adorns the schoolhouse, while on Big Diomede, three miles away, the schoolhouse contains the portrait of Karl Marx.

There are more than 3,000 miles of improved highways, three-fourths of which are all-weather roads.

The temperature extremes at Fort Yukon have been recorded as high as 100 degrees F. and as low as —78 degrees F. The high temperature *exceeds* that of the maximum of Palm Beach, Fla. On the average, it is colder in Milwaukee and Duluth than in Anchorage.

Flying conditions in Alaska are generally better in winter than in any other season.

Approximately one-fourth of the residents of Alaska are Aborigines —Indians, Eskimos and Aleuts, of whom the Eskimos are the most numerous.

Alaska has no snakes, also no poisonous plants or weeds. The Alaska moose is the largest of its kind on earth, the bulls attaining a weight of more than 1,400 pounds. The Alaskan Brown Bear is the largest carnivorous animal in the world today.

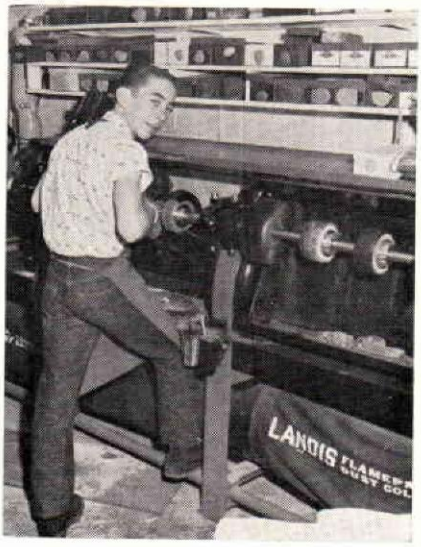
fitting of children's shoes, and serves as a female attendant for the women patients. At present Mr. Rogers is assisted in the shop by Eugene Fleishauser, apprentice orthotist, Charles Beth, apprentice prosthetist and Burl who, when not in school, does the shoe corrections and is an apprentice orthotist and prosthetist.

The shop is a fully equipped, modern facility with the latest methods of fitting and construction being used. All A.K. Limbs are made with the UCLA Quadrilateral Sockets and aligned with the Berkeley Adjustable Leg and Duplicating Jig. Plastic resins are now used exclusively instead of rawhide in covering limbs because of the moisture and extreme cold. Suction Socket Valves are found to work satisfactorily to temperatures of 35 degrees below zero, at which temperature condensation tends to form and freezes the valve open.

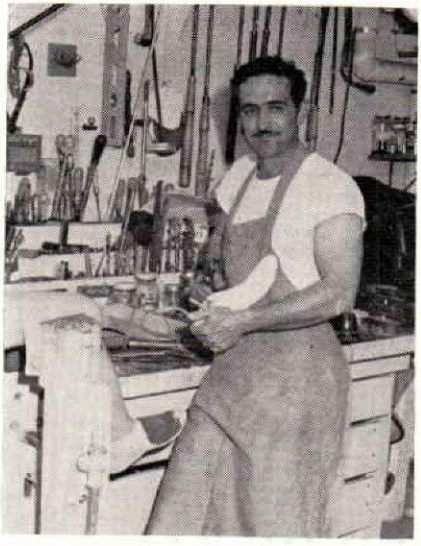
Mr. Rogers is a licensed pilot and owns a private plane, an Aeronca Sedan which is equipped with floats for summer, wheels for spring and fall and skis for winter flying. This is almost a necessity in order to cover Alaka's 586,000 square miles which sprawl over an area almost as great as from New York to San Francisco, east to west, and from Seattle to Mexico, north and south.

In addition to flying to Fairbanks for regular clinic hours he also occasionally flies patients to and from remote areas and goes to surrounding towns to attend various orthopedic clinics. Transportation presents problems in this huge territory with only one railroad going from Seward to Fairbanks a total of 540 miles, and although the larger towns and cities are connected by highways, air travel is the answer when traversing great distances. Many of the outlying villages are accessible only by dog team and air, and while

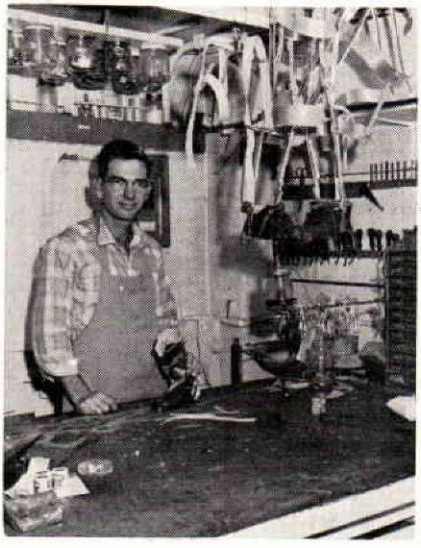
The Modern Facility at Anchorage



Burl Rogers, age 14, apprentice orthotist-prosthetist, doing shoe finishing.



Charles Beth, apprentice prosthetist, at the leg bench.



Eugene Fleishauer, apprentice orthotist at the leather bench.

A. O. Rogers, a licensed pilot, flies his own plane, to serve patients.

Burl and Ronnie Rogers report "Good Fishing." ——→

"A. O." and his exhibit at the Territorial Medical Association Convention at Juneau, February, 1956.

the Rogers do not have a dog team, their Dachshund is in the process of presenting them with a minature edition.

Brace work is done by prescription only and the Alaska Orthopedic Appliance Company has had an exhibit of appliances and services available at all the meetings of the Alaska Territorial Medical Association since 1954. In addition to doing work for military personnel through the Medical Supply Offices on the military bases, the services are extended to various other agencies including the Alaska Department of Health, Alaska Native Service, Alaska Crippled Children's Association, Polio Foundation, Veterans Administration, Office of Vocational Rehabilitation and the Department of Public Welfare.

With the population of the territory over 205,000, 34.00 of which are Eskimos, Aleuts and Indians, Mr. Rogers has patients from such distant places as Point Barrow, Nome and Dutch Harbor as well as many of the more remote villages and towns.

The business has grown from a beginning of 10 to 15 patients a month to more than 200 with the work being general in nature and covering shoe work, braces, limbs, supports, trusses, etc. Mr. Rogers feels this increase is partly due to keeping abreast of the new developments in the field, and plans to continue to attend all annual meetings of the OALMA—despite the time and expense involved which is well justified.

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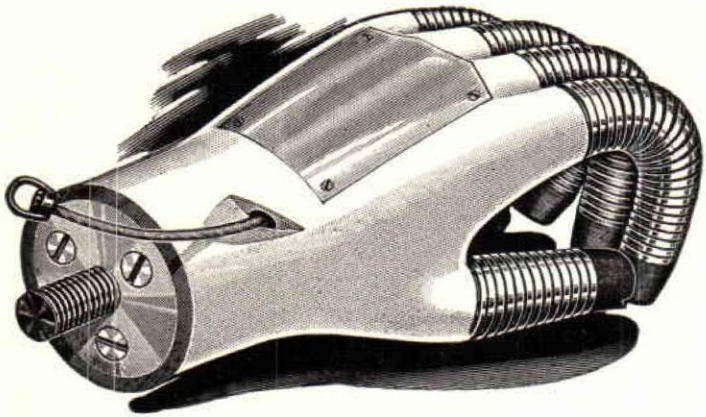

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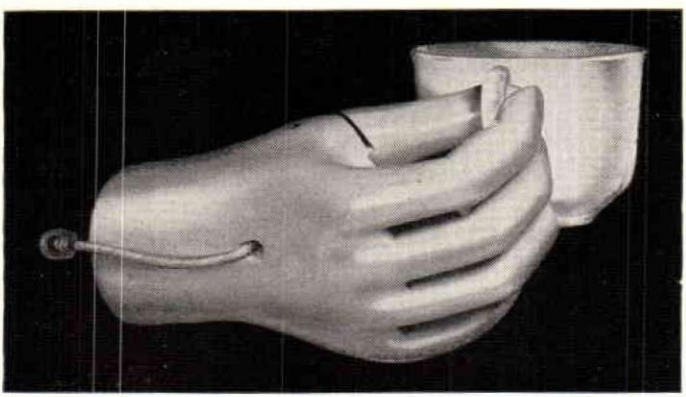

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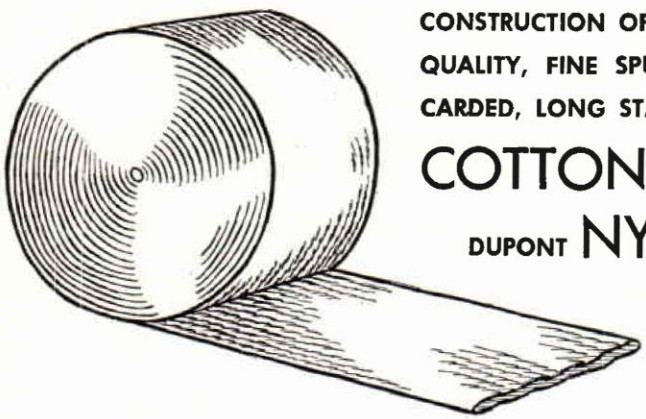

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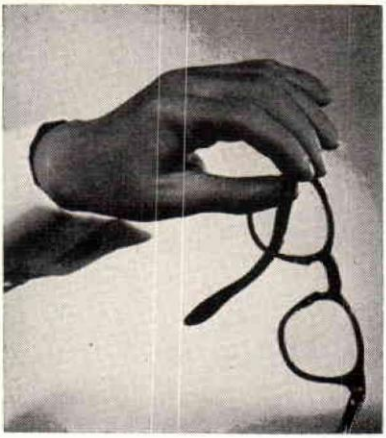

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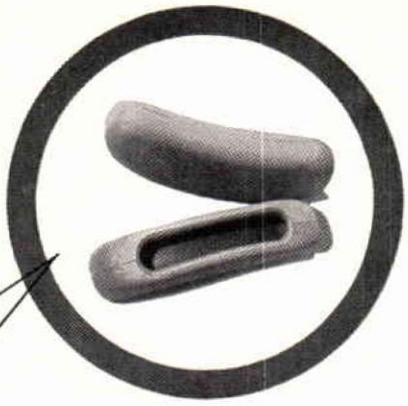

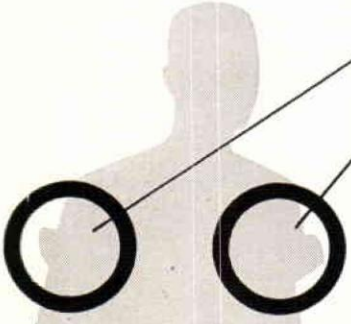

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Historical Development of Upper Extremity Prosthetics

By THELMA L. WELLERSON, O.T.R.

EDITOR'S NOTE: *This calendar of important landmarks in the history of Upper Extremity Prosthetics is reprinted by permission from "A Manual for Occupational Therapists on the Rehabilitation of Upper Extremity Amputees." Miss Thelma L. Wellerson is Director of Occupational Therapy in the Institute for the Crippled and Disabled and an instructor in that subject in the College of Physicians and Surgeons at Columbia University. A book review of her Manual will be found elsewhere in the Journal.*

Man has attempted since the beginning of time to substitute a mechanical device for the loss of an extremity. An abundance of recorded history is available on lower extremity prosthetics as testament to man's great need for locomotion and his attempts to fulfill that need. However, the recordings of such developmental history of upper extremity prosthetics is not so complete. The following is a compilation from a number of sources which attempts to give the reader a brief historical development of upper extremity prosthetics:

61 A.D. Pliny wrote that a Roman general, Marcus Sergius lost his right hand in the Second Punic War (218-201 B.C.). The general had an iron hand made with which he supported his shield.

1509 produced the classic example of an early artificial hand. A mailed fist was made for Goetz von Berlichingen which was equipped with jointed fingers that could passively grip his sword like a vise.

1564 was the year that the great military French surgeon, Ambrose Pare, published his ten-volume work on surgery. Pare presented illustrations and descriptions of artificial arms and legs which, he claimed, could be reproduced by any locksmith. These upper extremity prostheses were hands which, set in given positions passively, were then locked by the other extremity. Release was possible by pressure against an object or by use of the other extremity. Pare also designed cosmetic devices of moulded leather or gummed paper which held objects such as a pen. However, none of these devices had any volitional control.

1564 was also the date found on a tomb of an Alsatian which when opened in 1919 revealed the remains of another sixteenth century artificial arm. It apparently was designed for an above elbow amputee . The elbow joint as well as the wrist was capable of passive movement. The thumb and fingers could be flexed at both phalangeal and metacarpophalangeal joints. By pressing buttons the thumb and fingers extended.

These devices were apparently for the wealthy. For the common soldier an arm prosthesis consisted simply of a leather bucket and hook, allowing no volitional control, and fastened to the body by straps.

1818, after the Napoleonic Wars, was a year which produced great advancement in upper extremity prosthetics. A Berlin dentist, Peter Baliff,

appears to have been the first to introduce the use of the trunk and shoulder girdle muscles as sources of power to flex or extend the fingers. Baliff reversed the spring action of the Pare and Goetz hands by having the terminal device extend through action of the sound shoulder. The two weak points of the prosthesis were its weakness of grasp and the fact that it was designed only for a forearm amputation.

1844 produced the first arm for an above elbow amputee in which Baliff's principle was applied to flexion of the elbow. This device was invented by a Dutch sculptor, Van Peeterssen.

1860 brought the Crimean and Italian campaigns in which the French Empire was engaged. This engagement left a number of amputees whose needs were met by Comte de Beaufort who gave the amputee control through a shoulder harness. The controlling power started with a strap buttoned into the front button on the trousers, passed through a loop to the opposite axilla, over to the amputated side to a pulley at the elbow and to the artificial hand. M. de Beaufort also invented a simple hand with a movable thumb; an above elbow prosthesis, in which the elbow was flexed by pressure of a lever against the side of the chest; a hand in which opening and closing of the fingers was effected by repeated pulls on the same cord; and a double spring hook for holding objects similar to that of the well known split hook of today.

