DECEMBER, 1955

The journal of the Limb and Brace profession

Orthopedic and Prosthetic Appliance Journal

Adaptable Cervical Brace B/K Suction Socket Assembly Report

> published jointly by Orthopedic Appliance & Limb Mfrs. Association American Board for Certification

DATES TO REMEMBER - 1956

What • When • Where

JANUARY

28	AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS—Annual Meeting (adjourns Feb. 2. Certification Exhibit in Booth No. 125)	Chicago, Ill. Palmer House
28 - 29	REGION III—OALMA (Pennsylvania, Mary- land, Virginia and District of Columbia)— Meeting	Baltimore, Md.
MARC	н	
10 - 11	REGION VIII — OALMA (THE SOUTH- WEST) Meeting	Shreveport, La. P & S Hotel
17 - 18	REGION IV-OALMA (SOUTHEAST)	Birmingham, Ala.
APRIL		
27 - 28	MOALMA & REGION II—OALMA—Seminar and Technical Assembly	New York City Biltmore Hotel

MAY

> Applications to take the Certification Exam-29 inations given in September must be on file in the Washington, D. C. Certification Office by this date.

JUNE

AMERICAN SURGICAL TRADE ASSOCIA-27 - 29 **TION**—Annual Convention

Chicago Ill. Edgewater Beach Hotel

SEPTEMBER

29-30 CERTIFICATION EXAMINATION FOR OR-THOTISTS AND PROSTHETISTS (Deadline for applications is May 29)

San Francisco, Cal.

OCTOBER

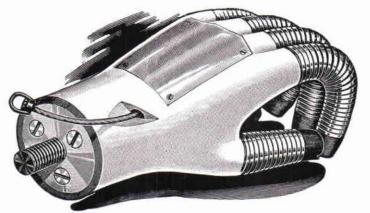
NATIONAL ASSEMBLY OF THE LIMB AND BRACE PROFESSION — OALMA and 1-4 San Francisco, Cal. Mark Hopkins Hotel **Certification Meetings**

1957

JULY

22 - 27 INTERNATIONAL SOCIETY FOR THE London, England WELFARE OF CRIPPLES-Seventh World Congress

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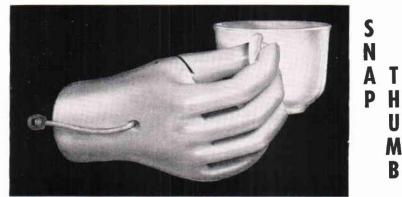
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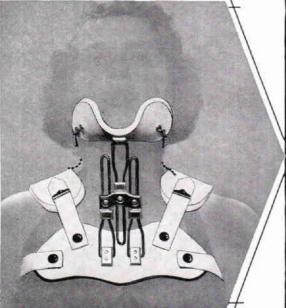
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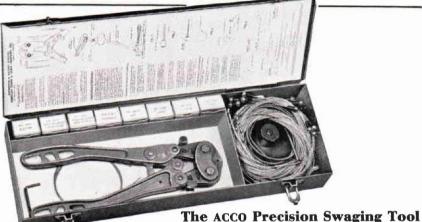
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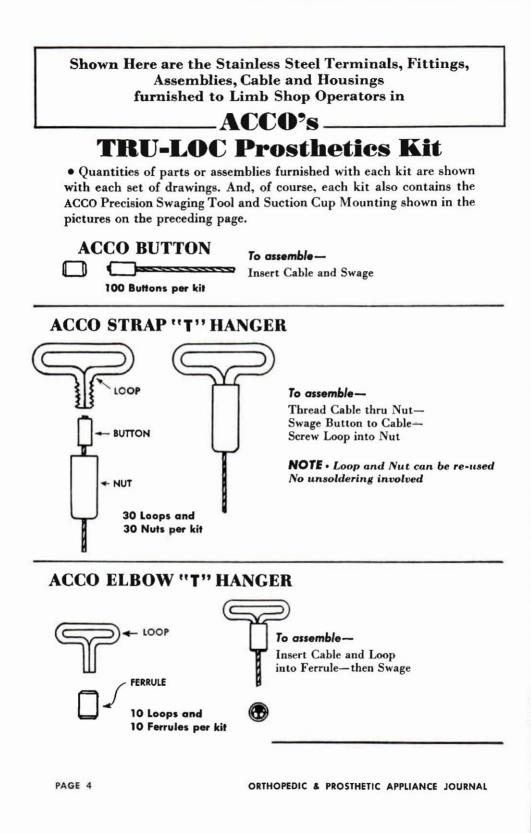
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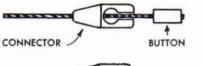


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CONTENTS

Why Be Certified?	15
National Assembly Convenes	19
Certification Meeting at New Orleans	29
Two Crowded Days	34
Prosthesis for a Trans-Carpal Disarticulation	41
The Below Knee Suction Socket	43
Comments on the Galdik B/K Suction Socket	46
General Strong to Head New Research Board	49
Adaptable Orthopedic Cervical Brace	53
Index to the 1955 Issues	71

DEPARTMENTS

OALMA'S President Reports	11
Book Reviews	59
Suppliers Section—Index	55
n Memoriam	63
To The Ladies	65

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A Report from The President of OALMA

It is a wonderful experience to be chosen by your fellow men to an office of honor and responsibility. It gives a deep satisfaction that will be remembered for many years to come. It is even more gratifying, however, as President of OALMA, to be able to report at year's end that our organization is in good condition, and that we have plans underway to make it even better. This I am conscientiously able to do.

I make this report to you after having spent three busy days in Washington at our National Headquarters. I had the opportunity of meeting with Past President Mac Hanger, Dr. Robert Mazet, President of the Certification Board, Treasurer Cestaro, Glenn Jackson and Les Smith of the Washington office. We reviewed carefully the operations of the Washington Office, the services to the members, and what we might do to increase and improve these services.

I also had the opportunity of spending considerable time as an observer at the meetings of the *Committee on Artificial Limbs* of the National Research Council. The various reports on research left me with a very firm impression that there is a great deal of valuable research going on. I was proud to observe the part played by Chester Haddan and Howard Thranhardt. As members of the Technical Advisory Committee to the Committee on Artificial Limbs, they are making a definite contribution towards research in prosthetics.

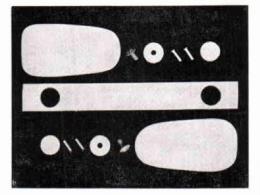
I only wish that I could report an extensive program in orthopedic appliances equivalent to that which is going on in artificial limbs. But that is not the case at the present time. In the past we've been able only to mention the fine work done at Mellon Institute and the limited testing done on brace parts by the V.A. at their New York Office, however, there are some signs that brace makers may cease to be the "country cousin" of research. I hope to say more of this in our next issue.

As a result of the conference with our other officers in Washington, I am able to report these developments:

1. 1956 Assembly—We are turning to California for leadership. Herbert Hart, Manager of the Hittenberger Company, at Oakland, California, has accepted appointment as Program Chairman for the 1956 Assembly, which opens at San Francisco, October 1st. We've asked Lloyd Brown, of Dorrance-Hosmer, to serve as Chairman of our Committee on Scientific and Technical

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PAGE 11



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A REPORT FROM OALMA'S PRESIDENT-(Continued)

Exhibits. Both these men are capable and recognized leaders. We expect much from them and we are sure we won't be disappointed.

2. OALMA Brace Dictionary—Matt Laurence of Oakland, California is the man who first suggested this activity, and so we've asked him to take on the responsibility of being Chairman of this project. There's a lot of hard work attached to this assignment—let's give Matt all the help he asks of us. This Brace Dictionary can be a very valuable tool to every orthopedic appliance facility in the country. I hope that by the time the San Francisco opens, we can have a preliminary list distributed so that our members can be testing it in actual practice.

3. Economic Project—We've asked our Treasurer, M. P. Cestaro, to take charge of this. You will be hearing from him soon announcing the members of his committee and telling you what he wants from you in the way of monthly reports. The present plan is for these reports to be sent in to an accountant who is pledged to secrecy. So, your returns will be confidential. But you and other OALMA members taking part in this Project will be given the average figures. This means that you will be able to check your own operating results against the average in this country.

4. Washington Office Operations—The work of our two organizations has gone so rapidly in recent years that our Washington staff has been hard pressed as each year we've taken on new projects. Dr. Mazet, as President of the Certification Board, Treasurer Cestaro and I are going to have some important recommendations to make towards the development of our Washington Office to more adequately meet the demands which our members are making on it. However, let's not forget, *this is a two-way street*. We ask much of our National Office—and we ought to be prepared to give it just as much. When they ask us for information, let's send it to them by return mail. Each of us can contribute that much towards the welfare of all. Let's be sure that we tell Washington every time one of our Certified personnel has a change of address or joins our staff. Let's take full advantage of the insurance coverage, life, sickness and accident. Let's take part in the Regional meetings as well as the National Assembly.

Let's appreciate the importance of "marching along together," and the value of teamwork. In an Association such as ours, consideration must be given to all members' points of view. Let our motto be "In union there is strength." With this attitude the job of overcoming the difficult problems of our industry becomes a much simpler task.

I am grateful for your action in selecting me to be your President and for the many expressions of goodwill which have come to me. I hope to see many of you at Regional Meetings in 1956 and to greet all of you in San Francisco in October.

> Sincerely, W. FRANK HARMON President

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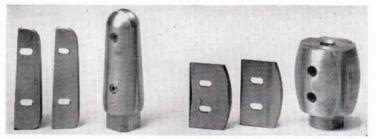
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PAGE 16





Why Be Certified?