1866, some fifty years before the First World War, attempts were being made in France to devise practical appliances for the laborer. Dr. Gripouilleau, a physician of France, developed a simple attachment to an arm stump by which the wearer could handle the common agricultural implements. It was comprised of hooks and rings which would fit around farm tools and literally harnessed the laborer to his tools.

1873 demonstrated through writings of Gripouilleau and others that the hand was in disregard. The hand was only used to "raise a hat or carry a cane." The feelings of the time were concerned with enabling the "poor man to raise cabbages" and returning the amputee to the farm to fill the nation's larder.

1914-17 brought a tremendous loss of man power in all countries through war casualties. Therefore all countries were forced through necessity to equip as many of their amputees as possible to carry on accustomed trades by means of mechanical aids. A great effort was made to send the amputee back to the farm, to the blacksmith shop, to the trades of a war economy. The amputee therefore was given a socket and a "universal" terminal device harnessing the amputee to his work tool. The device would grasp only a limited number of work tools. When the amputee desired to accomplish other tasks in the same trade he spent time changing devices.

In Great Britain the amputee was given a work arm with the "universal" tool of his particular trade plus a "dummy" hand.

In Canada the amputee was given one or two hooks for general utility and a "dummy" hand.

However, in the United States a hook was developed which was a split hook closed by rubber bands. This device satisfied the American appetite for speed and true universality. The devices harnessing the amputee to his work tool never did develop in the United States.

1917, in April, the Surgeon General of the United States Army issued an invitation to limb makers to meet in Washington, D. C. From this meet-

ing developed the Association of Limb Manufacturers of America which later evolved into the American Orthopedic Limb Manufacturers Association, a national group which when organized absorbed the then existing state groups. The present national group is called the Orthopedic Appliance and Limb Manufacturers Association.

1948 inaugurated a Certification Program for prosthetists and orthotists. This was a step towards professionalizing the industry. To qualify as a Certified Orthotist or Prosthetist a candidate must first meet the prerequisites as established by the American Board for Certification. Secondly, the man must pass a formal National Certification Examination. Therefore, a successful candidate is entitled to wear an arm patch which identifies the certified fitter.*

Contemporary Developments

A qualified facility is a business which has been established for a prescribed number of years, which has certain physical requirements, and which has the necessary number of certified men as full time personnel.

The over-all developments since 1917 have resulted in close understanding between surgeon and prosthetist and brought forth sound scientific and educational programs.

At the close of World War II a great national need was felt to provide better artificial limbs for the veteran amputee. Therefore, in 1945 the National Research Council, a government supported organization, established the Committee on Prosthetic Devices, which became the Advisory Committee on Artificial Limbs, and later the Prosthetic Research Board. The Committee discovered that while satisfactory lower extremity prostheses were available, the same could not be said for upper extremity prostheses. A project, therefore, was set up at the University of California in Los Angeles to undertake basic studies. Northrop Aircraft, California, and Army Prosthetics Research Laboratory, Washington, D. C., were assigned the task of developing arms and terminal devices. Later New York University, assisted by Prosthetic Testing and Development Laboratory, Veterans Administration, New York, was given the responsibility of testing and following up results on selected arm amputees. After approximately seven years of organized effort in development of research, techniques, working models, and studies on a considerable number of arm amputees, certain basic conclusions were formed concerning principles and techniques in prescription, fabrication, and training the upper extremity amputee. It was therefore important to disseminate this information throughout the United States to various individuals directly concerned with the upper extremity amputee and his problems. Consequently, a series of courses were set up at the University of California at Los Angeles to accomplish this task, under the direction of Craig L. Taylor, Ph.D., Project Leader. Fourteen schools for physicians, therapists, and prosthetists were held from January 1953 through June 1955. In June 1956 a similar course, was held at New York University, under the direction of Sidney Fishman, Ph.D.. Project Leader.

The overall effect of such educationl programs has been one of greatly increased advantages to the upper extremity amputee on a national basis.

**Editor's Note*: *C.O.*: Certified Orthotist. *C.P.*: Certified Prosthetist.

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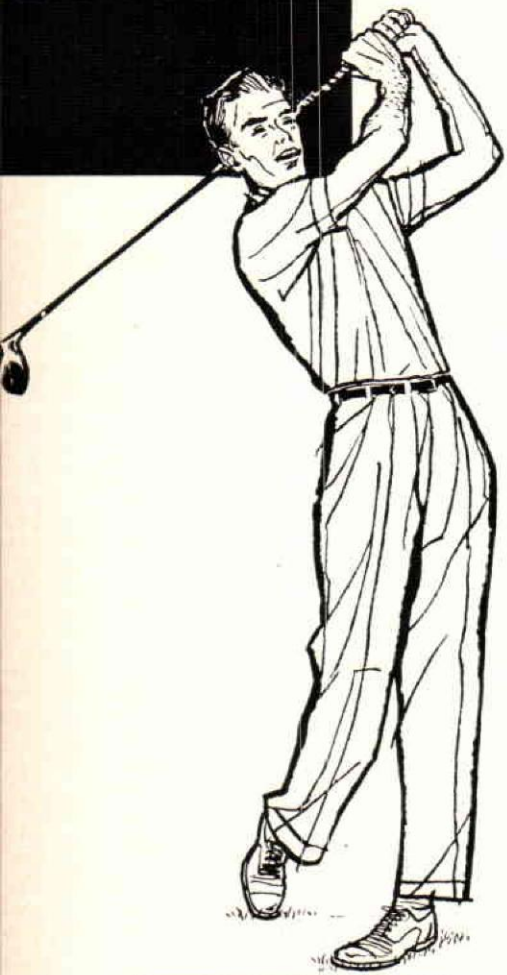

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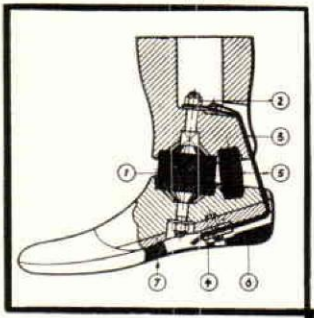

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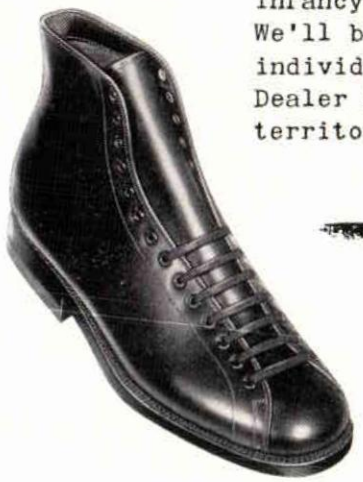

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Basic Principles and Practices of Orthotics; A Course for Trainee Orthotists

By LEROY WM. NATTRESS, JR., M.A. and ROY SNELSON, C.O.

During the past few years the Prosthetics Education Program at the University of California, Los Angeles, in cooperation with the Southern California Society of Orthotists and Prosthetists, has offered an evening school program for both trainees and certifees. These courses have had general application for both orthotists and prosthetists.

A year ago, following many requests from the local profession, a new type of course was offered. It was called, "Basic Principles and Practices of Orthotics," and was the first course given specifically for orthotists at U.C.L.A. The course met for two hours on Monday and Wednesday evenings, from mid-September through June and was attended by between nine and twelve trainees each night.

"Basic Principles and Practices of Orthotics" was designed to augment the training given in the local orthotic facilities. It was intended to be the introductory course to an integrated four year program which would offer numerous courses, including such material as fitting and fabrication techniques, public and professional relations and biomechanics and anatomy.

This course, and the ones to follow, was not intended for pre-employment training. That is, individuals who are interested in entering the field of orthotics, but who are presently employed in other fields, are not eligible to enter this course in order to prepare to become orthotists. These courses are open only to those who are already training to become orthotists in recognized facilities.

After much consideration, it was concluded that the basic principles and practices of orthotics that should be included in an introductory course were those that involved the tools, equipment and materials used in fabricating orthopedic appliances. This knowledge is not only basic to the more advanced work in orthotics, but also is important in the proper service of the patient referred to a facility for an orthopedic appliance. Better patient service, of course, means a higher degree of patient satisfaction which will place the orthotic facility on a higher professional plane.

Since it was felt that this course adequately filled the need for basic training of orthotists it was requested that the experience gained from presenting it be shared with the O.A.L.M.A. in hopes that similar courses for trainee orthotists will be presented in other areas of the country.

How to Plan the Course

When the decision to support a course in "Basic Principles and Practices of Orthotics" has been made by a local group of orthotists, a *representative* committee should be formed. This committee should include certified employees as well as facility owners who are not only leading orthotists in the area, but also potential instructors for the course.

The prime responsibility of this committee is to assist in arranging to have the course taught through a recognized academic institution—a local university, college or high school. Once this has been arranged, the committee continues in an advisory role, advising and supporting the educational institution as it prepares and presents this program.

In this advisory role the committee should review the outline for the course which should be based on local needs, and suggest teachers for the units of instruction. Experience has shown that it is often advantageous to have the instructional units assigned alternately, so that no instructor is required to prepare and teach more than eight consecutive hours.

The committee may also be of help in securing a teaching facility that will permit the course plan to be carried out. The teaching facility should be equipped for machine and tool work, as well as for plaster, plastic and leather work. The size of this facility and the number of work stations in it will be the limiting factors in the number of students who will be able to take the course. In addition, provisions for a lecture area should be planned. This area does not necessarily have to have seating for the students, but should have a blackboard that is easily visible from the work stations. The teaching facility should also be easily adapted for the placement of movie projection equipment used in screening teaching films.

Finally, the committee must take steps to help obtain students for the program and advise the educational institution on the tuition fee for the course. The students must be trainee orthotists who are employed in the local orthotic facilities. Since the course is an outgrowth of local needs as established by the local profession through their advisory committee, it must be supported by each facility if its full value is to be obtained.

The tuition does not necessarily have to be based on the costs of the course. Some tuition should be charged, as people tend to value things in terms of what they pay for them. On the other hand, an exorbitant tuition should be avoided since it would tend to discourage students from taking the course. The cost of tuition to the student may be reduced if the employers subsidize their trainees, or if the local organization of orthotists offers traineeships.

Both of the above mentioned means for reducing trainee tuitions were used in the course that was given at UCLA. While few employers actually paid their trainee's tuition, a number indicated that when the trainee completed the course he would receive a salary increase in proportion to the skills that he acquired and the grade that he received. In addition, the Southern California Society of Orthotists and Prosthetists made available a number of traineeships for which trainees could apply.

Teaching Aids

The instructors, in preparing their instructional units, should not rely entirely upon their experiences and backgrounds. There are many sources of information for use as resource material in "Basic Principles and Practices of Orthotics," though few are prepared expressly for this purpose.

The following primary sources were used in planning and instructing this course:

1. *Orthopaedic Appliance Atlas*, Volume I, J. W. Edwards, Ann Arbor, Mich. $10.00 a copy. (Available through OALMA, 411 Associations Bldg., Washington 6, D. C.)
2. *Machinery's Handbook*, The Industrial Press, 148 Lafayette St., New York, N. Y.
3. *American Machinist's Handbook*, McGraw-Hill Book Co., 330 West 42nd St., New York 18, N. Y.

More specific references for each instructional unit are listed in the accompanying course outline.

Leroy W. Nattress, Jr.

Roy Snelson

Mr. Nattress received his Bachelor of Arts Degree in Psychology from Hope College, Holland, Mich. in 1954 and his Master of Arts Degree in Education from UCLA in 1957. In September 1956 he received an appointment as Course Coordinator for the Prosthetics Education Program, UCLA.

Mr. Snelson is the Chief Orthotist for the Respiratory Center for Poliomyelitis, Rancho Los Amigos Hospital, Hondo, Calif. In September 1956 he received an oppointment as Instructor in Clinical Orthotics for the Prosthetics Education Program under the UCLA School of Medicine.

The booklets and charts listed in the course outline are available without cost, unless otherwise specified, for teaching purposes. These should be ordered well in advance of teaching the unit. Sufficient copies of these should be requested so that each student may have his own copy for study and reference.

Movies can also be an important aid to the instructor as they graphically present many of the fine points of the subject under consideration. Educational films are available through local school boards, colleges and universities, film rental libraries and from the companies whose products are demonstrated. Small rental fees may be charged for films to defray mailing and maintenance costs. To be certain that the films desired will be available when the instructional unit is presented, they should be requested from three to six months prior to that time.

In addition, outside speakers are of value in presenting a course of this type. Many tools and materials that could profitably be used by the orthotist are unknown to him since he has neither the time, nor, in many cases, the background to keep up with these items. A man whose job it is to work with these every day can often lead a more integrated discussion of such subjects and even impart new information and knowledge to the instructor. Past experience with representatives of the aluminum, plaster, and leather industries was most rewarding. These men spoke to the class about the kinds of material that are available and their orthotic applications, not about the commercial products they desired to sell orthotists.

Examinations

Following each unit of instruction there should be an examination, either written, practical, or both, to show the instructor and his students how well they have covered the instructional unit. These examinations are an invaluable teaching aid for they serve not only as a check on the instructor, but also as an impetus to the student.

Written examinations should be devised by the instructor when he is preparing the instructional unit. They should be objective in nature, using either multiple-choice or true-false type questions, avoiding fill-in-the-blank and essay type questions. Experience has shown that the multiple-choice questions give the best picture of the student's mastery of an instructional unit.

Practical examinations should also be devised when the instructional unit is prepared. The following is an example of a practical examination given to a class of ten students working in teams of two:

Station 1—Drill six holes in aluminum bar stock, 1/4" from the edge and 1/2" apart. Two holes are to be tapped with an 8/32 tap; four holes for 1/8" rivets. Materials used: drill press, center punch, ball peen hammer, 1/8" and No. 29 drills, 6" scale and dividers.

Station 2—Tap two holes in the aluminum bar stock. Screw in two machine screws. Materials used: 8/32 taps, 8/32 machine screws, countersink, a variety of screw drivers so that the student must select the correct one.

Station 3—Rivet the four remaining holes in the aluminum bar stock and set the heads. Materials used: 1/8" iron rivets, a variety of rivet sets, rivet cutter, anvil and hammers.

Station 4—Remove two of the four rivets from the aluminum bar stock. Materials used: a variety of chisels, starting punches and hammers.

Station 5—Bend the aluminum bar stock to a prescribed shape. Materials used: aluminum bar stock, bending irons, vise, and a sample piece of bent stock.

This examination can be graded on a five-point scale according to the work done, time taken, tools selected for use, etc.

Another type of practical examination used to draw together the year's work was a year-end project in which the students were assigned to do various operations which were parts of a typical orthopedic appliance. Each operation called upon the trainee to put his learning about tools and materials into practice. This typical appliance was not meant to be a completed device, but was intended as a demonstration of fabrication techniques and skills.

Course Outline

Part A—TOOLS AND EQUIPMENT USED BY ORTHOTISTS
Student Greeting and Course Orientation—1 hour

Unit I—The Engine Lathe and Its Operations
Lecture 3 1/2 hours. Shop Practice: 5 1/2 hours. Review and Examination: 2 hours.

A. Skills and Knowledge to Be Taught

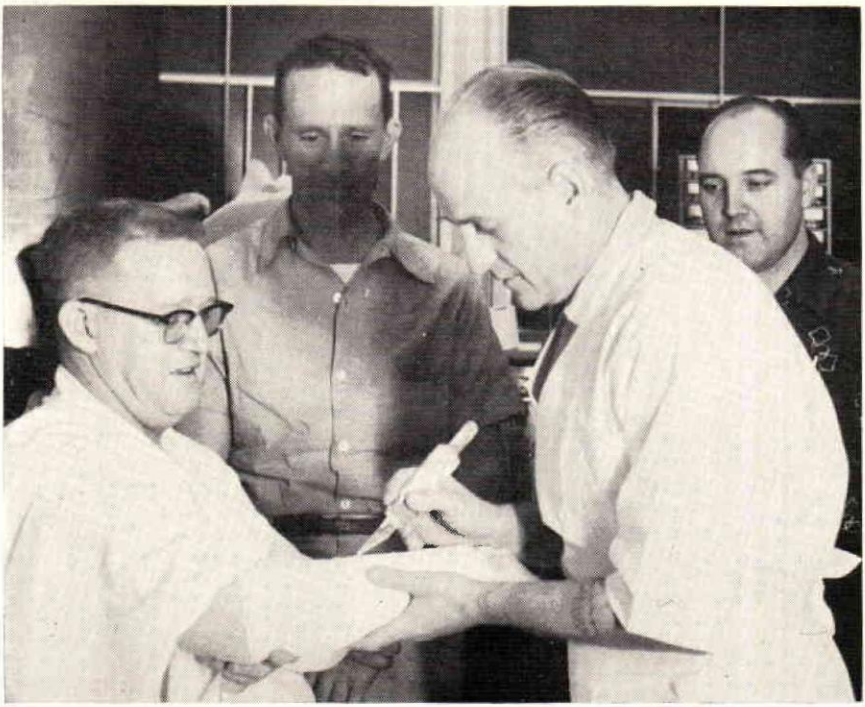
1. Principles of operation and parts of the engine lathe.
2. Set up of the engine lathe.
3. Layout of machine work.
4. Engine lathe operations including turning, boring, cutting screw threads, etc.

B. Materials and Equipment Needed

1. One engine lathe fully equipped.
2. Brass, stainless steel and aluminum stock.

C. Available Teaching Aids

1. Movies.
   a. Elementary Operations on an Engine Lathe—Part I.
      Encyclopedia Britannica Films
      SOUND 10 minutes



Kenneth Dodd, C.O., Associate Instructor in Clinical Orthotics, UCLA School of Medicine, demonstrates plaster cast techniques to members of the class in "Basic Principles and Practices of Orthotics."

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b. Elementary Operations on an Engine Lathe—Part II.
Encyclopedia Britannica Films
SOUND 10 minutes

c. The Lathe.
South Bend Lathe Works, South Bend 22, Ind.
SOUND 20 minutes

d. Grinding Cutter Bits.
South Bend Lathe Works, South Bend 22, Ind.
SOUND 20 minutes

e. Plain Turning.
South Bend Lathe Works, South Bend 22, Ind.
SOUND 20 minutes

f. How to Machine Aluminum.
Aluminum Company of America, Pittsburgh 19, Pa.
SOUND 32 minutes

2. Booklets
a. How to Run a Lathe—$.50.
South Bend Lathe Works, South Bend 22, Ind.

Unit II—The Drill Press and Its Operations
Lecture: 1½ hours. Shop Practice: 2½ hours.

A. Skills and Knowledge to Be Taught
1. Principles of operation and parts of the drill press.
2. Operation of drill press in drilling various types of materials.
3. Care and use of drills.
4. How to sharpen drills.

B. Materials and Equipment Needed
   1. Two or more drill presses.
   2. Two sets of fractional drills, one set of number or wire gauge drills, and one set of letter drills.
   3. At least one drill-sharpening grinder.
   4. Steel and aluminum sheet and bar stock.

C. Available Teaching Aids
   1. Movies.
      a. The Use and Abuses of Twist Drills.
         Cleveland Twist Drill Company, 1242 East 49th Street, Cleveland 14, Ohio
         SOUND 30 minutes
   2. Booklets
      a. How to Run a Drill Press—$.25.
         South Bend Lathe Works, South Bend 22, Ind.
      b. The Use and Care of Twist Drills.
         Cleveland Twist Drill Company, 1242 East 49th Street, Cleveland 14, Ohio
   3. Charts.
      a. Tap Drill Sizes and Decimal Equivalents.
         Any tool and supply company.

Unit III—Hand Tools, Their Care and Use
Lecture: 2 hours. Practice: 3 hours. Examination: 1 hour.

A. Skills and Knowledge to Be Taught
   1. Types and characteristics of hand tools used by Orthotists.
   2. The proper care and use of each tool

B. Materials and Equipment Needed
   1. At least one set of hand tools for each pair of students.
   2. Hardware and materials for shop practice.

C. Available Teaching Aids
   1. Booklets.
      a. Basic Hand Tool Skills—$1.00.
         NAVPERS 10085, U. S. Government Printing Office, Washington 25, D. C.
      b. ABC's of Hand Tools.
         Public Relations Department, General Motors Corporation, Detroit, Mich.
      c. Files, How to Select, Use and Conserve Them.
         Delta File Works, James and Buckius Street, Philadelphia 37, Pa.
      d. File Filosophy.
         Nicholson File Company, Providence 1, R. I.
      e. Disston Saw, Tool and File Manual.
         Henry Disston Division, H. K. Porter Co., Inc., Philadelphia, Pa.

Unit IV—Hack Saws and Band Saws.
Lecture: 1 hour. Shop Practice: 3 hours.

A. Skills and Knowledge to Be Taught
   1. Principles of operation and parts of the band saw.
   2. Set up of the band saw.
   3. The proper blade for each job.
   4. The proper care and use of hack saws.

B. Materials and Equipment Needed
   1. Two or more band saws with a variety of blades.
   2. At least one hack saw and set of blades, for each pair of students.
   3. A variety of materials for sawing.

C. Available Teaching Aids
   1. Booklets.
      a. Disston, Saw, Tool and File Manual.
         Henry Disston Division, H. K. Porter Co., Inc., Philadelphia, Pa.

Unit V—Abrasives
Lecture: 1½ hours. Shop Practice: 2½ hours.

A. Skills and Knowledge to Be Taught
   1. Types and characteristics of abrasives.
   2. The correct abrasive for the job to be done.
   3. The care and maintenance of abrasive tools.
   4. Principles of grinding and polishing.

B. Materials and Equipment Needed
1. At least one grinding or one polishing wheel for each pair of students.
2. One Burr-Master.
3. Samples of manufactured and natural abrasives.
4. A variety of materials for grinding and polishing.

C. Available Teaching Aids
1. Movies.
a. Manufactured Abrasives.
U. S. Bureau of Mines.
SOUND 24 minutes
2. Booklets.
a. Grinding Wheel Data Book.
Simonds Abrasive Co., Philadelphia 37, Pa.
b. A Primer on Grinding Wheel Safety.
Norton Co., Worcester 6, Mass.

Unit VI—Shop Mathematics
Lecture and Practice: 4 hours.

A. Skills and Knowledge to Be Taught
1. Basic mathematical skills, addition, subtraction, etc.
2. Decimals and fractions.

B. Materials Needed
1. Practical shop problems.
2. Theoretical shop problems.

Unit VII—Precision and Non-Precision Measuring
Lecture: 2 hours. Practice: 2 hours.

A. Skills and Knowledge to Be Taught
1. Principles of operation and parts of precision and non-precision measuring tools.
2. The use of non-precision measuring tools.
3. The use of precision measuring tools.

B. Materials and Equipment Needed
1. One set of measuring tools for each pair of students, (yard stick, tape measure, micrometer, vernier caliper, dividers, calipers and protractor).
2. An assortment of materials of predetermined measurements.

C. Available Teaching Aids
1. Movies.
a. The Tools and Rules for Precision Measuring.
L. S. Starrett Co., Athol, Mass.
SOUND 30 minutes
2. Booklets.
a. The Tools and Rules for Precision Measuring.
L. S. Starrett Co., Athol, Mass.
b. How to Read, Use, Care for Micrometers and Vernier Gauges.
L. S. Starrett Co., Athol, Mass.
3. Charts.
a. Micrometer and Vernier Caliper Charts, Brown and Sharpe Co., Providence, R. I.

Review of Course to Date—1hour
Mid Semester Examination—1 hour

Part B—MATERIALS AND THEIR APPLICATIONS IN ORTHOTICS

Unit VIII—Steels
Lecture: 2 hours. Shop Practice: 4 hours.

A. Skills and Knowledge to Be Taught
1. Manufacture of steel.
2. Properties of various types of steel used in Orthotics.
3. Commercial aspects of steel.
4. How to machine various kinds of steel.

B. Materials and Equipment Needed
1. One well-equipped shop.
2. Various types of steel for machining.

C. Available Teaching Aids
1. Movies.
a. Stainless Steel.
U. S. Bureau of Mines
SOUND 29 minutes

2. Booklets.
   a. The Picture Story of Steel.
      American Iron and Steel Institute, 150 East 42nd St., New York 17, N. Y.
   b. Stainless Steel Handbook.
      Alleghany Ludlum Steel Corp., Brackenridge, Pa.

Unit IX—Aluminum
Lecture: 3 hours. Shop Practice: 5 hours. Review and Examination: 2 hours.

A. Skills and Knowledge to Be Taught
   1. Manufacture of aluminum.
   2. Properties of various kinds of aluminum used in Orthotics.
   3. Commercial aspects of aluminum.
   4. How to machine various kinds of aluminum.

B. Materials and Equipment Needed
   1. One well-equipped shop.
   2. Various types of aluminum for machining.

C. Available Teaching Aids
   1. Movies.
      a. This is Aluminum.
         Aluminum Company of America, Pittsburgh 19, Pa.
         SOUND 30 minutes.
   2. Booklets.
      a. ALCOA Aluminum Handbook.
         Aluminum Company of America, Pittsburgh 19, Pa.

Unit X—Forging and Brazing Surgical Steel
Lecture: 2 hours. Practice: 4 hours

A. Skills and Knowledge to Be Taught
   1. Principles of forging and brazing.
   2. How to forge surgical steel joints.
   3. How to braze surgical steel.

B. Materials and Equipment Needed
   1. One anvil, hammer and torch for each pair of students.
   2. Surgical steel bar stock.

Unit XI—Welding Steel
Lecture: 2 hours. Practice: 4 hours.

A. Skills and Knowledge to Be Taught
   1. Principles of operation and care of welding equipment.
   2. Principles of welding steel.
   3. How to weld steel.

B. Materials and Equipment Needed
   1. One welding outfit for each pair of students.
   2. Welding rod and steel for welding.

Unit XII—Welding Aluminum
Lecture: ½ hour. Practice: 1½ hours.

A. Skills and Knowledge to Be Taught
   1. Principles of welding aluminum.
   2. How to weld aluminum.

B. Materials and Equipment Needed
   1. One welding outfit for each pair of students.
   2. Welding rod and aluminum stock for welding.

C. Available Teaching Aids
   1. Movies.
      a. Torch Welding.
         Aluminum Company of America, Pittsburgh 19, Pa.
         SOUND 17 minutes
   2. Booklets.
      a. Welding ALCOA Aluminum.
         Aluminum Company of America, Pittsburgh 19, Pa.

Review of 1st Semester Instruction—3 hours
1st Semester Final Examination—2 hours

Unit XIII—Plaster and Its Application in Orthotics
Lecture: 6 hours. Practice: 14 hours. Review and Examination: 2 hours.

A. Skills and Knowledge to Be Taught
1. The manufacture of plaster.
2. Kinds and characteristics of plaster used by Orthotists
3. How to make plaster wraps of various parts of the body.
4. How to make and finish plaster molds of various parts of the body.

B. Materials and Equipment Needed
1. One well equipped plaster room.
2. Various kinds of plaster.
3. Various kinds of plaster bandages.
4. One subject for each pair of students.

Unit XIV—Leather and Its Application in Orthotics
Lecture: 5 hours. Practice: 13 hours. Review and Examination: 2 hours.

A. Skills and Knowledge to Be Taught
1. The processing and treatment of leather.
2. Kinds and characteristics of leather used by Orthotists.
3. Commercial aspects of leather.
4. Skills in working leather.
5. How to operate a sewing machine.
6. How to mold leather.

B. Materials and Equipment Needed
1. One well-equipped leather shop.
2. A variety of orthopedic leathers.
3. Cuffs or braces to be covered.
4. Plaster cast for molding.

C. Available Teaching Aids
1. Booklets.
a. Leather in Our Lives.
Leather Industries of America, 411 Fifth Ave., New York 16, N. Y.
b. Dictionary of Leather Terminology—$.15.
Tanner's Council of America, 411 Fifth Ave., New York 16, N. Y.

Unit XV—Plastic and Its Application in Orthotics.
Lecture: 6 hours. Practice: 12 hours. Review and Examination: 2 hours.

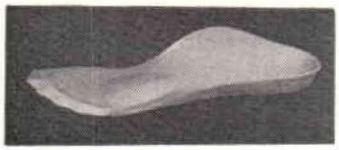
A. Skills and Knowledge to Be Taught
1. Kinds and characteristics of plastics used by Orthotists.
2. Commercial aspects of plastics.
3. How to work plastics.
4. Plastic lamination techniques.