A Messagee from DR. ROBERT MAZET, JR. President, The American Board For Certification

Certification offers the individual definite, tangible and intangible advantages. The possessor of a certificate as prosthetist or orthotist has proven that he has undergone a certain period of training, and that he has passed certain examinations held by the Board for certification. These indicate that he is no longer an apprentice, but that he has reached maturity and become a journeyman. He can exhibit this certificate with some pride.

But what is its true significance? What does it mean in terms of an individual's accomplishments? What is its portent for his future?—Certification appraises the world that its possessor has demonstrated the necessary knowledge and ability for the fabrication and fitting of braces or artificial limbs. It is evidence that he possesses certain skills as a machinist and engineer. It announces his having been exposed to, and absorbed, the fundamentals of anatomy, kinesiology, physiology, psychology, and metallurgy. It implies that he has grasped the essentials of the economic practices incident to his vocation. It advertises his character and integrity, and that he is respected locally and professionally. He has assimilated the ethics which will govern his future conduct with co-workers, medical personnel, and patients. It assuredly implies his ability and willingness to cooperate with technicians from other facilities, in the advancement of knowledge and the standards and techniques of his profession.

All this study, all this perspiration, all this effort, leads ultimately to a single goal shared by you, by the medical personnel, and the families of the afflicted; namely fabrication of better appliances for the service of the patient.

What selfish ends has the prosthetist attained? He has become a member of a national group of craftsmen who can justifiably take pride in their work. From this he will derive a sense of accomplishment and satisfaction. He has earned the confidence of the doctors and the public. He can anticipate reference of work to him by doctors, clinics, and certified individuals. It can be presumed that a patient moving to a new community will be referred to a certified, rather than an uncertified shop or individual by his doctor or prosthetist.

I am informed that in some states appreciation of the significance of certification by your profession and mine, and beginning awareness of

its implication on the part of the public, has already resulted in the practical necessity of certification. This is a salubrious condition. We may predict its spread as the education of doctors and the public increases their cognizance of the value of certification to them.

We have enumerated some of the advantages of certification. What are its obligations?

What is the purpose of certification? As stated by the American Board for Certification, the purpose is "to establish standards for those engaged in the fitting of prosthetic or orthopedic appliances, particularly with respect to the adequacy and cleanliness of facilities, and proficiency and honesty in service rendered, and with the object of discouraging the practice of this profession by technically unqualified persons."

This states a worthy project. When the Board was established seven years ago under the auspices of the OALMA it constituted an adequate objective. It was a start toward self discipline in an unpoliced field. Society has long recognized the necessity for such group discipline. Taboos, which have the force of laws, are found among the most primitive peoples. Our entire system of civil and criminal law has grown from such necessity.

But we must now go further. "To establish standards" lacks any implication of progress once these are fixed. I think we all agree that the true objective is not the establishment of, but *raising* the standards of our practice, and through the furtherance of knowledge and technology increasing our service to the handicapped individual. How is this to be realized? It can only be done by the application of new techniques in metallurgy, engineering, and medicine to the field of orthopaedic appliances, and by providing the student instruction in the basic sciences related to his field. The individual shop cannot do this. It must be accomplished through adequate educational opportunities. Higher standards of practice in diverse professional fields have been obtained by such means. The architects have their AIA, engineers their professional societies, doctors their Specialty Boards.

Countrywide criticism has been voiced that schooling in the things for which the ABC stands, and which the OALMA likewise professes, is unavailable for most apprentices. A great need exists here which must be satisfied. In the Los Angeles area the ABC and OALMA have instituted and fostered the first organized effort to remedy this obviously unacceptable situation.

I refer to the Wednesday night school sponsored by the local chapter of the OALMA now completing its fifth year, which has recently attained the dignity of becoming an Extension Course at the University of California, Los Angeles. Those among you who have participated in this activity, and particularly those of you who have guided its efforts, can feel justly proud of having initiated the forerunner of what I feel sure must develop into a system of nationwide schools for prosthetists and orthotists. The furthering of this school, and its development into a formal course of study over a period of two or three years as at the University of California, Los Angeles, I urge upon you.

Having attained certification, your work is not yet done. It is incumbent upon you, as members of a guild, to implement this effort toward the better education and training of those who follow in your footsteps. It is your privilege and duty, through the ABC and OALMA, to assist in setting up schools of similar character in other metropolitan areas. Thus will the standards of your profession advance to new heights, and service to the handicapped individual be augmented.

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National Assembly Convenes at New Orleans W. Frank Harmon Heads OALMA

New Orleans, "the city that care forgot," endeared itself to the prosthetists and orthotists who attended the National Assembly of the Limb and Brace Profession October 16-19. The weather was ideal, the city's tourist attractions lived up to reports most important of all, the technical programs set a new high of merit for these gatherings of the Orthopedic Appliance and Limb Manufacturers Association.

This report of what went on is intended to serve two purposes:

1. To inform those readers who were unable to be in New Orleans (and possibly whet their appetite for the 1956 Assembly in San Francisco), and

2. To recall to the happy delegates what went on under Louisiana's sunny skies. (Some of the papers delivered will be printed in the Journal during the year 1956.)

Forerunner of the Assembly was the annual Certification examination. Fifty-three candidates assembled at New Orleans October 14 and 15 for this two-day series of comprehensive written and practical tests.

The lobby of the Hotel Jung was already thronged with orthotists and prosthetists the day before the meeting was scheduled to start. And a dozen amputee clinics could have been organized in the coffee shop of the hotel. Meanwhile the OALMA Board of Directors and National Officers sat long hours in session. They reviewed operations of the past year, made plans for the year ahead.

People, Products and Progress

A preview of what "life will be like in 1975" was a feature of the President's Breakfast Monday morning. This was a new film prepared by the Chamber of Commerce of the United States and was shown for the first time in New Orleans.

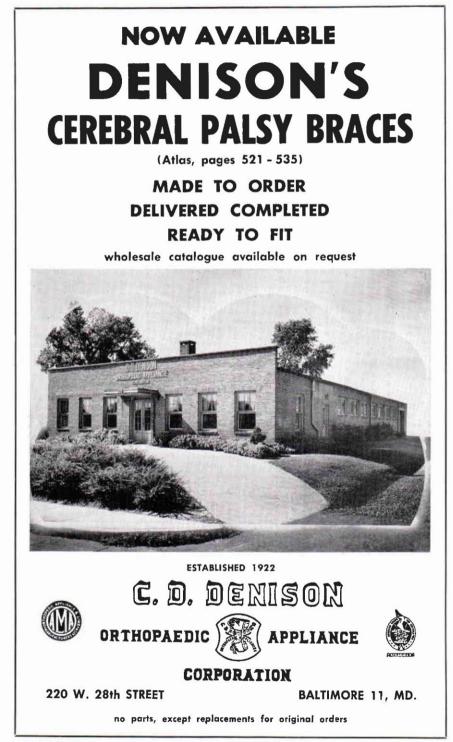
The official opening of the scientific and technical exhibits was held immediately after the President's Breakfast. These exhibits were set up in the hall adjoining the Tulane Room, where all sessions were held. This was a crowded spot for the balance of the Assembly! Supply orders were placed and countless informal reunions held in these small booths.

OALMA Holds Two Business Sessions

Although the Assembly was primarily concerned with scientific and technical problems, two business sessions were scheduled to cover the work of the Association and the management services which OALMA offers its members.

(1) The opening session of the Assembly was highlighted by a group discussion on "Successful Management," Treasurer M. P. Cestaro and Executive Director Glenn Jackson divided the audience into groups to discuss various phases of "Economics and the Limb and Brace Profession." The deliberations of each group were reported to the entire Assembly. Members were so impressed with the importance of this presentation that they voted to establish an OALMA Economic Project. Details of this service to members will be announced early next year.

(2) The Three Hundredth Anniversary of the German Orthopedic Industry was recognized by the Assembly. Mr. George Fillauer of Chattanooga, was chosen by unanimous vote to represent OALMA at the celebration of this event at Berlin in June of 1956.





AT THE OALMA BANQUET: standing, left to right: W. Frank Harmon, new President, David E. Stolpe, and McCarthy Hanger, Jr., past president. Seated: Mrs. McCarthy Hanger, Jr., wife, and Mrs. McCarthy Hanger, Sr., mother of the retiring president.

(3) The following officers were elected for the year 1955-1956, and installed at the annual Assembly banquet October 19: W. Frank Harmon of Atlanta, Georgia as President; Charles Hennessy of Los Angeles as First Vice President, John A. Mc-Cann of Burlington, N. J., as Second Vice President, and Michael P. Cestaro of Washington as Treasurer.

Prosthetic Appliances for Children

The growing use of appliances for children lent special interest to the comprehensive report on the results obtained by the Michigan Crippled Children Commission, which was presented by Dr. Carleton Dean, Medical director, and John Steensma, Prosthetic Instructor for the Commission. Because of the effectiveness of Michigan's child amputee program, the National Research Council has selected it as the one crippled children's agency in the United States with a program which readily lends itself to research.

Dr. Dean stressed the importance of having the children return periodically for a checkup of the appliance. He declared that "You must keep track of the child and not hesitate to replace the prosthesis if a new one is needed. Remember that these children need frequent changes. A leg amputee will require a new leg at least every two years."

Mr. Steensma discussed fitting problems and displayed a motion picture film describing the Juvenile Amputee. Copies of the prescription form in the Armamentarium charts developed by the Michigan Crippled Children Commission were distributed (additional copies may be obtained by writing to OALMA Headquarters.)