B. Materials and Equipment Needed
1. One well-equipped plastics shop.
2. A variety of commercially available plastics.
3. Resins for plastic lamination.
4. Plaster casts for lay up and lamination.

Year-End Project—8 hours
Review of 2nd Semester Instruction—3 hours
2nd Semester Final Examination—2 hours
Total—150 hours

Conclusion

Since this was a course in "Basic Principles and Practices of Orthotics," the aim was to instruct trainees in tools and materials. The major portion of this instruction was accomplished by demonstration and shop practice. The trainee who has successfully completed this course is ready to learn brace fabrication and eventually brace fitting techniques. These advanced courses are now in the planning stage and will be reported upon at a later date.



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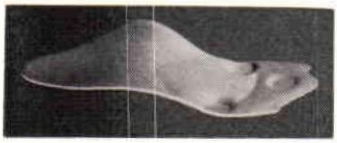

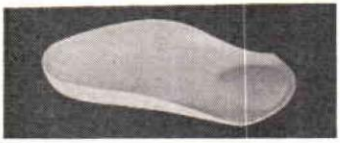

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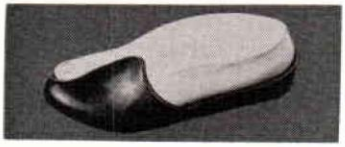

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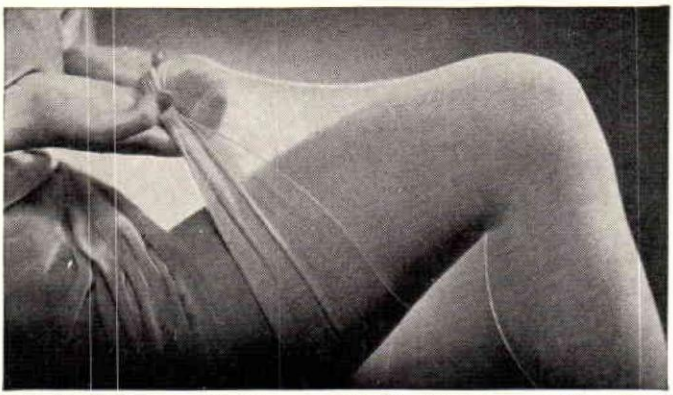

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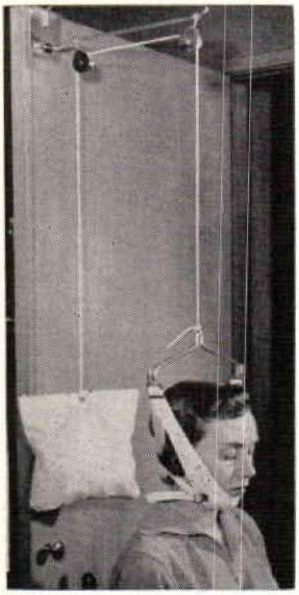

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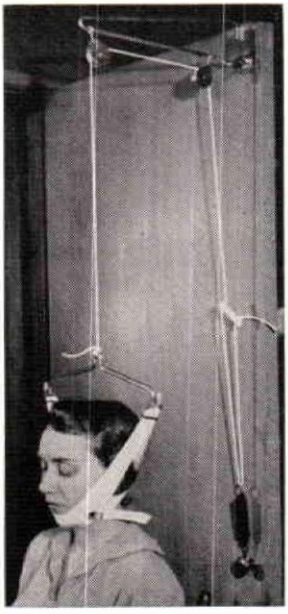

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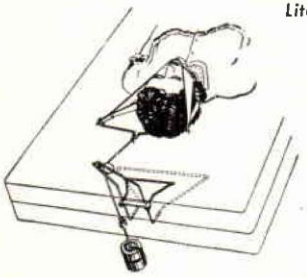

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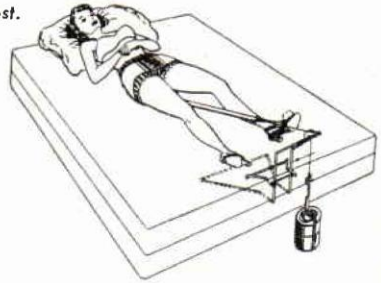

"We Should Put Teeth In Certification"

An Editorial Analysis by the Observer

Whenever the question is asked, "How should we strengthen Certification?", someone always says: "By putting teeth into it."

Now, teeth are for the purpose of biting. So it is a good guess that the speaker wants someone to be bitten, chewed up, or something.

Seldom do we bite ourselves. It is too painful. So, the teeth we want are for putting the bite on someone else, generally a competitor, or, maybe a former employee who annoyed us no end because of "the way" he departed.

The fact is that Certification has a lot of teeth in it—a whole mouthful.

To start with, *a candidate for Certification* these days faces a formidable series of hurdles, or "teeth."

He must be a high school graduate. Or, if he is not, he must take an examination and obtain a high school equivalency certificate. He must have had four years' experience in making and fitting of appliances. He must get three physicians, former employers and others to sign strong statements as to his competency and character. Then, too, his name is published in a list sent to all parts of the country so that anyone can raise an objection if they think he should not be Certified. If he gets past all this he must stand for examination, both written and oral. His application must be in before June 1, and he must manage, somehow, to get to the examination city.

This is quite a set of teeth. In fact, they serve to "chew up" over 50% of all the original candidates. To change the metaphor, less than one half get over these hurdles.

Now as to the *facility*. It must pass a rigid personal inspection. There must be no record of trouble with Better Business Bureaus. It must be endorsed by local doctors, business references, etc. Suppliers must give it a good rating. Then a Committee of the Board goes over all the papers before it is approved. After approval, it must keep up a clear record of ethics and competence or be subject to disciplinary action—these are the kind of teeth that chew up quite a percentage.

It is an interesting fact that there are more people unhappy over having been chewed up than there are that feel there should be more teeth.

Folks, generally, know about all these perfectly good tests and conditions and believe they are about as good as could be devised. Then, why the demand for more "teeth"?

The answer is, simply, that we sometimes want to get back at some particular person or persons. We may have a grudge against that person and want to see him suffer. This is just plain human nature. And because we do not wish openly to display our dislike of that particular person or firm, we find a "principle" that applies. So we demand a new law, or rule or restriction which, we fervently hope, will reach out and punish our disliked person. What we do, then, is to "refer to that person to whom we are alluding."

Only a very big person is able to rise above this weekness. Only the mature person can change the "get-even" attitude into a how-we-can-help attitude.

There seems to be enough teeth showing. We are a bit shy of helping hands.

End of a Year-- Certification Report by

CARLTON FILLAUER
President, American
Board for Certification.

Again it is the time for planning to attend the National Assembly of our profession. This is the time of the year that we assemble to meet old friends, some of whom we never see except at convention time; also we go to have some fun, which is usually well earned.

For many of us, attending our National Assembly is a challenge, an opportunity to acquire technical knowledge not available through other sources, to attend seminars on a new subject or a refresher course on an old one. To me, these assemblies with their success are an indication of an obvious desire of our industry members to acquire all the tools at our disposal in order that we may do the professional job assigned to us. If we can forget for a moment the fun that will be available and think of the tremendous task that confronted us a number of years ago and which today is still great, we would realize then that our attendance at the National Assembly is a *necessity* and an *obligation* further imposed upon us by the progress of research and the impact of our Certification movement. Look across the country for the trouble spots. Who are the remaining holdouts for the old cause of road agents and bedside solicitation? This specter is hiding behind the uncertified and the uneducated. Those in high standing in experience and ethical practice are too busy and too content to be unfair competitors.

The National Assembly because of the high character of speakers and experienced teachers, is for the most part our only contact with recognized national authorities. All of us cannot attend the prosthetic courses, but we can and should plan annually to attend the assembly.

The Certification Board's part of this program has been planned to give us a more sincere insight to our professional obligation. It is hoped that you will carry its message home and apply it to your practice, for only in this way can we fully appreciate and by good example pass on to others the value of Certification.

It is encouraging to note that there is an ever increasing number of applicants for the annual certification examination. At least 80 of 140 applicants will be on hand to take this year's examinations, September 26 through 28. A great deal of effort has been put into a workable examining procedure which will honestly and fairly evaluate the qualifications of the examinee. For the first time, each of the applicants is bringing a product of his work on which some of the examination will be based. These projects will be open on display for all to see. Please do not fail to give them some of your attention.

Those of you who failed to send in on time an application, but who plan to at the first opportunity should keep in mind that after January 1, new applications will be accepted for the 1958 examinations. It is surprising, after all the publicity that this year's deadline of June 1 had been given, the number of people who waited too late. Don't let next year slip by. It is later than you think. Progress waits for no one, nor does the level of our examinations.

In leaving the Certification Board at this time, I feel a sense of inadequacy in not having been able to contribute to all the problems but at the same time, there is a great deal of appreciation and credit due to the hard working, conscientious members of the board who served so well. It is natural that we all like to see tremendous progress in the way of spectacular advances or in phenomenal growth. But the history of Certification will be written on the dedicated "back to school" efforts that our members are making to elevate their status, by higher education, ethical practice and service to the patient. Perhaps no other industrial group has ever gone through a transition period with so much sincerity and conscientious efforts. However, it will be well to recognize that the board can accomplish only what the majority of the certifees can support and are willing to back with wholehearted support, that our ethics and standards will rise only as we practice and apply them in our daily work.

Well, one may ask—Where do we go from here? What comes next?

Our trainees need to have a higher level of education. They must be capable of college level studying to take advantage of forthcoming college courses in all phases of our work. Should all prosthetic courses at NYU and UCLA be made a pre-requisite for taking examinations? Why do so few applicants make the grade? Only one third become certified. Don't be too surprised to find that colleges will take over some day the whole job of training new professional members of our industry.

Not many prosthetists or orthotists feel that they get adequate recognition from their doctors or their patients. Perhaps we can answer this at the Assembly.

I look forward to seeing all of you and thank all of those who have made it possible for me to serve on the Certification Board.

Carlton Fillauer

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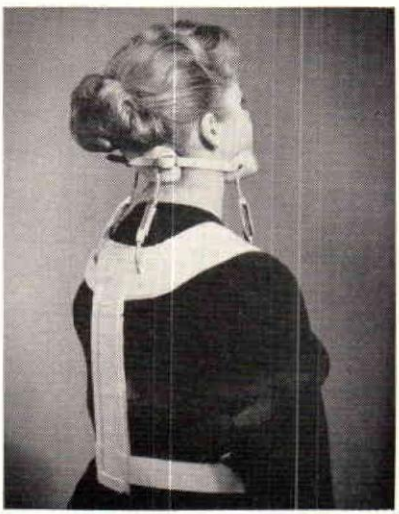

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"I Am Grateful"- Report by

Charles A. Hennessy,
President of OALMA

This is my last article as President of OALMA and I wish at this time to express my appreciation to the members, and to our Washington Office, for making this a memorable year.

I am grateful for the whole-hearted cooperation of my fellow officers, Vice Presidents John A. McCann and Karl Buschenfeldt, Treasurer M. P. Cestaro, and Regional Directors Basil Peters, Bert R. Titus, Paul E. Leimkuehler, Ralph Storrs, Erich Hanicke, Alvin L. Muilenburg, Kenneth L. Dodd, Herbert J. Hart and Lenart C. Ceder.

I hope the next President of OALMA has the opportunity to attend all of the regional meetings with our Executive Director, Glenn E. Jackson. Mr. Jackson has introduced a new type of program at these regional meetings, that allows each person to contribute something.

These meetings also serve to help the Medical Profession, and other groups kindred to our profession, to appreciate the fact that all of the problems in prosthetics and orthotics are not necessarily ours alone. Everybody did agree that many of these problems are minimized by the Team, consisting of the physician, the prosthetist or orthotist, and the physical therapist.

By attending these regional meetings and listening to the questions and answers presented, I found that the majority are more interested in increasing their professional status than in just being salesmen selling a product. Many realized that there is a definite need for better accounting methods, better business operation, and defining the practices of the profession. A Certified Fitter does not sell the socket or brace he makes, but charges a fee for services rendered because he has the technical knowledge of fitting and dynamic alignment and is looked upon by the team and the patient as a professional man, who gives his best service to the handicapped individual.

In closing I would like to make one last remark. Am I being professional when I bid on a contract? This is in effect putting a price on product alone and neglecting, not allowing funds, to cover the necessary professional services which vary with the individual case.

Once again I want to say thank you to the members, to Glenn E. Jackson, to Les Smith and the Washington office for their cooperation.

CHARLES A. HENNESSY
President

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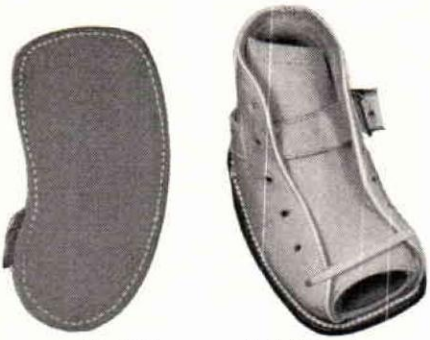

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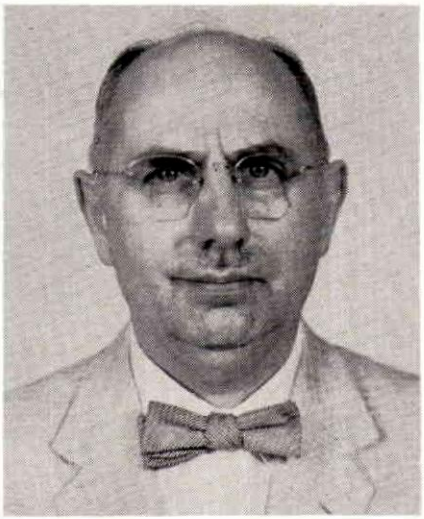
CROSS COUNTRY REPORT

What's New in the Brace and Artificial Limb Field Meetings - OALMA - Suppliers - Certifees

Forty Years for George Rinck, C. O. & P.



October 1 marks the 40th anniversary of George Rinck's work as an orthotist and prosthetist. On that day in 1917, he entered the firm of Adolph Schievekamp in Essen, Germany as an apprentice. He came to the United States in 1930 and served on the staff of the Pomeroy Company and the Hospital for Bone and Joint Disease. He opened his own establishment in Charleston, W. Va. in 1940. Mr. Rinck is now owner of the certified facility operated as the Lima Brace and Limb Company, Lima, Ohio.

1958 Regional Meetings

OALMA Region IV (the Southeastern States) announces that its 1958 meeting will be held in Charleston, S. C. The dates are February 14, 15 and 16, and the place is Fort Sumter Hotel, which overlooks the historic High Battery and White Point Gardens in Charleston, S. C.

W. L. Floyd, who is in charge of local arrangements, reports that members of the limb and brace profession are cordially invited to join their Southern brethren at this session. Charleston has many historic homes, old churches and beautiful gardens. Among its tourist attractions are the Dock Street Theatre, the first legitimate theatre in the United States, which opened February 23, 1735.

An excellent professional and complete program is being planned for the next meeting of OALMA Region VIII. This will be held at the Gonzales Warm Springs Foundation, Gonzales, Tex. There will be a practical demonstration of equipment on patients, an illustrated lecture on scoliosis and a question-and-answer period. R. N. Witt, Director of the Foundation's brace shop, cordially invites all members of OALMA to include this March 8, 1958 date on their schedule. Texas is wonderful in the spring and you Northerners will need a lift after a stormy winter!

OALMA members in Region VII will hold their annual spring session in Des Moines, Iowa, next April 12, according to word received from Everett Haines of the Winkley facility there, who is in charge of arrangements. The one-day session will be held at Fort Des Moines Hotel. You are urged to circle that date on your calendar and plan to meet your colleagues and friends. This region is OALMA's largest. It covers Western Missouri, Iowa, Minnesota, the Dakotas, Wyoming, Colorado, Nebraska and Kansas.

PROSTHETICS IN LONDON

OALMA MEMBERS AND FRIENDS are shown at the Banquet of the Seventh World Congress sponsored by the International Society for the Welfare of Cripples. Left to right: Donald V. Wilson, Secretary of the Society; the Duke of Devonshire; Dr. Howard Rusk, President of the International Society; Mrs. Adele Tenenbaum and Mrs. Mary Dorsch, OALMA members from New York; Dr. Henry H. Kessler; William A. Tosberg, Technical Director of Prosthetic Services at New York University; and Milton Tenenbaum, President of the Metropolitan Orthopedic Appliance and Limb Manufacturers Association. Dr. Kessler is a past president of the International Society and was a founder-member of the American Board for Certification. The Duke of Devonshire and Dr. Kessler were speakers at the banquet. Mrs. Dorsch and the Tenenbaums were official representatives of OALMA at the World Congress. Their report to members will appear in the December issue of this Journal.

Nylon Elastic Tape

One of the chief advantages of synthetic fabrics as harness materials for upper extremity prostheses (*Orthopedic and Prosthetic Appliance Journal*, March 1956, p. 23) is their ability to dry quickly at room temperature. Yet until recently where elastic webbing has been required it has been necessary to employ cotton elastic webbing, thus negating the rapid-drying quality of the synthetic tapes.

At the request of the Army Prosthetics Research Laboratory, the J. W. Wood Elastic Company, Stoughton, Mass., made a nylon elastic webbing available for testing. In tests both at APRL (APRL Technical Report No. 5654) and at New York University (NYU Report, *APRL Nylon Elastic Tape*, November 1956), the new material offered in 1-in. width as Style No. 6990 proved to be as satisfactory in every way as the 1-in. cotton elastic tape now in general use. The main advantages are the shorter drying time and the nonabsorbing qualities. Nylon elastic tape dries completely in four hours, whereas cotton elastic tape requires more than eight.

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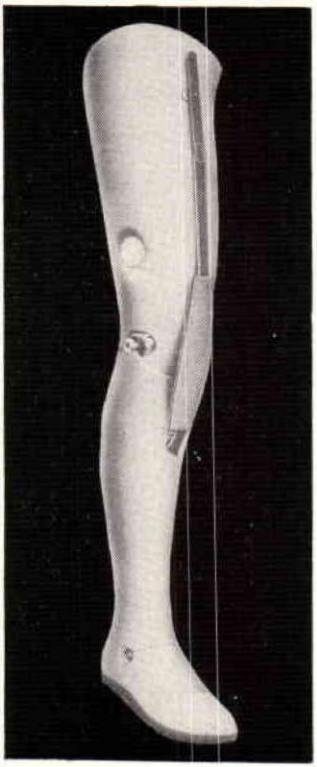

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Amputee Rehabilitation in the Orient; Report of a World Tour

By WILLIAM A. TOSBERG, C.P.&O.,

Technical Director, Prosthetic Services, New York University—Bellevue Medical Center

There are about 800,000 amputees living in the United States. Approximately 25,000 amputations are performed yearly. Many of these are the result of the increased life span which medical science has created in the United States. Life has been extended but many diseases of old age have not been conquered. Some of these cause conditions that often necessitate surgical removal of the affected limb.

It is fortunate that an improved amputee rehabilitation program has been developed in the United States through the close cooperation of many governmental bodies, voluntary agencies, medical and other health professions and the Orthopedic Appliance and Limb Manufacturers Association. This program is responsible for better fundamental knowledge, better prostheses, and better education of all who serve the growing numbers of amputees.

I was fortunate to be able to study the amputee problem in a number of areas of the world when I was appointed by the Technical Assistance Administration of the United Nations to conduct a training course for Japanese prosthetic technicians. Following a two-month stay in Japan, I visited prosthetic centers in Korea, Burma, India, Lebanon, Jordan, Germany and Denmark. Reports of these consultations are available from the International Society for the Welfare of Cripples, 701 First Avenue, New York 17, N. Y., and American-Korean Foundation, 345 East 46th Street, New York 17, N. Y.

Leaving San Francisco in March 1956, I made my first stop at Honolulu. An excellent rehabilitation center is maintained there for the Hawaiian Islands, with prostheses and braces supplied by certified prosthetists and orthotists.

When I left Hawaii, the medical director of the rehabilitation center, Dr. Sheppard, bade me farewell at the airport with the words "You are now leaving America." I did not realize then the full truth of his remark. It was true not only of the language and the American culture and way of life, but also of the many problems that face the amputee and others that are physically handicapped.

Rehabilitation in Japan

At Tokyo I was greeted by Dr. Masatora Hiyeda, Chief of Amputee Service in Japan, by Mr. Y. Takase, Director of the National Rehabilitation Center for the Physically Handicapped and by members of their staffs.

The National Rehabilitation Center was the place of activity for most of my work in Japan. When, during the next few days, I was introduced to many officials of the different governmental agencies responsible for the care of the handicapped, I became aware of their interest. I learned of many changes which had taken place in the Japanese philosophy regarding their cripples. Previously the blind and the lame had been the responsibility of the family alone, unknown to anyone but their immediate associates. Now they are accepted as members of society with all legal rights of citizens.

In 1950 the Japanese Government passed a Law for the Welfare of the Physically Handicapped, and in 1952 a Law for the Assistance of the War-

Wounded and Bereaved Families. Under these laws the Government provides many benefits for the physically disabled.

There are at present 785,000 disabled persons registered who benefit from these laws, among them 43,528 amputees. Amputations of the upper extremities account for 24,866 cases, whereas amputations of the lower extremities account for only 17,662. These figures include amputations of fingers, hands, toes, and feet. These numbers are in sharp contrast to the figures in the United States. It is estimated that the ratio of American amputees is approximately three to ten between upper and lower extremities.

The impression gained from discussions with many authorities is that the greatest single cause of amputation in Japan is accidents, whereas in America the majority of amputations are necessitated by peripheral vascular disease.

According to the latest figures available, prostheses are manufactured in 143 shops employing 858 technicians. Ninety-five of these shops, with 579 employees, are privately operated. The rest are maintained by the government and by semi-governmental bodies. Prostheses are paid for by the government under the laws mentioned previously. The standard of the prosthetic art is below that found in the United States. Research in the prosthetic field is carried on by federal and prefectural agencies, by universities, by the Federal Railroad and, to a minor degree, by the prosthetic industry. Results reflect the limited scope and the lack of central supervision.

Prosthetic designs are in many ways similar to those seen in Europe after World War I. The material most widely used is aluminum. Plastics were seen in only two or three shops.

I visited several excellent rehabilitation centers in some of the biggest cities in Japan. The main emphasis in their rehabilitation work is on vocational rehabilitation. Most of the patients were relatively young. The facilities and the personnel are present. What is needed is a concerted effort by the medical group to guide the program. In order to obtain a better picture of the physical rehabilitation program some statistics may be of interest.

The National Rehabilitation Center for the Handicapped previously mentioned is the only one that is maintained by the Federal Government. It is a modern structure which was opened on January 16, 1950. Physically it follows the lines of the recommendations made in 1945 by the Baruch Committee on Physical Medicine and Rehabilitation. Its approach to rehabilitation is patterned according to the latest American thinking with consideration for the differences between Occidental and Japanese cultural and vocational patterns.

Up to 150 in-patients can be cared for in small wards or in dormitories. The main object of rehabilitation is to restore the patient to gainful employment and vocational training has a high priority in the Japanese program. When surgery is required it is performed in a well-equipped operating room. On May 22, 1956, 121 persons were patients at the Center. The following table is an analysis of their ages.

1. *Patients by Age*

Age	*Male*	*Female*	*Total*
15-20	34	17	51
21-25	20	19	39
26-30	11	8	19
31-35	5	6	11
Over 35	1	0	1
Total	71	50	121

William A. Tosberg, C.P.&O.

From November 1953 to November 1955, 212 patients were treated and discharged. Table No. 2 shows the disabilities of these patients according to disease.

2. *Disabilities by Diseases*

Diseases	*Male*	*Female*	*Total*
Amputation	41	9	50
Poliomyelitis	30	17	47
Cerebral palsy	12	23	35
Purulent osteomyelitis and arthritis	12	6	18
Tuberculosis of bone and joints	12	9	21
Congenital monster	6	1	7
Burn	3	3	6
Rheumatic polyarthritis	4	1	5
Pachymeningitis adhesiva	2	3	5
Congenital dislocation of hip joint	1	1	2
Arthrogryposis multiplex congenita	1	1	2
Progressive muscular dystrophy	0	2	2
Osteogenesis imperfecta	2	0	2
Traumatic fracture and dislocation	1	1	2
Spinal cord injury	1	0	1
Brain damage	0	1	1

The following table shows disabilities according to the part of the body affected.

3. *Disabilities by Region*

	Amputation	*Infantile Paralysis*	*Cerebral Palsy*	*TB of Bone & Joints*	*Other*	*Total*
Right upper extremity	14	3	2	0	2	21
Left upper extremity	5	4	2	0	4	15
Right and left extremities	10	1	0	0	3	14
Right lower extremity	3	6	1	5	4	19
Left lower extremity	5	8	2	6	5	26
Right and left lower	10	18	10	1	24	63
All four extremities	0	4	11	0	9	24
R & L uppers, R or L lower	0	0	0	0	2	2
R & L lower, R or L upper	1	1	0	0	1	3
Spine	0	0	0	2	0	2
Spine & one lateral lower	0	0	0	5	0	5
Spine & bilateral lowers	0	0	0	2	0	2

4. *Causes for amputation in 50 cases*

Tuberculosis	3	Traffic accident	20
Tumor	2	Labor accident	16
Purulent arthritis	1	Other accident	4
Spontaneous gangrene	1	War wound	2
Raynaud's disease	1		
Subtotal	8	Subtotal	42
		Grand Total	50

More than half the patients seen required surgery, and the following tables indicate the exact numbers that did and their disabilities, with number of times operations were performed and number of persons involved.

5. *Necessity for surgical treatment*

	Needed	*Not Needed*	*Total*
Amputation	12	38	50
Infantile paralysis	42	5	47
Cerebral palsy	10	5	35
Disease of bones and joints	24	15	39
Others	20	21	41

6. *Types of Artificial limbs worn*

	Functional Limb	*Conventional Limb*	*Suction Socket*	*No Limb Worn*	*Total*
Right upper extremity	11	0	0	2	13
Left upper extremity	6	1	0	2	9
Right & Left uppers	16	2	0	2	20
Right lower extremity	0	4	0	0	4
Left lower extremity	0	7	0	0	7
Left lower & left upper	1	0	1	0	2
R & L lowers & R upper	1	0	2	0	3
R & L lower extremities	0	10	6	2	18
Total	35	24	9	8	76

7. *Effects of the Training Program for Recovery of Functional Disorder*

	Amputee	*Polio & Cerebral Palsy*
Improved	70%	81%
Not changed	10%	7%
Regressed	20%	12%
	100%	100%

8. *Status of Students Who Have Completed the Course*

	Employed	*Self-supporting*	*Returned home*	*Total*
Number of persons	56	13	40	109
Percentage	51%	12%	37%	100%

There are 28 rehabilitation centers established on a prefectural government level and 10 are established for the rehabilitation of crippled children. The society of ex-railroad workers, labor accident hospitals, and welfare insurance hospitals maintain rehabilitation services. Many city hospitals practice rehabilitation for the physically disabled.

The City University of Osaka dedicated its new hospital at the time of my visit. This hospital is in many respects the most modern of the many seen. The section on physical medicine and rehabilitation under the direction of Prof. S. Mizuno has a good prosthetic service.

The Industrial Accident Hospital, Kwasai, also in Osaka, had excellent physical therapy equipment. Their facilities, however, were hardly utilized —probably because of the lack of trained personnel.

The most outstanding fact noted in many centers was the almost total lack of orthopedic appliances and braces. Children were in bed because their paralyzed limbs were not supported. The only physical therapy seen

Check-out and examination at the end of the Prosthetics Course in Tokyo.

was some massage and hot mud baths. Occupational therapy was at a somewhat higher level, but much was along recreational lines. However, with the excellent facilities available, it is only a question of time until these shortcomings will be overcome.