Dr. Charles H. Frantz, orthopedic surgeon of Grand Rapids, Michigan,

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PAGE 21

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SERVING WITH PRESIDENT HARMON: Above: Vice Presidents Charles Hennessy of Los Angeles, and John A. McCann of Burlington, N. J. At right: Treasurer M. P. Cestaro.

who had been scheduled to take part in the program, was unable to attend because of illness, from which he has since recovered.

The Assembly unanimously adopted a resolution of sympathy and best wishes to Dr. Frantz, and to two other persons whose temporary illness had prevented their appearance on the program: Dr. C. Stewart Gillmor of Kansas City, and Mr. George Robinson of the Robin-Aids Company.

Bracing of the Arm

Dr. Daniel C. Riordan of New Orleans reviewed bracing of the hands and arms. He emphasized that the problems were infinitely more complex than those involved in bracing of the lower extremity, where a support and a limited amount of motion are the primary objectives.

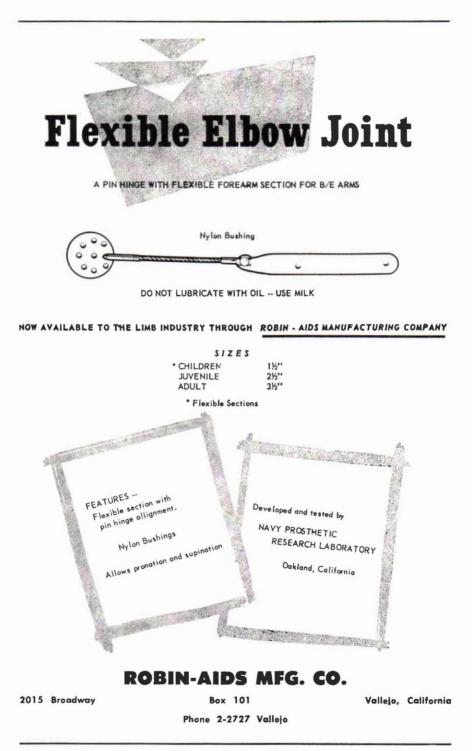




Labor-Saving Efficiency

Following the Certification Meeting October 18, members held a roundtable on labor-saving devices and procedures. The presentation, headed by Past President Lee J. Fawver, emphasized the necessity of efficient shop operation in these days of constantly rising costs.

Later in the afternoon, the City of New Orleans entertained the delegates and the Ladies' Auxiliary on its official yacht, "Good Neighbor." This was a tour of the harbor of New Orleans, emphasizing the commercial and industrial advantages of the port.



PAGE 24



Assembly Trio: Left to right, Chester C. Haddan of Denver, Dr. Robert E. Stewart, Director of the VA's Prosthetic and Sensory Aids Service, and Dr. Eugene Murphy, Assistant Director for Research.

That evening, contract arrange- C ments for prosthetic and orthopedic service to veterans were reviewed by this panel of key officials: Dr. Robert E. Stewart, Director of the Prosthetic and Sensory Aids Service: D. M. Zimmerman, Assistant Chief of the Service Contracts Section; and Dr. Eugene Murphy, Assistant Director for Research of the Prosthetic and Sensory Aids Service, Glenn Jackson, Executive Director of OALMA, was Presiding Officer and interviewed members of the panel. Discussion from the floor emphasized that artificial limb firms are faced with constantly increasing costs, and that these costs must be reflected in higher prices to the Veterans Administration if the industry is to survive and be equipped to provide adequate service to the handicapped.

"The Story of an Amputee" or "John's Other Life"

Dr. Jack K. Wickstrom, head of the Division of Orthopedic Surgery at Tulane University, was narrator for a dramatic production, "a spotlight drama," which pointed up the need for the team approach in rehabilitation. The case was described in these words:

"This is the story of an amputeelet's call him John-white male, 50 years of age, strong of body, sound mind whose life was suddenly changed on September 3, 1948 when he was severely injured in an auto accident sustaining among other things, a severe fracture of his right elbow and a compound fracture of his left leg. The fractures were reduced and appeared to be healing properly; however, complications arose, further surgery was necessary, repeated procedures and prolonged months-years of immobilization prolonged the period of disability.

The elbow had healed but the femur had not. Prolonged immobilization and recurrent infections resulted in a leg with poor tissue, stiff joints and impaired circulation. Today we present the people and the processes which played a part in evolving a solution for this patient's problem; the thinking and planning behind this surgeon's work, the technique of amputation, the postoperative care, the preparation of the patient for his prosthesis, factors in his social and economic evaluation, and finally the

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C 0 U T I L S	 ★ One and Two Way-Stretch Elastic Stockings: Comparable to the best on the markets; First Quality Nylon and Cotton. ★ Sewing Machine Needles for all makes of machines. 	• NON-ELASTIC



A Happy Moment at the Assembly: Left to right, Carlton Fillauer of Chattanooga, Dr. Carleton Dean, Medical Director of the Michigan Crippled Children Commission, and James Snell of Shreveport.

manufacture and fitting of his prosthesis. We will attempt to show you, then, some of the people who play a part in the still unsolved problem and to show the necessity of cooperation and coordination of all persons responsible for this patient's care. In short we will demonstrate the team approach and the importance of team work."

Dr. Wickstorm served as narrator for the presentation. The cast consisted of the persons who actually were involved in the case and include: Dr. Edward T. Haslam as the Surgeon; John Cleveland as the Patient; V. C. Grantham and Henry Rightor as Vocational Rehabilitation Counsellors; Ruth Metcalfe as the Occupational Therapist; Robert Oswald as the Physical Therapist; Betty Lyons as the Social Worker; Mrs. Nenos as the Nurse; Doctors Kerr and Best as the Residents; Dr. Innis as the Interne; and Thomas Maples, C. P., as the Prosthetist.

The Road to Professional Success

Vice President Frank Harmon and Program Director Paul Leimkuehler reviewed the problems involved in professional success for the prosthetist and orthotist. Vice President Hennessy who had been scheduled to join in the presentation was detained in Los Angeles by the illness of his wife.

Dr. Miles Anderson, Educational Director of the Advisory Committee on Artificial Limbs, reviewed the experience of the Prosthetic School and discussed the pilot school which had been held at Oakland from August 15 to September 1st to prepare prospective instructors for the Lower Extremity School.

The National Picture in Rehabilitation

E. B. Whitten, Executive Secretary of the National Rehabilitation Association, reviewed Federal Aid programs as they relate to orthotists and prosthetists. Mr. Whitten declared that he had been "impressed very much with the efficiency of the OALMA National Office, and particularly with the tremendous professional development that has taken place in OALMA during the last few years."

Helpful cooperation between the facility and the rehabilitation center was



WELL DONE! Program Chairman Paul Leimkuehler is congratulated by Matt Laurence of Oakland (right) and M. J. Benjamin of Los Angeles (left).

discussed by Ivan Dillee of Kansas City (Mr. Dillee's discussion will be printed in the March 1956 issue of the *Journal*).

The final afternoon session, presided over by David E. Stolpe of New York, opened with a discussion of the prosthetic-clinic team approach. A. Bennett Wilson reviewed the Educational Program of the Advisory Committee on Artificial Limbs, of which he is Executive Secretary. He reported that the Upper Extremity Prosthetic School conducted by the University of California had proved of great value in improving the lot of arm amputees in this country, and also had furnished valuable information to the Committee: "Now, using the lessons learned in conducting U.C.L.A. courses, the Committee has undertaken to embark on a series of courses in lower extremity prosthetics, to be conducted on a regional basis." Such schools are planned for New York and Los Angeles in 1956, according to Mr. Wilson.

Instructional Courses Underway

In recent years, seminars and "refresher courses" have become an increasingly important part of the Assembly program. This year's Assembly was distinguished by three valuable sessions which attracted a record attendance. "Standing room only" was the rule when these classes met:

1. "The Milwaukee Brace, A Demonstration Through Its Various Stages of Fabrication and Application"—Dr. A. C. Schmidt and Richard Bidwell of Milwaukee presented this course. The actual Brace was fitted on several patients who were brought to New Orleans through the courtesy of George Lambert of Baton Rouge.

2. "Brace Problems Related to Muscle Mechanics and Fracture Healing"—Dr. Charles O. Bechtol, Head of the Department of Orthopedic Surgery of Yale University, was the lecturer. Dr. Bechtol also addressed the Assembly later in the week on "The Value of the Prosthetic Educational Program to the Physician and Therapist."

3. "Making and Fitting the Lower Extremity Prosthesis." Chester C. Haddan of Denver, and Lucius Trautman of Minneapolis presented this course.

Certification Meeting at New Orleans

Dr. Roy Hoover, Edward Snygg and Mac Hanger Elected to Board Membership

A highlight of the 1955 Certification meeting at New Orleans was the election of three new members to the Certification Board, Dr. Roy Hoover, Edward Snygg of San Francisco and McCarthy Hanger, Jr., of St. Louis.

Other events during the Assembly of special interest to the Certification movement included

1) The annual Examinations, taken by a record class of 53 candidates (for a description of the examination procedure see on page 35 in this issue "Two Crowded Days.")

2) An "Early-Bird" breakfast of the National Advisory Council. Some forty-five members of this Council, which is elected by the certified orthotist-prosthetists of America, got together at an early morning session to discuss what they could do in their districts to advance the cause of Certification.

3) The Certification Luncheon and business meeting. Before getting down to the serious business of elections and reports, the assembled delegates saw the world premiere of a new play. Titled "The Doctor Learns About Certification," this play was written by Erich Hanicke to contrast the excellent service of a Certified Facility with the disappointing work of a substandard, uncertified shop.

The membership of the Board serve staggered terms so that in 1955 the Board lost the service of three valuable members: President, Lucius Trautman, Dr. T. Campbell Thompson, and M. J. Benjamin of Los Angeles. To fill these places the following were elected.



Dr. Robert Mazet, new President of the Certification Board is congratulated by Past President Lucius Trautman. Other officers of the Board for 1956 include Karl Buschenfeldt as Vice President and M. P. Cestaro, acting Secy.-Treasurer.

1. Dr. Roy Hoover of Roanoke, Virginia .- Dr. Hoover is a graduate of the Medical Department of the University of Virginia in 1919. He was certified by the Board of Orthopedic Surgeons in 1937 and the following year was elected a member of the American Academy of Orthopaedic Surgeons. Dr. Hoover is now serving as Medical Director and Orthopedic Consultant at the Woodrow Wilson Rehabilitation Center located at Fishersville, Virginia. He is also Chairman of the Medical Advisory Committee on Rehabilitation of the Medical Society of Virginia and the State Department of Education. He is a member of the Virginia Orthopedic Society. His hospital affiliations in-





Newly Elected Members of the Certification Board: Above: Dr. Roy M. Hoover of Roanoke, Va. Corner: Edward W. Snygg of San Francisco. Right: McCarthy Hanger, Jr. of St. Louis.

clude the post of Attending Surgeon at the Roanoke Memorial Hospital, the Jefferson Hospital, the Shenandoah Hospital, the Burrell Memorial Hospital and as Consultant with the Veterans Administration at Roanoke. In accepting election to the Board Dr. Hoover declared that he was very much interested in its organization and in what it was trying to do for the prosthetic and orthopedic appliance field. (On November 21 of this year, Executive Director Glenn Jackson and Treasurer M. P. Cestaro spent the day at Fishersville and went over the program of the Board for the year ahead with Dr. Hoover.)



2. McCarthy Hanger, Jr., of St. Louis—Mr. Hanger's election to the Certification Board by nomination of OALMA elimaxes a long period of service to the artificial limb and brace field, during which he did valuable pioneer work on an educational program. While serving as Chairman of the Committee on Education, he steered through government channels

PAGE 30



These are the amateur actors who appeared in the play "The Doctor Learns About Certification" which was a feature of the New Orleans Assembly. Shown left to right, standing, are Erich Hanicke of Kansas City, author of the play; Alvin Muilenburg of Houston, Texas, and Ralph Snell of Nashville, Tenn. Seated are the ladies of the cast: Mrs. Adele Tenenbaum of New York City, Mrs. Betty Hanicke of Kansas City, and Mrs. Betty Fillauer of Chattanooga. The doll which Mrs. Hanicke is holding, wears a leg brace and figured prominently in the play.

the long - awaited Apprenticeship Standards. Now President of the J. E. Hanger Company of Missouri, Mr. Hanger is a son of a noted Past President of OALMA, and is the first son to succeed his father in that post. After graduating from Duke University and taking a Master's Degree in Business Administration at the University of Pennsylvania, he began work with J. E. Hanger, Inc. at Philadelphia in 1938. During World War II Mr. Hanger was an officer in the United States Naval Reserve, After the war he moved to St. Louis to become Vice-President of the J. E. Hanger Co., of Missouri, Inc. He was elected President of the Company following the death of his father, Mc-Carthy Hanger, Sr. in September 1949. Mr. Hanger's mother was present at the Assembly and witnessed the election of her son to the Certification Board.

3. Edward W. Snygg of San Francisco, California-Mr. Snygg, a Certified Prosthetist and Orthotist, is now President of the firm of R. E. Huck Company of San Francisco. Before World War II he was in the dental laboratory field. After returning from the war service, during which he held the rank of Captain, Mr. Snygg entered the artificial limb and brace field. He has conducted several suction socket schools for OALMA and has won wide recognition on the Pacific Coast as an advocate and practitioner of high professional standards.

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53 Candidates Take Two-Day Tests

Twenty prosthetists and thirtythree orthotists assembled in New Orleans October 13-15 in advance of the National Assembly, in order to take comprehensive examinations required by the American Board for Certification.

Just what are these examinations for the American Board for Certification? They are the result of long hours of study and work on the part of the officials of the American Board for Certification. In the past three years Dr. Miles Anderson of the University of California at Los Angeles and his staff have developed and expanded the tests in the light of the experience obtained since the first tests were begun.

The tests as now given are in two sections, written and practical. The written test consists of 100 items test on Functional Antomy, and is taken by both prosthetists and orthotists. There is a 110 items written test on Bracemaking, taken by the orthotists only. The written examination taken by the prosthetists also includes a 100 item test on Upper Extremity Prosthetics and 100 item test on Lowei Extremity Prosthetics.

The practical test consists of fifteen typical operations in brace work and fifteen operations in artificial limb work which the two groups are required to perform. Their ability to do these skilled operations is rated by three judges, who are in attendance at the examination. These judges are selected for their knowledge of their respective fields.

The mean scores for the two groups in the New Orleans examination are given below. It should be borne in mind that the questions are intentionally prepared to be so difficult that no one will be able to make a grade of 100.

	Prosthetists	Orthotists
Anatomy	65	59
Upper-Extren	nity	
Prosthetics	73	
Lower-Extrem	nity	
Prosthetics	70	
Bracemaking		64
Practical	65	79

Certification Examinations In 1956

The American Board for Certification announces that the annual examination for prosthetist and orthotist will be held in San Francisco September 28 and 29, 1956 (this is just before the Nattional Assembly which opens in San Francisco October 1). This is the only examination now scheduled for 1956. However, the Certification Board may consider scheduling another examination in the East or Middle West at a later date next fall if a sufficient number of qualified applicants are on hand by May 30, 1956.

The Board reminds all potential applicants that: (1) Applications must be on file in the Washington Office not less than *four months before* the date of the examination. This means applicants for the San Francisco examination should have their requests filed in the National Office in Washington not later than May 31, 1956.

Two Crowded Days: The 1955 Examinations At New Orleans

The 1955 Examinations for qualified persons wishing to be certified as orthotists or prosthesists were held at New Orleans, October 14 and 15. The pictures on the opposite page show some of the testing procedures.

No. 1. Herbert Hart, orthotist of Oakland checking the accuracy of the work done by a candidate in bending a stirrup. Three competent judges rate the test jobs done by each candidate in the practical examination.

No. 2. Examiner D. Wilmore Bremer, orthotist of Jacksonville, Florida, asks two of the candidates questions concerning the test jobs.

No. 3. Examiner David E. Stolpe, checks work done by Michael Amrich of Chicago. Dr. Robert Mazet, President of ABC (with pipe) observes in background. The practical examinations were given Friday and Saturday in three different shops.

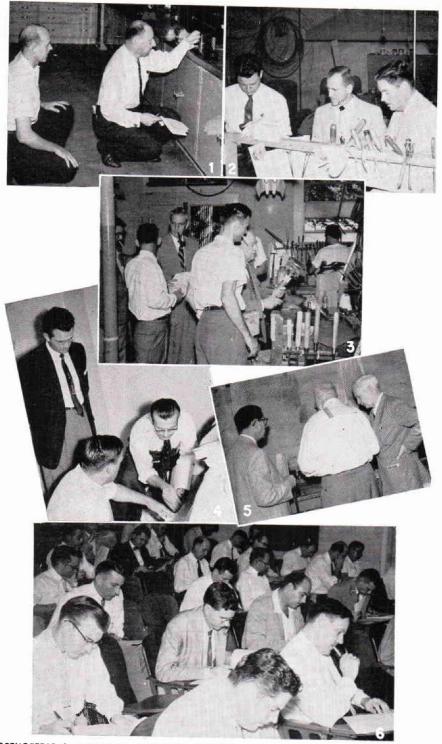
No. 4. Examiner Alfons P. Glaubitz, orthotist of Elizabethtown, Pennsylvania, checks a foot cast made by a candidate. Dr. Daniel C. Riordan, orthopedic surgeon of New Orleans is observing in the background.

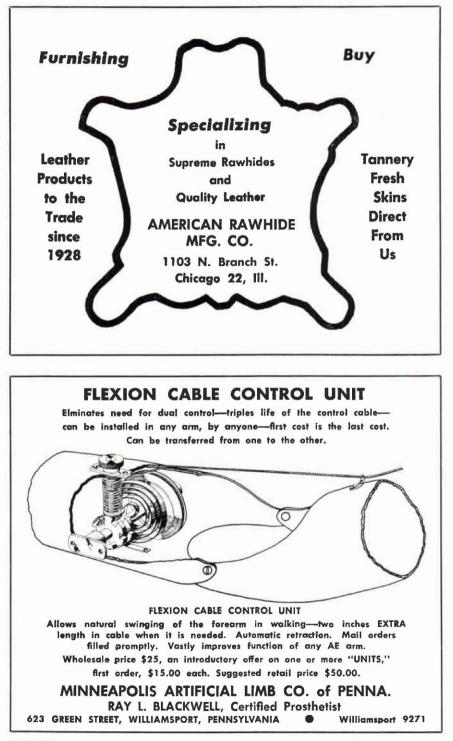
No. 5. Examiners Erich Hanicke, Kansas City, (left) and M. J. Benjamin, of Los Angeles, check the work being done by a candidate in the orthotist test.

No. 6. Candidates working on the written examinations given Friday evening at the Tulane Medical School. Both orthotists and prosthetists took the same test on anatomy. The orthotists then took a 110 question test on the technical aspects of bracemaking. The prosthetists took a 100 question test on upper extremities prosthetics and a 100 question test on lower extremities prosthetics. The written tests are made up entirely of multiplechoice type questions.