During the training courses, I found that the Japanese technicians are endowed with superior mechanical aptitude and a desire to extend their knowledge in all areas of their field of work. Extended interchange of people and ideas will benefit the physically handicapped of Japan in a relatively short time. The United Nations through the Technical Assistance Administration Board, the United States through the Prosthetic Research Board, and the International Society for the Welfare of Cripples through a comprehensive program are interested in supplying such assistance.

In Korea

Leaving Tokyo, I went to Korea, where conditions in rehabilitation were quite different. Most of the work in this field was initiated from abroad. The American-Korean Foundation and the United Nations Korean Reconstruction Agency have furnished money and personnel to care for many Koreans who have become physically disabled as a result of war. Although physical rehabilitation is only a small phase of the work of the agencies mentioned, it was this part that the writer was interested to see. Since a large part of the national budget must be expended for defense, hospitals, orphanages and rehabiliation centers are only slowly being rebuilt. There is a shortage of skilled personnel in all fields. The World Church Service with Rev. Torrey in charge has partly rebuilt a badly damaged hospital and has installed a prosthetic shop where prostheses and braces are manufactured under the most primitive conditions. The quality is surprisingly high. The World Church Service maintains shops and fitting centers in several cities outside of Seoul. A lecture period had been arranged during my visit for men from all of the shops. The interest in the technical discussion was high, not only among the technicians but also among the physicians and others present. I visited private prosthetic shops where the greatest difficulty was the lack of materials and also the insufficiency of facilities to care for the patients.

A short visit to Pusan was arranged under the guidance of Dr. James Petrie, Medical Officer of UNKRA. The trip was made in a DC-3 plane which, judged by the many bullet holes, must have seen considerable war service. When I paid a visit to the hospital maintained by the Maryknoll Sisters I became aware of the extensive need for medical care. Although it was late in the day, long lines of children and adults still formed outside of the gates waiting for treatment. This hospital maintains a small brace shop staffed by one technician. The machinery, supplied by the American-Korean Foundation, was good but there was a deplorable lack of material even for the simplest supports.

The chief reason for my trip was a visit to the Tongnae Rehabilitation Center. The prosthetic facilities were certainly the most modern and the most elaborate that the writer has seen outside of America or Europe. The machinery was imported from England, as were most of the prefabricated parts and the tools and materials. The layout of the shops was excellent and the production potential appears to be sufficient for most of the Korean needs. The shops are part of a well-designed rehabilitation and training center. Korean rehabilitation teams are now trained in modern techniques in technically more advanced countries. Prospects for the disabled Koreans appear relatively bright if real peace can be restored and the physical facilities can be rebuilt. Training of personnel seems to be the key in this undertaking.

Report on Burma

The prospects do not seem quite so good in Burma. Mr. Kurt Janssen, Chief of the United Nations Rehabilitation Unit, had made a visit to this country in order to investigate the problems faced. One of his recommendations concerned the need for prosthetic service, and it was my intention to investigate any possibility for a reasonable solution. I found the people shouldered with the responsibility for the care of the disabled, devoted and able. Mr. U. Khin from the Directorate of Social Welfare guided me during my stay in Rangoon. This center was recommended for the establishment of a demonstration unit for care of the physically handicapped. Some facili-

Modern American prosthetic techniques being taught to Japanese students.

ties exist and others are in the process of building. Plans for a prosthetic shop had been provided by me previous to my visit, as well as a list of tools, machinery and material.

Since my return to the United States a team of five—a doctor, a social worker, a nurse, a physical therapist, and a prosthetist—has been sent to the Institute of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center for training under fellowships granted by the Rockefeller Foundation. The United Nations Technical Assistance Board has appointed a German-trained prosthetist to Burma to equip the shop and to initiate the training of local technicians. In this way it is hoped that the amputees of Burma in the foreseeable future will enjoy the benefits of international cooperation.

Report on India

Prospects for rehabilitation appear brighter in India, the next stop on my trip. I was a guest of Mr. Sidney Robbins, Administrator of the Rehabilitation and Training project for the Physically Disabled at the King Edward VII Memorial Hospital in Parel, Bombay. This project is supported by the United Nations, World Veterans Federation, and several Indian agencies. It is under the direction of an orthopedic surgeon from Bombay who had studied rehabilitation in the United States. The project also employed a physical therapist from England and an occupational therapist from Belgium. A prosthetist from Great Britain has been added to this team. Machines and tools for this center are provided by UNICEF. The present plans call for the establishment of a demonstration and training center for complete rehabilitation services. A building is to be erected which will contain all facilities needed.

I visited the Children's Orthopedic Hospital which is under the auspices of the Society for the Welfare of Cripples. This hospital is providing a very good rehabilitation program for its children not only on an in-patient basis but also for out-patients. Braces are made at the shop of another hospital. These braces are well constructed and designed. Many problems of measuring and fitting do exist because the number of well-trained personnel is limited. Although the new center cannot satisfy the existing need, it will be utilized to teach accepted techniques in all areas of rehabilitation.

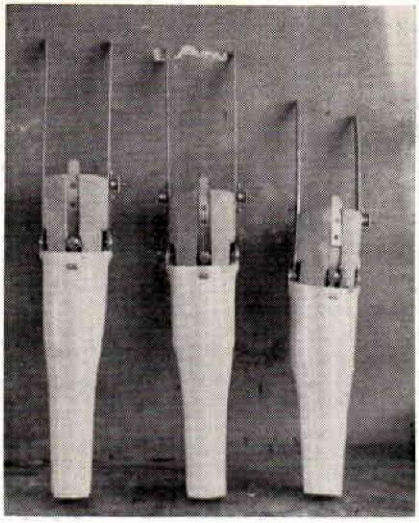
The Indian Government is supporting a prosthetic center at Poona where complete rehabilitation services are extended to veterans. This center has been utilized for civilians under special circumstances. Veterans from Burma have been fitted with prostheses in Poona also. This arrangement has not been entirely successful because of a lack of follow-up service.

Despite the fact that most of the work in the interest of the physically handicapped in India is only in the initial stage, it can be assumed that there will be progress on a sound basis due to the interest shown by all concerned.

Lebanon and Jordan

Lebanon offers another example of international cooperation for the benefit of cripples. It was at the Sixth World Congress of the International Society for the Welfare of Cripples that plans for the establishment of a rehabilitation center there took concrete form. With the help of several United Nations agencies it was possible to build such a center at the "Cite des Apprentis." This Cite is a training center, mainly for orphans, under the able direction of Father Cortabawi. Traning for several trades is given in well-designed and equipped shops. The rehabilitation center is at present utilized for children on an in-patient basis. All beds of the wards were made at the various training shops. The Physical Therapy Department, supervised by a British physical therapist, uses most modalities, including hydrotherapy. A British orthopedist is the medical director and the prosthetic shop is in charge of a French technician. There was still a shortage of materials needed for braces and prostheses. Several avenues of supply were explored and considerable progress has been made. The Lebanese Union for Child Welfare is the most active agent in the interest of the handicapped. There is a severe shortage of trained personnel and of suitable facilities. Much work remains to be done.

This is even more true of Jordan, which I visited for only a few hours. Jordan has about 400 amputees. Many of these are victims of fighting in



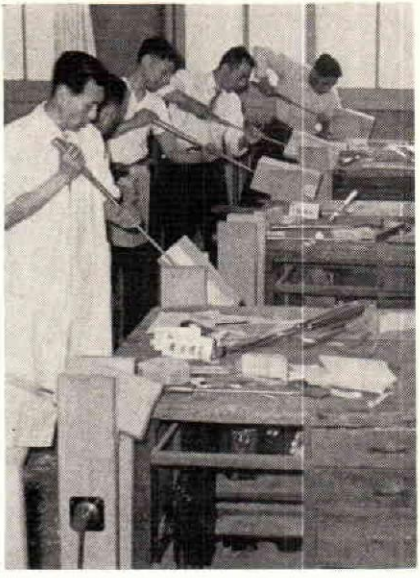
Pre-Fabricated Plastic Shins with knee blocks for use in Okinawa.

Palestine. The Union of the Invalid Monadaline is trying to provide service to their members, but since no prosthetic facilities exist in Jordan, it has been necessary to obtain prostheses from Egypt. This leads to the same complications that had been observed in Burma. Even the best made artificial limbs do not maintain their fit after the normal changes have occurred in the stump. The writer saw several cases where severe medical stump problems were the result of such changes. It was therefore recommended that a Jordanian with technical aptitude should be sent to Lebanon for training in the repairs and adjustments of prostheses. A suitable room is available that could be converted for such a purpose. Since only a minimum of equipment would be needed, such a recommendation was favorably received by the Minister of Social Affairs. A technician is now training in Beirut, Lebanon.

My visit to Jordan also included a visit to Bethlehem, where an American nurse gives outstanding service in the aid of crippled children at the Christian Approach Mission. She was caring for 36 of these children at the time of my visit. Her work enjoys an excellent reputation but is not supported financially by the government. It is estimated that more than 1,000 children of Jordan are in need of rehabilitation services. A brace maker and a physical therapist are most urgently needed. The facilities presently available are inadequate and the prospects for the care of the physically handicapped do not appear bright in Jordan, despite the interest expressed by many agencies.

Side Trip to Berlin

Returning to the United States, I interrupted my flight in Germany at the request of the International Society for the Welfare of Cripples. *The Deutsche Vereinigung zur Bekampfung des Kruppeltums* had become affiliated with the International Society at the last World Congress of the ISWC and it was my intention to meet their President, Professor Dr. K. Lindemann. This society depends upon its income from private sources. *The Yearbook for the Care of the Physically Handicapped* contains a collection of the best articles written for people interested in all phases of rehabilitation.



First practice in the use of pulling tools by students.

Since Professor Lindemann is the Director of the Department of Orthopedics at the University of Heidelberg, I had an opportunity to see the "Heidelberg Pneumatic Arm" prosthesis. This prosthesis utilizes compressed gases for its power. The expanding gases activate the different component parts of the arm and are controlled by tiny valves which are under the control of the amputee. The action of this arm resembles the action of the electrical prosthesis which was developed by the International Business Machines Corporation in the United States under contract from the Prosthetic Research Board, but the forces created are much greater. Some of the functions of the arm might be utilized in bracing of severely disabled upper extremities resulting from poliomyelitis or other causes. (See a report on The Heidelberg Arm in the March, 1957 issue of this *Journal*, pages 49-51.)

The orthopedic workshops maintained by the University are well organized and the standard of their work is high. This is especially true of the different brace constructions for nonfunctioning upper as well as lower extremities.

The writer paid a visit to Professor O. Hepp at the University of Muenster who is a member of the Committee on Prosthesis, Braces and Technical Aids (of the International Society for the Welfare of Cripples). Dr. Hepp visited the United States during 1951 as chairman of a study group concerned with amputee rehabilitation. This study group recommended research on upper extremity prostheses along the lines carried on in the United States. A shop was established by Dr. Hepp and is supported by the German government. A manual for the construction of functional arms was published recently. At the time of my visit the shop was experimenting with an elastic plaster-of-paris bandage. This would have numerous applications. One other item of interest was the use of plastic material in

the manufacture of braces. This material would open a wide field of application if it could be adopted for orthopedic appliances. Any results of their studies and experiences would be of interest to all those making appliances for the physically handicapped.

The German Orthopedic Appliance and Limb Manufacturers Association held its annual assembly and since the Berlin Regional Associtaion was celebrating its three hundredth anniversary at the same time these two meetings were combined. Members of the Eastern German District were invited as well as visitors from foreign countries. The meeting was combined with field trips to some of the rehabilitation centers in Berlin. The oldest and best known is the "Oskar Helena Heim" founded by Dr. Bisalski. This center offers complete rehabilitation for all physical disabilities. It also has shops for the training of the disabled, including a prosthetic shop where all braces and prostheses for the center are designed and made.

One session was devoted to a discussion relating to international cooperation in amputee service on a technical level. A six point program was proposed to create an international body, if possible, within the framework of the International Society for the Welfare of Cripples. These questions were discussed at a seminar attended by representatives of Germany, the United States, Belgium, Holland, France, Denmark, Sweden and Italy.

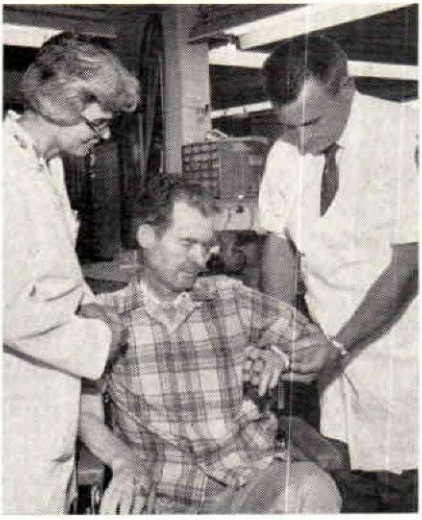
Leaving Germany, I went to Copenhagen where Dr. Knud Jansen is Chairman of the Committee on Prostheses, Braces and Technical Aids, a Committee of the ISWC. American members of this committee include Glenn E. Jackson, Executive Director of the Orthopedic Appliance and Limb Manufacturers Association, and the author. The objective of this committee, is to collect and to disseminate information pertaining to artificial limbs, braces and all those devices that will increase the function of the physically handicapped. Several approaches towards these ends were explored. Questionnaires, distributed by the Committee, show that there is considerable need for technical information and exchange of personnel. There is a shortage of skilled technicians in many areas of this world. Training on a regional basis in conjunction with other international agencies might be of some help. People from countries where rehabilitation services are still in the initial phase are presently trained in countries where these services are highly developed. This has accomplishd some good results. Other possibilities are to be explored.

Summary

In summarizing impressions of this trip to many countries around the world, I would say that the obstacles at present seem almost insurmountable. Nevertheless, the need for extensive services is realized by many agencies in a position to contribute to a gradual solution. The greatest need concerns the almost complete lack of trained technicians. Suitable materials and supplies can be secured in most areas, although only a limited amount of specialized machinery is required in many countries. The best solution to the problem at this time appears to be the establishment of demonstration and training centers, staffed by experienced technicians. Another temporary solution might be the introduction of mobile units to take care of the immediate needs. The cooperation of all agencies in every country will be needed for many years.