In the practical examinations, each candidate performs a series of typical jobs representative of the skills of his profession. The work on each job was rated on a scale of 0-100 by three judges. These ratings were then averaged to arrive at a grade for each candidate. The final grade is a composite of the scores for the written and practical examinations.

PAGE 34





PAGE 36

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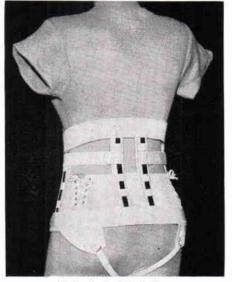
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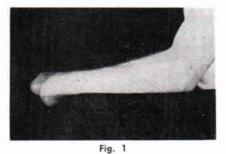


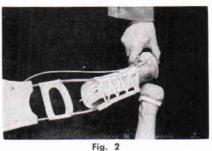
Prosthesis For A Trans-Carpal Disarticulation

by CLINTON L. COMPERE, M.D. ROBERT G. THOMPSON, M.D.

When confronted with the problem of an upper extremity amputation, modern surgeons are advised to save as much extremity length as is consistent for primary healing, with adequate skin coverage. It is thus preferable, when possible, to perform an amputation through the carpal-metacarpal level, or trans-carpal level, than to amputate through a "site of election" in the distal third of the forearm. It is true that an amputation at the more proximal level makes an easier stump for a prosthetist to fit, but if one can save the wrist joint and its motion, this motion will have definite value for the amputee. However, when leaving a short small movable stump on the end of a long forearm, the ingenuity of the prosthetist to manufacture a functional artificial arm will be tested severely. In most instances, when a plastic or leather socket has been made for the mobile stump, it has not been stable. The stump tends to slip out of the socket when any pulling or lifting force is applied to the hook; useful motion in the wrist joint is greatly impaired when the socket is rigidly stabilized with metal hinges.

Such a case was presented to us at the Veterans Administration Chicago Regional Office Amputation Clinic. The patient has an excellent amputation stump at the carpalmetacarpal level. The incision is wellhealed—the stump is non-tender with a useful range of motion from neutral extension to about 60° of flexion (*Figure 1*). He had been fitted unsuccessfully with a prosthesis with metal hinge type of wrist joint. Utilizing some of the newer techniques in upper extremity prosthesis fabrica-





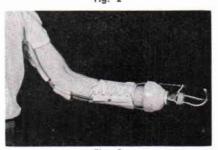


Fig. 3

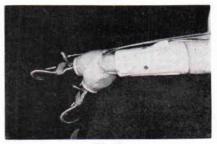


Fig. 4

ORTHOPEDIC & PROSTHETIC APPLIANCE JOURNAL

PAGE 41

tion, an excellent and ingenious arm was prepared for this patient. The primary problem required a satisfactory socket which would not allow the short stump to pull out of the socket and, at the same time, not severely restrict motion with binding hinges. This was solved by making a molded sponge rubber slip socket (lined with leather) that closely adhered to the short movable stump. (Figure 2). This, then, fitted snugly inside a plastic socket, a slight suction being produced when one tried to separate the two sockets, thereby providing a stable grip on the distal two inches of the stump. A figure-of-eight vinyon tape harness, an open leather arm cuff, which was fastened to an olecranon pad by means of long Robin Aid elbow hinges, which, in turn were fastened to a molded leather arm sleeve, completed the upper portion of the prosthesis and harness. From the sleeve to the plastic socket are two short Robin Aid flexible hinges (Figures 3 and 4). These Robin Aid hinges are of adequate strength and stability, and give good support to the socket and terminal device. The hinges also allow the patient to retain and use maximum wrist flexion. A Dorrance No. 5 hook (which the patient preferred) with part of the shank cut short, leaving a stud about 3/8 of an inch long, com-



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pletes the ensemble. As can be noted from the accompanying photographs, the slip socket is quite stable in the plastic end socket and securely retains the stump. The prosthesis is of acceptable length, and does not protrude a great deal more than a standard, normal, below elbow prosthesis. (Figure 5)

Footnotes This prosthesis was fabricated by Mr. C. C. Scott of Edward Koeber & Sons, Chicago, Illinois.

WHAT'S NEWS ----

• As of January 1, 1956, the name of the Chester Artificial Limb and Brace Shop will be changed to *Brownfield's Artificial Limb and Brace Shop*. The address remains the same: 600 Main Street, Boise, Idaho.

• The Atlanta facility operated by the *J. E. Hanger Company of Georgia* has been awarded President Eisenhower's Citation for outstanding work and interest in promoting the "Hire the Handicapped" program. Thirteen of the 20 employees in Atlanta office

have some type of physical handicap which they have overcome.

• The Artificial Limb and Truss Company of 318 S. W. Third Avenue, Portland, Oregon, reports a change in membership. Mr. E. R. Leaf, C.P., is retiring from business. The new owners are Messrs. Earl Odell, Willard Parlette and O. N. Fuoco. All three are Certified as orthotistprosthetists. The Journal wishes Mr. Leaf a happy retirement, and a most successful future to the new management.

THE BELOW KNEE SUCTION SOCKET

By JOHN GALDIK

C. P. & O. President, Aunger Artificial Limb Co. San Francisco, Calif.

My first introduction to the idea of the suction socket, for below knee amputations, was at the first Above Knee Suction Socket School held at Mare Island Naval Hospital in late 1948. Although my interest was aroused, I gave no special thought to the below knee suction socket until I again attended school at Mare Island Hospital in 1949. We were studying fitting and aligning for the below knee soft socket leg and below elbow arm. At that time there were demonstrated two b.k. suction socket limbs as experimental fittings of the Mare Island Orthopedic Appliance Shop. From that time on, I have seriously worked on the problem of making a b.k. Suction Socket.

Late in 1949 an old customer of mine, a wearer of artificial limbs for approximately fifty-five years, agreed to assist as a subject for experiments in b.k. suction sockets. Many, many hours were spent in making and discarding sockets, and many preparations were tried without achieving the complete suction necessary to hold the limb securely in place. The accepted method of pulling the stump into the socket with the aid of a stump sock, was from the outset a stumbling block. It was rather uncomfortable and a difficult task to accomplish and definitely not favored by the amputee.

In 1950 Mr. Francis Byron came into the firm as a partner. He encouraged and assisted me as an additional subject in the experimental work. His stump was longer than the previous one. He was fitted with a soft b.k. suction socket. This experiment resulted in successful suction,

but other problems arose. After a few hours of wear, acute edema occurred at the end of the stump, and the limb could not be endured for more than four hours. The experimental limbs had been constructed with a selastic socket inserted in a plastic shin. Difficulty had been experienced in pulling the stump in the socket. This had been accomplished by the use of a thin silk stocking. Mr. Byron continued to wear the suction socket for periods of time, and tried various methods of bringing the stump into the socket. The silk stocking was soaked in soapy water. This seemed to ease the process of securing the stump in the socket, but produced irritation of the skin. He tried plain water but the skin became too dry after a time and stuck to the walls of the socket. Next Mr. Byron tried vanishing cream. The discovery of this simple procedure allowed the stump to enter the socket with ease and comfort. In addition suction was maintained satisfactorily. However, edema was still acute. I next put foam rubber sponge pads in the bottom of the socket to compensate for lost atmospheric pressure. I soon learned that too much padding tended to eliminate the accuracy of fit by pushing the stump out of the socket; and that too little padding resulted in edema. Correct use of the sponge pads at the bottom of the socket controlled edema.

At that time I was not favorably impressed with the use of the cream. It seemed to me unpleasant and distasteful to the wearer, as well as presenting deterioration problems. However, from the start no objection was made on this point by any amputee.

	Fittings to Jan.	1 1055		
		1, 1755		
	Fitted	Converted		
1950	19	5		
1951	30	6	Knee joints added	10
1952	31	1	No late record	6
1953	26	1		
1954	28	0		
Totals	134	13		

Early in 1950 three other persons were successfully fitted with a b.k. suction socket. With this experience as assurance, I went to the Veteran's Administration. I suggested to Dr. Charles Bechtol that I be allowed to fit a few veterans, who were entitled to new limbs, with this b.k. suction socket. I made the proposal, offering, if the b.k. suction sockets were not satisfactory in every respect, to furnish a new limb, or convert the b.k. suction socket to a conventional soft socket limb. Dr. Bechtol approved of this proposal. He gave me permission to fit two Veterans. He further thought that two cases would not be a sufficient number for testing purposes and wrote to the Central VA Office for approval of additional experimental limbs. Of the 6 test limbs authorized, five were awarded to me, and one to C. H. Hittenberger Co.

From the first successful fittings of 1950 to the end of 1954 I have fitted 134 b.k. suction sockets for 101 amputees. These break down as 112 males, and 22 females—five bi-laterals and five "Symes" among them. (See Table No. I.)

The following represents the present knowledge of the b.k. suction socket limb as applied by me. The stump to be fitted with the b.k. suction socket should be a minimum of six inches below the knee. It should be fleshy and not tapered for best results. The bones do not seem to have much bearing on successful fittings. All types of stumps can be fitted with added supports such as knee straps, knee joints or fork straps, provided the stump is no shorter than four inches. The difficulties encountered in early fittings occurred primarily because, in the learning process, I attempted to fit limbs not within the above limits.