From the OALMA Who's Who

EDITOR'S NOTE: *Rancho Los Amigos is one of OALMA's New Associate Members. We asked Donovan J. Perkins, Executive Assistant on its staff to write its story.*



FITTING A FLEXOR HINGE SPLINT AT RANCHO LOS AMIGOS: Left to right: Dr. Jacquelin Perry and Orthotist Roy Snelson are shown with the patient, Robert Handley.

Rancho Los Amigos Hospital was founded in 1887 as a Los Angeles County custodial facility. From this beginning its purpose grew and changed. Rancho Los Amigos became one of five hospitals operated by Los Angeles County to provide medical care for its needy citizens. This hospital cares for patients with long-term illnesses such as circulatory diseases, nervous system diseases, arthritis and other conditions which require long term stay in a hospital or need convalescence and rehabilitation.

In keeping with this purpose, a polio ward was opened in 1944. The size of the polio unit grew to a capacity of 110 patients over the next few years until in 1952 the National Foundation for Infantile Paralysis and Los Angeles County agreed to name the polio unit a Regional Respirator Center for Polio, still giving first priority to the citizens of Los Angeles County but making the provision for accepting patients from other counties and states as space was available. The National Foundation for Infantile Paralysis began yearly grants for research, education and patient care.

Also at this time, the County began a building program to provide new and larger facilities for the treatment of the severely involved poliomyelitis case—primarily those with breathing problems. With its opening on March 1, 1954, the capacity of the Respirator Center grew to 165 patients. Treatment facilities and clinics were expanded and more centralized, being in one building.

Although the larger facilities were quickly filled, it was possible to begin a program of hand splinting and investigation of orthetic devices for the upper extremities. To begin this program, Mr. Jack Conry was hired on May 10, 1954 (he was certified after examination—November, 1956). The splinting program started in a corner of the Occupational Therapy Clinic. It quickly grew in personnel and space requirements to the point where it was necessary to plan for its own quarters. On July 1, 1956, the Orthetic Department moved into a newly constructed addition to the building, but in the last year it has outgrown its 1,000 sq. feet of floor space. A 1,400 sq. ft. addition to the Orthetic Department is now on the drawing boards.

Mr. Roy Snelson was brought in full time in December of 1956 to head the Orthetic Department. It is now staffed by two Certified Orthotists, Mr. Conry and Mr. Richard Young (certified November, 1956), a Research Engineer, Mr. Al Wing, three Assistant Orthotists and an Occupational Therapist for training patients in the use of upper extremity orthetics.

The upper extremity orthetic program of research and development has grown in scope, now working on hand splints, assistive devices, and functional arm braces. The hospital program has grown to include the rehabilitation of other neuro-muscular disorders, thus expanding the Orthetic Department's program.

Rancho Los Amigos Hospital's 2,600 beds, 350 acres and 1,500 employees are under the direction of Mr. Eugene R. Erickson and under the medical direction of John E. Affeldt, M.D. The Orthetic Department is directly under the supervision of Vernon L. Nickel, M.D., Chief of Surgical Service. Dr. Nickel is also the head of Orthopedic Service.

The Orthetic Department is financed by the Attending Staff Association of the Rancho Los Amigos Hospital, Inc., a non-profit research corporation. The funds come to the Attending Staff Association from various eleemosynary organizations, primarily the National Foundation for Infantile Paralysis.

It is the aim of the Orthetic Department of Rancho Los Amigos Hospital through research and training to make available new upper extremity devices to the industry and thus to many more patients in need of such devices.

Staff directly concerned with the Orthetic Department include:

Vernon L. Nickel, M.D., Chief of Surgical Services: M.D. 1944, College of Medical Evangelists. Internship San Bernardino County Hospital 1944. Medical Corps, U. S. Army (Orthopedic Surgeon), 1944 to 1946. Resident in Orthopedic Surgery, White Memorial Hospital, Los Angeles, 1946 to 1948. Fellow in Orthopedic Surgery, Willis Campbell Clinic, Memphis, Tenn., 1948 to 1950. M.S. in Orthopedic Surgery, University of Tennessee, 1949. American Board of Orthopedic Surgery, 1951. Assistant Professor of Orthopedic Surgery, College of Medical Evangelists. Chief of Surgical Service and Head Orthopedist, Rancho Los Amigos Hospital. Attending Staff and Chief of Brace and Prosthetic Clinic, Los Angeles County General Hospital. Attending Staff of White Memorial Hospital, Los Angeles, and St. Francis Hospital, Lynwood. American Academy of Orthopaedic Surgery, Western Orthopedic Society, Los Angeles County Medical Association, California Medical Association, and American Medical Association.

Roy Snelson, C.O.—Chief Orthotist: Chief of the Orthetic Department, Rancho Los Amigos Hospital, Mr. Snelson has had ten years' experience in orthotics in both upper and lower extremity, and was formerly manager of one of the larger brace shops in the Los Angeles area (Logan and Company). He has for the past two years served as an examiner at the annual Certification examination. He attended the teacher training courses at University of California at Los Angeles School of Prosthetics under Dr. Miles Anderson. He is Head Orthotic Instructor at UCLA and, as such, is responsible for planning curriculum, making lesson plans, and teaching orthotist trainees in lower extremity bracing. He is First Vice President of the Society of Orthotists and Prosthetists, and is a member of the Educational Committee of the Orthopedic Appliance and Limb Manufacturers Association. He has been working with the prosthetic education program at UCLA and the staff here at Rancho in preparing a short-term course in upper extremity bracing for Orthotists, Therapists, and Physicians in Orthotics to be given at UCLA this fall.

Jack E. Conry, C.O. Has had over six years' experience and received his training at the Polio Center at Warm Springs, Ga., and is now a Research Orthotist in the program at Rancho Los Amigos Hospital. His ingenuity has contributed much to the success of the functional bracing of upper extremities, and to the solution of unique individual patient problems.

Richard Young, C.O. Received his experience in private industry in the fields of upper and lower extremity orthotics and has been with the hospital approximately three years. Is the Senior Orthotist in charge of hand splints and special assistive devices.

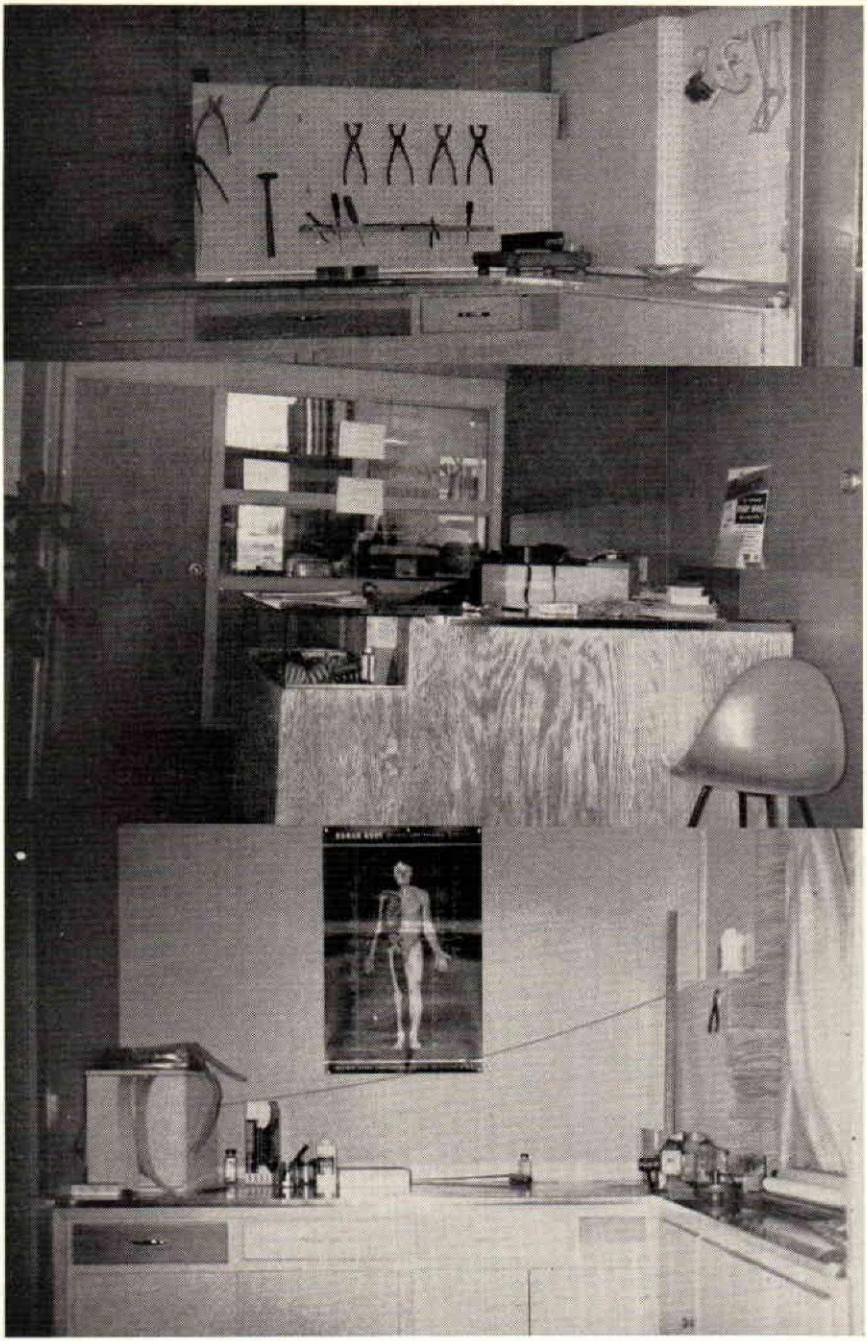
Pre-View of the New Robin-Aids Facility

George Robinson has sent us the pictures shown on the opposite page. They reveal only a small part of the new facility which he and George Gage have opened at 3353 Broadway, Vallejo, California.

The new building is located on a five-acre plot, which gives plenty of parking space (visitors are welcome) and room for future growth. It is located in the beautiful Napa Valley between Vallejo and Napa on Highway 29.

The firm produces SD, ED, AE, BE, WD plastic and leather arms, cable parts for arms, flexible elbow joints, locking lever joint for stump activated elbow lock, artificial hands for women and children, partial hand appliances, handy hands and handy hooks for paralyzed hands, hand braces, arm braces and functional mechanisms for paralyzed arms, spastic control brace or stabilization feeder for C.P.s, plastic scoop dishes.

Mr. Robinson writes the *Journal* that: "We devote 30% of our time to research and developmental work. Our services are extended to the Veterans Administration, Bureau of Vocational Rehabilitation, Crippled Children Services and National Foundation for Infantile Paralysis. We co-operate in the work of the National Rehabilitation Association, National Research Council and the UCLA schooling program on upper extremities."



THE NEW ROBIN-AIDS FACILITY—Here are produced the famed Robin-Aids Appliances. A Corner of Fitting Room No. 1 is at the top. The middle panel shows a corner of the office and part of the Reception Room. Fitting Room No. 2 is shown at the bottom.

OALMA EXHIBIT IN NEW ENGLAND—Howard V. Mooney, C.P., Manager of the Boston Artificial Limb Company, was in charge of an OALMA Exhibit on Employment at the New England regional conference of the National Rehabilitation Association. This was held June 13 and 14 at Woodstock, Vt. The display exhibit emphasized how the correct appliance, properly fitted by certified personnel makes possible full-time employment of the handicapped. In the picture above, Mr. Mooney is describing appliances to Dr. Robert P. Smith, Director of the Vermont Rehabilitation Center.

"WHAT'S NEW(S)"

The Brenner and Keffer Company, Certified Facility of Detroit is now known as the Brenner Orthopedic Company, and Karl Brenner is sole owner. It is located at 3712 Woodward Avenue, Detroit 1, Mich. (Telephone, TEmple 1-7917).

Walt Sandberg is the new manager of the *Salt Lake City, Utah office of Kessler Associates*. Sanford Kessler, former Manager, has been made Vice President of the parent firm in Newark but makes periodic visits to the Salt Lake City facility.

The Shirley Brothers, managers of a Certified brace facility at Hartford, Conn., for several decades, have retired. The firm, which was located at 138-A Jefferson Street, enjoyed an excellent reputation. Our best wishes go to Herbert T. and Ernest W. Shirley.

Erich Hanicke reports that the shop and office of their Certified facility is completely air-conditioned. The facility is locaetd at 1009 McGee Street, Kansas City, Mo.

A new Prosthetic Clinic is in operation at the Veterans Administration Hospital in Houston, Tex. The Clinic meets every other Thursday afternoon. Members in attendance include: B. F. Boylston, M.D., Chief of Clinic team; R. W. Leong, M.D., Assistant to the Chief; J M. Mitchner, M.D., Chief Orthopedist at VA Regional Office; L. A. Leavitt, M.D., Chief, P.M.&R.; Richard Terry, P.&O.; Clyde Weaver, O.; Al Muilenburg, P.&O.; John Arena, C.T., Mrs. L. Lacey, O.T.R., and James T. Hall, Chief of the VA Prosthetic and Sensory Aids Unit, completes the Clinic team.

Thorkild Engen, Director of the Assistive Device Shop of the Wolff Home, attended the Geneva, Switzerland Conference on Poliomyelitis. There he exhibited many of the assistive devices he has developed. Before returning home, Mr. and Mrs. Engen visited relatives and friends in Copenhagen, Denmark.

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Mrs. Virginia Hedges
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Mrs. Anette Ceder
Treasurer

TO THE LADIES:

from

OALMA's Woman's Auxiliary

In just a few days, you will all, I hope, be "Washington bound" with your husbands for a wonderful Assembly. Many unusual features have been arranged for this 40th Anniversary Meeting of OALMA. A whole series of seminars, technical papers and exhibits will occupy your husband's time.