The cast should be taken with very slight pressure on the bandage. A duplicator machine is used to obtain an exact replica of the cast. Scrupulous accuracy is essential. The bone cavities of the socket should be slightly enlarged and lowered. The socket is made about one eighth to one quarter inch smaller in diameter over all. The bottom of the socket, depending on the length of the stump, starting at a point two inches below the head of the fibula, should be enlarged to the size of the cast. A leather lining, well fitted, is placed in the socket. On the longer stumps vacuum can usually be attained, and held for some time, without sponge rubber lining being added to the socket. Only the bottom of the leather lining is glued to the wood. The top is folded over the socket, and either glued or tacked to the outside of the leg. This allows for ready access to the inside, when needed, for adjustment to relieve pressure points, and to fill in with felt or sponge neoprene rubber when the stump shrinks.

The tightening is done in the top half of the socket. Alignment should be very accurate. The leg should be under the person in such a way that, when he stands or walks, the weight is distributed evenly, without lateral leanings or hyperextention. The leg is made from two parts for better alignment adjustment. Usually, the

JOHN GALDIK, C. P.

The author began work in the orthopedic appliance field in his native country of Lithuania. From 1931 to 1938 he was engaged in the orthopedic industry of Shanghai, China. Coming to the United States in 1938, he was first associated with the C. H. Hittenberger Company in San Francisco. Since 1947 he has owned and operated the Aunger Artificial Limb Company of that City.



socket is set in a slightly flexed position on the shin. The ankle is set in the foot approximately two thirds of the way from the end of the toe.

All the usual difficulties have been encountered by those wearing the b.k. suction socket. For example: 1. Edema.—2. Insufficient suction.— 3. Pressure points.—4. Ingrown hairs.—5. Water blisters on outside rim of stump ends.—6. Irritations (Allergies).

(1) Edema can be caused by the tightness of the socket, or by too much pressure on the fibula. To overcome this I relieve pressure on the fibula, or loosen the entire socket.

(2) Insufficient suction is mainly the result of inaccurate fitting. The socket must be fitted carefully. It must be seated properly. It should not be so tight as to force the stump out of the socket. If loose, the stump enters too far, and thus is not properly seated, causing pressure on the bones, giving a choking sensation, and preventing proper circulation of the blood.

(3) Pressure points tend to cause insufficient suction. By relieving pressure points better suction can be obtained. Pressure should be relieved carefully; too much or too little are both bad. Just the right amount is essential.

(4) Ingrown hairs are caused mostly by pressure. Relieving pressure points will prevent a certain amount of ingrown hairs. Some will continue to occur over the entire weight bearing area. There seems to be no cure for this condition, but those wearing the b.k. suction socket find this complaint seems to overcome itself in due time.

(5) Water blisters are caused when the sponge rubber pad on the bottom of the socket is too small. This allows edges of sponge rubber to curl when the end of the stump presses in the center than leaving an opening between the sponge and the socket wall. This allows direct vacuum on small portions of the outer rim of the stump. This may be overcome by fitting the pad large enough so no openings are left at the sides.

(6) Allergic irritations do occur and the causes are difficult to determine. Some amputees are allergic to the sponge rubber, finish of the leather, or to the tight fit. My opinion is that it results from a combina-

tion of all these. The irritation has been overcome by substituting something else for the foam rubber, using a different finish on the leather of the socket, or through loosening the socket itself.

It would seem the proper conclusion to give the viewpoint of those who have worn b.k. suction sockets. Without exception wearers find this limb light in weight, easy to put on, free and natural in action, dependable and comfortable. The elimination of belts, lacers, stump socks, and hinges is appreciated by all, but particularly the women. It is clear that sitting and walking are more comfortable. Normal lacer atrophy is eliminated as muscles are reactivated and circulation improved. Finally, free knee action and generally better posture and gait are attained.

Comments on the Galdik B/K Suction Socket

CHARLES O. BECHTOL. M.D.

The below-knee suction socket cases were followed for a period of four years in San Francisco. Our general experience with them during that time was good and no serious complications were encountered in the use of this device. The successful use of the below-knee suction socket depends upon two factors; first, proper fitting and second, proper alignment. Fitting is an extremely critical matter in order to maintain suction. The fit must therefore be done with considerably greater care than usual in order to maintain suction. The use of the cold cream serves two purposes, first it allows the stump to be slid into the socket. If any rotation is necessary for the bony prominences to fit into their proper spots, the cold cream allows this to occur. The slight stickiness of the cold cream also aids considerably in maintaining suction. Although we anticipated the possibility that some skin difficulty might occur following the prolonged use of cold cream in contact with the skin, we saw no such difficulties.

There were two critical factors in the alignment of the leg. The first was the outset of the foot. If the foot was placed directly into the socket during weight-bearing a sideways shift to the

socket occurred tipping the socket against the stump and causing excessive pressure on the inner side of the brim of the socket. This was prevented by a proper amount of outset of the foot, so that the legs have a slightly knock-kneed appearance. This is something that must be determined by a process of trial and error. It is quite critical for proper use of the below-knee suction socket. The other critical phase of alignment is the proper adjustment of the heel bumper and front bumper so that the amputee may allow his knee to bend slightly after heel strike. Before this bend has become so great that his knee becomes unstable, the contact of the front bumper forces the knee back into extension. In this regard the suction socket wearer walks guite differently from the amputee wearing side hinges on a corset. The amputee wearing this conventional type of device does not allow his knee to flex at the moment of heel strike, but keeps his knee locked in extension by thrusting the knee back with the muscles of the hip. The problem of loss of suction has not been a severe one. If suction is lost, the leg falls off the stump immediately. For this reason some wearers use a light strap or a

PAGE 46

light elastic knee bandage so that if suction was inadvertently lost, the socket did not fall away from the stump. The replacement of the stump in the socket after loss of suction is merely a matter of forcing the stump firmly into the socket. In this regard loss of suction is not as severe as in the case of the above-knee suction socket, where the stump must again be pulled in by means of a sock. In summary I should say that no serious complication have been observed in four years of using below knee suction socket. The advantages to the amputee are the same as those of the above-knee suction socket, in that the leg feels lighter, the amputee seems to have better control of it and he is freed of the side hinges and thigh corset.

"Orthopedic Disabilities" — New Guide For Employment Counselors

The Department of Labor has just published a guide book on "Orthopedic Disabilities." This is for the use of interviewers and counselors in the employment services, who are endeavoring to place persons in jobs, and who need to know about specific disabilities.

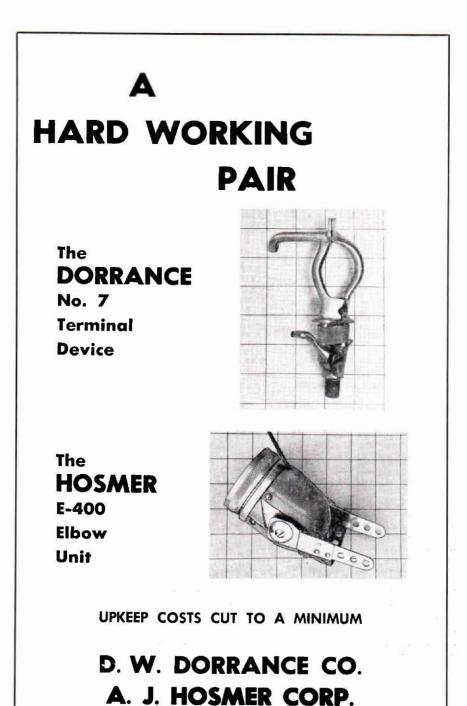
The new book lists OALMA and the American Board for Certification as cooperating agencies which may be contacted for information about orthopedic disabilities.

The section describing the disabilities defines the coverage of the term, *Orthopedic Disability*. It lists the various forms of such disabilities, their causes, and their effect on the body; points out that function may be restored or improved through medical and surgical procedures, use of prosthetic and orthopedic aids, and suggests clues for identifying orthopedically disabled persons.

The section on evaluation of work capacity lists the factors, which are of significance in counseling and placing persons with orthopedic disabilities. Specific information about an individual related to the factors included in this section, will make possible a more accurate diagnosis of the individual's work capacity.

One of the major accomplishments hoped for by those who prepared the guide is to create a better mutual understanding of job requirements and individual work capacities between the medical profession, personnel workers, and limb and brace technicians. The findings of a medical examination of a job applicant sometimes lose meaning in the placement process, because the physician's terms are difficult for the placement person to interpret.

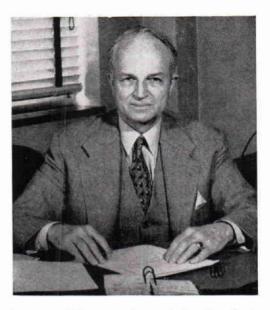
The physician and orthotist also have a problem; they cannot be familiar with all the duties and physical demands of the many jobs with which his patients might be involved. The guide on orthopedic disabilities will inform them of the factors related to these disabilities about which placement personnel must have information for suitable placement. It will emphasize the individuality of the physical capacities of persons with such disabilities, and therefore, will tend to broaden the consideration of occupational fields which might be suitable for them. Thus, this guide will alert the physician and the orthotist to those aspects of orthopedic disability which are of special occupational significance. It will also enable the placement person or counselor to translate the medical findings into terms that may be directly related to the demands of jobs. Copies of the new guide may be borrowed from OALMA headquarters.



P.O. BOX 1128 SAN JOSE

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General Strong To Head New Prosthetic Research Board



General F. S. Strong, Jr., has been named chairman of a new Prosthetics Research Board established by the National Academy of Science. The new Board which takes the place of the old Committee on Artificial Limbs, will have a rotating membership of eight persons, Colonel Gerald R. Tyler, a retired Army engineer has been named Executive Director of the Board.

Two committees will be established under the Board:

I. Committee on Research and Development, with Tonnes "Ted" Dennison serving as its secretary.

II. Committee on Education and Information, with A. Bennett "Ben" Wilson as secretary.

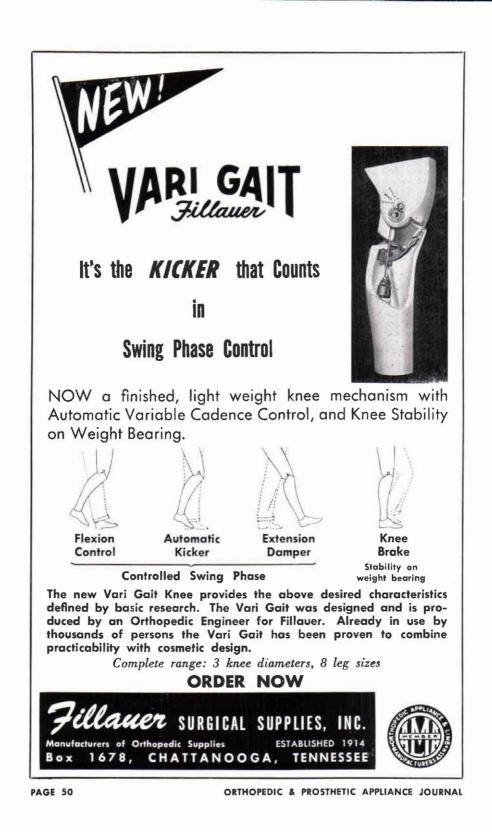
The new Board, it is hoped, will make it possible to reduce the time required in the evolution of a an appliance or fitting technique from the idea stage to the point when the amputee may procure it.

Chester C. Haddan, past president of OALMA and of the Certification Board is one of the members of the board. He has served for several years as member of the Technical Advisory Committee to the older Research Committee. Other members of the Board, in addition to General Strong are:

Dr. Paul E. Klopsteg, known in the prosthetic field through his pioneer service on the Committee on Artificial Limbs from 1945 to 1947 and as one of the principal editors of the new book, "Human Limbs and Their Substitutes." He was born in Henderson, Minnesota in 1889. He holds the Ph.D. Degree from Northwestern University and an Honorary Degree Doctor of Science from Wesleyan University. Dr. Klopsteg is known as the inventor of many scientific instruments.

Robert R. McMath, known as an astronomer and as an engineer. He is a graduate of the University of Michigan and holds several honorary degrees from leading American universities. He was formerly Consultant to the Office of the Army Surgeon General.

Dr. C. Leslie Mitchell, who holds his medical degree from the University of Toronto. He has been on the staff of the Henry Ford Hospital since 1928 and Surgeon in Charge of the Division of Orthopedic Surgery since 1932.





Certification Exhibit at the Congress of Physical Medicine, Detroit, 1955. Left to right: Vernon Murka, Dan H. Strelwick, Chief of Physical Therapy, V. A. Center, Wood, Wisconsin; M. L. Sturtz; E. F. Schmitt and D. R. Coon. The mannekin at the right is from the exhibit of the Michigan Crippled Children Commission.

Dr. Howard A. Rusk, who holds the medical degree from the University of Pennsylvania and honorary degrees from several other institutions. He is perhaps best known to the general public as an Associate Editor of the New York Times, and his Sunday column on Health and Rehabilitation has attracted wide attention. Since 1946 he has been Professor and Chairman of the Department of Rehabilitation and Physical Medicine of New York University's College of Medicine.

Dr. Augustus Thorndike, who is Chief Surgeon to the Department of Hygiene of Harvard University and serves also as a Consultant on Prosthetics to the Chief Medical Director of the Veterans Administration. Until July 1 of 1955, Dr. Thorndike was Acting Director of the Prosthetic and Sensory Aids Services of the Veterans Administration. His outstanding work in the reorganization and improvement of prosthetic care to veterans was praised in a special report issued by the President's Committee on Veterans Medical Service.

The Honorable Tracy S. Voorhees, an outstanding attorney who has given much time to public service. A graduate of Rutgers and of Columbia University Law School, he holds the Honorary Degree Doctor of Laws from Rutgers. During World War II he served the Army in various capacities, and when he resigned in 1950, held the rank Undersecretary of the Army.

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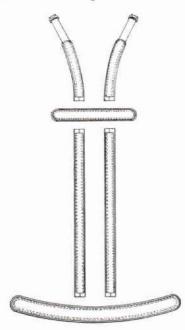
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With these parts on hand in your store, you can practically assemble a brace while the patient waits.

Brace aprons and brace belts are also available.





An Adaptable Orthopedic Cervical Brace

M. J. BENJAMIN, C.O.

Member of the American Board for Certification, 1952-1955

The cervical brace seems to be one appliance which should always be available for instant application.

This new adaptable Cervical Brace resembles in appearance and function a brace which we made popular in 1934. At that time we distributed 5000 copies of an article by Dr. Stephen T. Ragan, describing a 4-Post Cervical Brace. That article, printed in California and Western Medicine, April, 1934, read as follows:

AN IMPROVED BRACE

"The hazard of automobile traffic, the frequency of aeroplane crashes, the showmanship in wrestling matches, and the spectacular in football contests, have greatly increased the incidence of cervical fractures during the last decade. Many of these patients die early from accompanying cord damage, but a great number sustain fractures of the body, the processes, the laminae, or the pedicles, without showing evidence of paralysis below the area of trauma. After preliminary hospitalization, during which period a suitable brace is fitted, such patients do well upon ambulatory treatment.

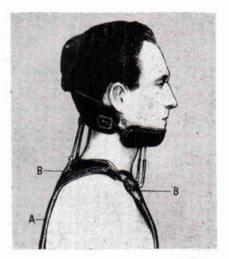
In the manufacture of our cervical brace, a plaster cast of the cervical and upper dorsal region is made. This extends from the lower lip anteriorly, and the mastoids posteriorly, down the torso to the eighth rib.

From this model, plates of twenty gauge duralumin are made to fit the chin, occiput, chest, and shoulders. Metal tubing is extended downward from each side of the chin and occiput plates, to slip over three-sixteenths-inch springalumin rods, extending upward from the chest and shoulder plates. The rods are threaded, and carry lock nuts for height adjustment. Contact sides are padded with quarter-inch felt, covered with light horse hide, and an outside trim of light sole leather is sewed in place. One-half-inch straps and buckles connect chin to occipital plate, and breast to shoulder plate. At the inferior border of the apparatus, a oneinch webbed strap encircles the thorax to prevent slipping. The total weight is twenty-nine ounces.

Because of fit and easy adjustment, absolute immobility is assured. Ventilation is adequate. The weight of the apparatus and sustained anatomical parts rest comfortably upon the broad surfaces of the pectorals and trapezii, and not upon the thin superior borders of these muscles, nor upon the clavicles. There are no pressure points, and discomfort about the cervical plexus is minimized. A strip of gauze may be placed in the chin and occipital recesses, and this is changed frequently to insure cleanliness. Either half of the brace may be removed for convenience in shaving, hair cutting, or bathing.

Pain in any of the nerve units making up the cervical or brachial plexus may be a distressing early symptom, but this is usually transient in character. A persistence would indicate a compression of nerve root by bony fragments, and a gradual increase in intensity would suggest the impingement of a nerve root by callus.

The cervical brace here described is made by M. J. Benjamin, to whom I am indebted for assistance in mechanical details."



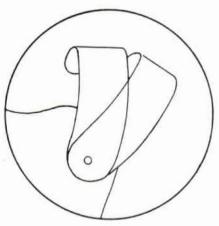
(From California and Western Medicine, June 1934)

The pattern of the original brace provided for the metal to be shaped over the shoulders, to provide stability. This required different patterns for varying slopes of the shoulder.

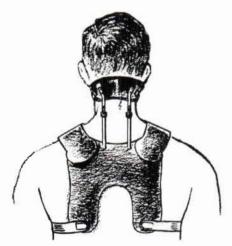
The advantage of being able to extend the posts was seized upon by neurologists, as an ideal means of extending the neck, and the brace was recommended for migraine headaches, etc.

A demand was created for the stretching feature without a need for the immobilizing feature of the brace. The pattern was simplified to permit mass production by eliminating the extension of the metal in the back piece over the shoulders. The abbreviated back piece and chest piece, which float on straps over the shoulders, have become so common that the better-immobilizing model of 20 years ago has almost been forgotten. This is understandable because an orthopedic surgeon is interested in immediate application of the appliance. Many orthotists have fallen into the habit of supplying the prefabricated article, to avoid delay.

When Dr. G. Mosser Taylor addressed the Society of Orthotists and Prosthetists, in February of 1952, he stressed the need for an orthopedic cervical brace which would afford better immobilization than the ones on the market. This reminded me of our earlier pattern. Hence the following improvement.



As shown in the above illustration, we use a friction joint for each shoulder piece. The metal is 6062-0 Aluminum alloy in .072 inch thickness. It can be hand shaped after lining with 3/16 inch wool felt stitched to 2 oz. strap leather covering.



When we got into production with our friction joint shoulder piece, our certified orthotist, A. H. Pressnall,

ORTHOPEDIC & PROSTHETIC APPLIANCE JOURNAL

PAGE 54

came up with a design for the back plate to avoid peening the metal to a round back.

We have applied for patent on this new adaptable Cervical Brace, because we hope to control its wholesale distribution. It is not our intention to restrain Certified Facilities from prefabricating for their own application to the patient.

The author wishes to express his thanks to George Boyer for the preparation of the illustrations. He also wishes to thank his daughter, Mrs. Cy Munro Davis, for her aid in preparation of the manuscript.