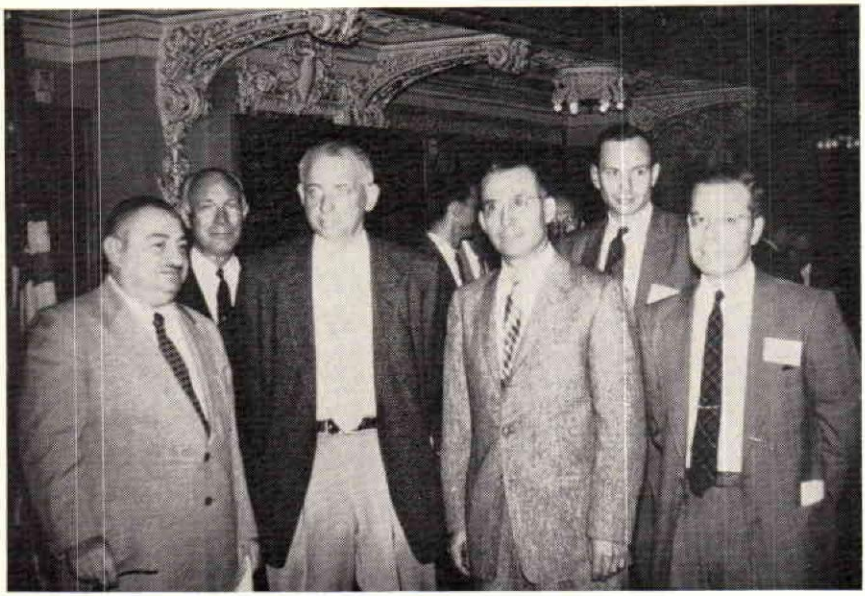
Meanwhile you will be seeing far more of our Nation's Capital than the average tourist ever does. On Monday, you'll have a special trip to Mt. Vernon and old Alexandria. That evening will find you at the German Embassy for the reception and greeting to our colleagues overseas. Tuesday, we enjoy a special private tour of the White House, then to the Capitol for lunch in the Old Supreme Court Chamber (where the Eisenhower Inaugural Party had luncheon—did you see it on TV?). Other highspots of your Washington visit include seeing the Moslem Mosque (only one in North America) the Cathedral and the Franciscan Monastery—a tour of the Voice of America Studios and other surprises planned for you by Margaret Peters.

And for the first itme, we have an OALMA-sponsored Post-Assembly Tour. This will take you and your husband by private air-conditioned motor coach to Historic Jamestown, Va., which is celebrating its 350th anniversary and to Colonial Williamsburg. We will be staying at the famous Tides Inn. This is the same festival for which the Queen of England is coming to the United States in October. Reservation blanks are in the mails. Sign up today for this Post-Assembly Excursion, October 4 and 5. It's the opportunity of a lifetime. See you soon!

Sincerely,

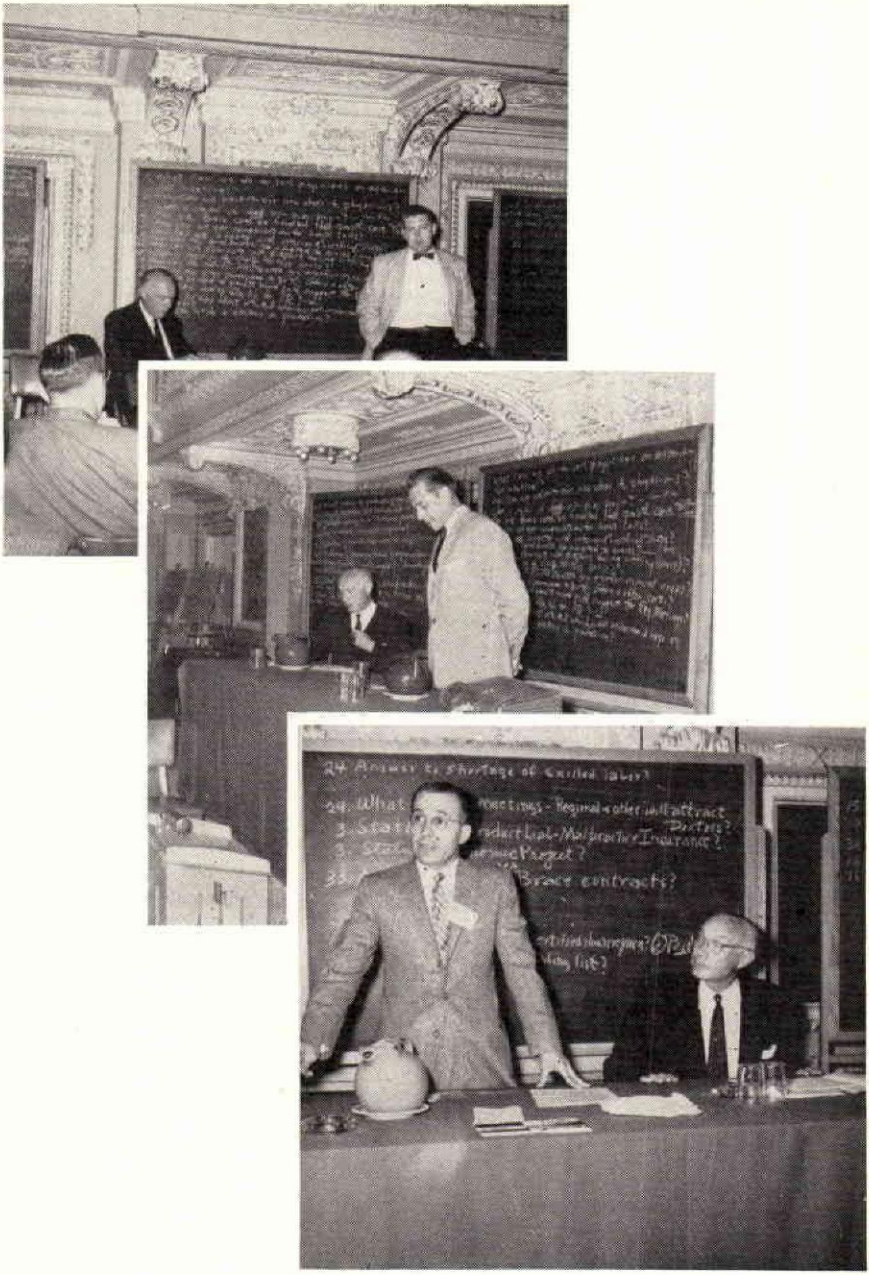
Ruth Brown,
President

Snapshots of Region VI Meeting, May, 1957



Some of "The Resource Persons" at the meeting of Region VI in Chicago. Here Erich Hanicke our photographer, catches a group of them at the close of the session. Left to right: Dr. Meyer A. Perlstein, Glenn Jackson, Dr. Clinton Compere, Dr. Robert E. Stewart, Colin A. McLaurin and Dr. Robert G. Thompson.

Region VI has glamor as well as brains. Our picture shows left to right: Mrs. Ralph Storrs, Mrs. Erich Hanicke, Mrs. Clyde Peach, Mrs. John Butterfield, Miss Mary Kay Johnston and Miss Patricia Leathers. Russ Johnson and Hank Bates of Truform may be seen in the background.



Region VI's May Meeting in Chicago was planned by Director Ralph Storrs as a real "work-out" for the guests of honor. These pictures by Truform's Hank Bates show three "resource persons" expounding—as Moderator Glenn Jackson looks on: top to bottom NYU's William E. Hitchcock; OALMA Prexy Hennessy and the VA's Dr. Robert E. Stewart.

OCCUPATIONAL THERAPY—PRINCIPLES AND PRACTICE

By William Rush Dunton, Jr., M. D. and Sidney Licht, M. D.

Published by Charles C. Thomas, Springfield, Ill., 1957, 2nd Edition, 373 pages, illus.,

Reviewed by Gordon G. Plorin, C.O., Ray Trautman and Son, Inc., Minneapolis, Minn.

Here is a book that can be considered primarily as instructional or reference material for an Occupational Therapist. The beginning sentence of Chapter II, "Occupational Therapy is remedial activity," is the opening to interesting and satisfying reading. In the 16 chapters we are introduced to the various problems, patterns of approach, modalities of treatment, and desired objectives that are in the aura of Occupational Therapy. The opening chapter discusses early history and development of this particular field. Chapters two and three are excellent and should be of real value to the prosthetist in that they dwell on the principles of Occupational Therapy, prescription writing, responsibility and interpretation, thus giving us further awareness of the OT's place in the Rehabilitation formula. All following chapters deal with types of therapy and the areas of situations in which they are specifically used.

Of particular interest to the limb and brace man, are Chapter 4—Kinetic O.T., Chapter 5—Appliances and Remedial Games, Chapter 12—O.T. in the Treatment of Cerebral Palsy, Chapter 13—The Upper Extremity Amputee. These chapters deal with the practical usage of materials and items that are for the most part the C.P. and C.O.'s stock and trade.

In the area of Cerebral Palsy, we become aware of the intricate and difficult problems that can be benefited by an Occupational Therapy program.

A chapter on upper extremity amputees, discusses design, fitting and harnessing, and check out procedure. The lists of desirable amputee activities and accomplishments are a real value to the prosthetist if he doesn't already have similar lists from the upper extremity school.

Basically the volume is of considerable value if we are attempting to better understand the position and usefulness of the Occupational Therapist on the rehabilitation team, but if we are looking for technical information or new help in serving the limb or brace patient then we could possibly overlook this book as there is very little offered that is not found in our own literature.

THE PHYSICIAN-WRITER'S BOOK —Tricks of the Trade of Medical Writing

By Richard M. Hewitt, M.D.

Published by the W. B. Saunders Company, Philadelphia, Pa., January 18, 1957; *Illustrations*: 37 *figs.; $9.00.*

This book is aptly titled, especially so in its subheading "Tricks of the Trade of Medical Writing." The reader could very easily substitute "Prosthetic-Orthopedic" for "Medical."

If you have to write even one article a year and are not entirely satisfied with the results, you will find this book well worth the purchase price.—*L.A.S.*

SUPPLIERS INDEX

In Memoriam

As we go to press word comes of the death of LEON LAUFER, father of Jack L. Laufer. Mr. Laufer was associated with his son in the operations of L. Laufer & Co. of New York City.

MRS. IRENE P. BLACKWELL, beloved wife of Ray L. Blackwell, head of the Minneapolis Artificial Limb Company of Williamsport, Pa., died suddenly July 27. She and Mr. Blackwell had a wide circle of acquaintances among members of OALMA.

ARTHUR SEELERT, President of the Seelert Orthopedic Appliance Company of Minneapolis died August 22. Mr. Seelert began his work in the limb and brace field in 1914 and had operated his own establishment in Minneapolis since 1922. OALMA was represented at the funeral rites by Walter Erickson and C. E. Medcalf.

DALE O. SHIPMAN, C.O., died July 6 at the age of 57. Mr. Shipman was certified in 1953. He began his training with the C. H. Hittenberger Company, and at various times was an employee of the George R. E. Milligan Company, Gaines Orthopedic Appliances, the Veterans' Administration in New York and Denver, and Scott Surgical Company. He was a graduate of the Advanced Training Course for Orthopedic Shop Supervisors of the VA and was a delegate to the First Mellon Institute Symposium on Orthopedic Appliances.

CODE OF ETHICS FOR THE ARTIFICIAL LIMB AND BRACE PROFESSION

The Federal Trade Commission has approved fair trade practices for the field of artificial limbs and for orthopedic appliances. Both codes have been adopted in their entirety by the American Board for Certification as a guide for the Certified Prosthetist and Orthotist. The full text of the Codes may be obtained by application to the American Board for Certification Headquarters.

The following digest of the rules is printed for ready reference.

It is an unfair trade practice:

(1) To deceive purchasers or prospective purchasers as to any of the qualities of a prosthetic or orthopedic appliance, or to mislead purchasers or prospective purchasers in respect to the service of such appliances.

(2) To infer an artificial limb is equivalent or nearly equivalent to the human limb, complies with any government specifications, or has the approval of a government agency unless such be wholly true or non-deceptive.

(3) To fail to disclose to a purchaser, prior to his purchase of a prosthetic appliance, that the degree of usefulness and benefit will be substantially dependent upon many factors, such as the character of the amputation, condition of the stump, state of health, and diligence in accustoming oneself to its use.

(4) To promise that any industry product will be made to fit unless such promise is made in good faith and industry member is possessed of the ability to fulfill such guarantee. A prosthetic device or an orthopedic appliance is not to be considered as fitting unless properly shaped for the body member to which it is applied, and in proper alignment and conformity with the physique of the person to wear such a product, and affords the optimum of comfort and use on the part of the wearer.

(5) To deceive anyone as to his authority to represent and make commitments in behalf of an industry member unless such be fully true.

(6) To use any testimonial or use any picture which is misleading or deceptive in any respect.

(7) To demonstrate any appliance in a manner having the tendency or effect of creating a false impression as to the actual benefits that may be reasonably expected from it.

(8) To use any guarantee which is false or misleading.

(9) To represent that any appliance conforms to a standard when such is not the fact.

(10) To publish any false statements as to financial conditions relative to contracts for purchase of appliances.

(11) To engage in any defamation of competitors or in any way to disparage competitors' products, prices, or services.

(12) To use the term "free" to describe or refer to any industry product which is not actually given to the purchaser without cost.

(13) To wilfully entice away employees of competitors, with the purpose of injuring, destroying or preventing competition.

(14) To take part in any concerted action with other members of the industry to wilfully fix prices.

(15) To promote the sale of any appliance to any person who can not be expected to obtain reasonable benefit from such appliance.

(16) To refrain from giving every assistance to doctors before and after amputation or crippling condition, or to fail to do everything possible to promote mutual trust and confidence between the industry and the members of the medical profession.

(17) To undertake to supply an artificial limb by mail-order specifications without personal fitting thereof unless conditions are such which make an exception desirable, and in any case, no misrepresentation shall be made as to fit.

(18) To unduly exploit features of appliances less important than proper fit and alignment.

(19) To fail to recognize that the interest of the amputee and the handicapped is the first concern of this craft and therefore any failure to make available to all of its members and the general public any improved technique that may be used as to making, fitting, aligning or servicing of industry products shall be an unfair trade practice.

(20) To pay anything of value to any doctor for the purpose of obtaining a referral of a patient by the doctor to the industry member.

Further, the industry desires to be an active and cooperative factor in all progressive developments of improved techniques that will contribute to the welfare and comfort of all who wear its products.

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