DECEMBER, 1955

SUPPLIERS SECTION; PAGE INDEX

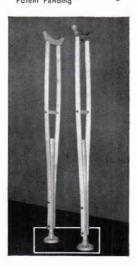
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OALMA Program at NRA Meeting

Members of OALMA and Certification officials took a prominent part in the 1956 Annual meeting of the National Rehabilitation Association in St. Louis, November 16 to 18.

"A Demonstration of Today's Physical Restoration Devices" was presented the afternoon of November 16. Gleen E. Jackson, Executive Director of OALMA, served as moderator and introduced these speakers: Milton Tenenbaum on "Cosmetic Devices and Restoration," Chester C. Haddan on "Highlights in Today's Research," Paul Leimkuehler on "What Should These Devices Cost?", Lester Smith on "a Survey of Prosthetic Literature," and Lucius Trautman demonstrating today's devices.

"An Amputee Clinic in Action" was presented by Dr. Edward C. Holscher and McCarthy Hanger, Jr. of the Certification Board. Dr. Holscher called on these experienced members of his Clinic Team to review the procedures: Dr. Henry G. Farris, Chief of Physical Medicine at the VA Regional Office; Miss Rose Mary Kelly, Chief Physical Therapist: Miss Lillian T. Carney, Chief Occupational Therapist; Wesley Briscoe, C. P., Standard Artificial Limb Company, and Robert Reich, C. P., J. E. Hanger, Inc. of Missouri, clinic prosthetists; and Russell J. Curtis, Chief of the Prosthetic and Sensory Aids Unit of the VA Regional Office in St. Louis.

Among the members in attendance were Mr. and Mrs. Ralph Snell of Nashville, David McGraw of Shreveport, Ted W. Smith of the Knit-Rite Company of Kansas City, and William Christy of the Horn Surgical Appliance Company.

WELCOME TO NEW MEMBERS!

The following firms have been elected to full membership in OALMA:

Alabama Artificial Limb & Brace Company, Inc., Fulton Gray, President, 248 Grant Street, Decatur, Alabama.

Samuel Abiri, Orthopedic Technician, Samuel Abiri, Owner, 2422 Broadway, New York 24, N. Y.

"WHATS NEW(S)"

• R. N. Witt, Certified Orthotist of Gonzales, Texas, has written an article in collaboration with Dr. O. F. Von Werssowetz, on "Supportive Appliances in Rehabilitation of the Paralytic Hand." This article appeared in the Archives of Physical Medicine and Rehabilitation for September 1955 and may be borrowed from the OALMA Headquarters Library.

• Among the new advertisers in this Issue is the Tru-Eze Mfg. Co. of Burbank, California. Mr. Tru G. Wilhelm, President of the company has given us this statement of company policy:

"Our company was organized during the early part of 1953. We realized at that time the necessity of devising a satisfactory method of providing both vertical and horizontal traction in the home. We set about to have available products designed for effectiveness, simplicity, safety and affording comfort to the patient with greater economy in mind. We have greatly improved our own products from time to time with no advance in prices. Primarily specializing in traction equipment, we have released new products only when necessity presents itself with improvements over the old. Duplication of products is foreign to our policy. Dealers in TRU-EZE Traction Equipment are staunchly supported through ethical promotion at important medical conventions and in specialized medical publications."

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MANUAL OF HAND INJURIES By H. Minor Nichols, M.D.

- Published by the Year Book Publishers, Inc. Chicago, Illinois, 1955 352 pages \$9.50.
- Reviewed by Earl W. Odell, C.P.&O. Coast Orthopedic Company, Portland, Oregon.

I have just finished reading this new book, "Manual of Hand Injuries," and I certainly found it most interesting. Dr. Minor Nichols of Portland, Oregon, the author, is well qualified to write such a book. He is a member of the American Association for the Surgery of Trauma, the American Society for Surgery of the Hand, the American College of Surgeons, and numerous other professional organizations.

After reading his book I had the opportunity of interviewing Dr. Nichols. I was glad to report to him that his way of explaining makes the book fairly easy for a layman to understand. The illustrations are good and the explanations on difficult points are easily understood.

I have made prostheses for several of his patients, and I am familiar with some of the cases described in this book. After reading the book I am better able to understand how he was able to save and make usable many of the injured hands that came to him in the course of his practice. I agree with Dr. Nichols in his statement that lower extremity prostheses are far more widely used and function more naturally than do upper extremity prostheses. I also agree that a mechanical hook is superior in many ways than an artificial hand. However, we part company on his statement that an arm, even when equipped with a mechanical hook, is

not much use to a patient, since it cannot be used for very many widely different duties. Those of us who are in the limb field have many patients who can do almost anything with their hooks. We have no good figures on how many arm amputees do wear prostheses, but due to the rapid improvement made in the past few years in developing upper extremity appliances, I do believe that the percentage is climbing fast. In conclusion I would report that our prosthetists can benefit by reading this book, and I am glad that a copy of it has been deposited in our OALMA Headquarters Library.

THE POSTURAL COMPLEX; OBSERVATIONS AS TO CAUSE, DIAGNOSIS AND TREATMENT. By Lawrence Jones, M.D.

Published by Charles C. Thomas,

- Springfield, Ill., 1955. 156 pages. Illus. \$9.75.
- Reviewed by Chester C. Haddan, C.P.&O., Consultant to the American Board for Certification.

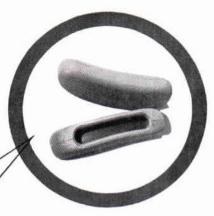
This publication presents an interesting theory on the courses and treatment of neuralgic pain in various parts of the body and a method of treatment that has proven amazingly successful in the hands of the Author.

While the book is written by a successful Orthopedic Surgeon it is not directed to Orthopedists alone, but to all general practitioners and since the principal method of treatment is of a mechanical nature the book should be equally valuable to the Orthotist, especially those who do shoe alterations, arch supports and other devices for the feet.

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REVIEWS—(Continued)

The illustrations are well done and the accompanying text amply descriptive. A list of tools and equipment necessary is included. The technique that the Author has found successful is fully detailed, so that any competent Orthotist would have no difficulty in following it.

One complete chapter is devoted to "The Correction of Foot and Body Posture in Children": Those Orthotists and Physicians who see large numbers of crippled children will find this chapter especially stimulating and valuable.

Whether one agrees 100 percent with the Author's conclusions or not, every Physician and Orthotist who regularly see people with neuralgic pain will find this book stimulating and a worthwhile addition to their library.

THE BACK AND ITS DISK SYNDROMES, INCLUDING INJURIES, DISEASES, DEFORMITES AND DISABILITIES

By Philip Lewin, M.D., F.A.C.S., F.I.C.S. Published by Lea and Febiger, Philadelphia, 1955. Second Edition. 942 pages. 371 figures and 4 color plates. \$18,50.

Reviewed by Erich Hanicke, C.P.&O., Kansas City.

Dr. Lewin's book "The Back and Its Disk Syndromes" is a valuable addition to the library of our profession. While it is primarily written for the Medical profession, it may well serve as an important link between the doctor and the orthotist.

Dr. Lewin covers injuries, diseases, deformities and disabilities of the back. He discusses the causes, diagnosis, prevention, treatment and prognosis of disorders involving the back and its related structures.

The orthotist would be interested in the chapters on curvatures which are caused from bad posture, congenital, Poliomyelitis and injuries. Several different types of back braces are pictured and it describes the use of each for a specified condition.

In reading this book, it gives us an inside story of what lies beneath the superficial skin. From the viewpoint of the orthotist, this enlightening book should give us much satisfaction in knowing that we possess this additional knowledge in being able to select, design, construct and fit our appliances more scientifically and more accurately than ever before.

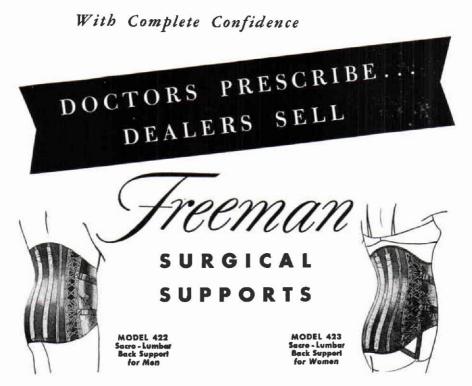
CHANGING ATTITUDES TOWARDS THE DISABLED

Published by the International Society for the Welfare of Cripples, New York, 1954. 287 pages.

Reviewed by Charles W. Rosenquist, C. O., Columbus, Ohio.

This book is a direct report of the proceedings of the Sixth World Congress of the International Society for the Welfare of Cripples which was held at the Hague, September 13-17, 1954.

The theme of the congress was "Changing Attitudes in a Changing World." Every organization of sizeable scope whose services were directed toward the treatment, rehabilitation, or care of the handicapped participated in the exchange of information on their methods that were helpful and also asked assistance in solving their shortcomings. The understanding of teamwork of various services of the medical, social, and educational fields needed in the rehabilitation picture were universal. The medical rehabilitation team with the doctors, therapists, orthotists, prosthetists, nurses, and medical social workers is being accepted in the larger centers. The general practitioners are taking advantage of these centers and supplying encouragement and assurance the patients need to take the step to leave the smaller towns to enter the centers for proper evaluation and possible treatment.



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PAGE 62		IC APPLIANCE JOURNAL

REVIEWS—(Continued)

The long deep rooted history of superstitions related to the handicapped is fast becoming a thing of the past. Fund raising and membership campaigns by grass root organization in localities have sparked the public interest to subscribe, by popular vote, to taxation that will offer sound assistance at a governmental and national level.

The report offers a sound realization to anyone in our field who cares to read it, of the sensible and complete approach given to the treatment to the disabled and how much more beneficial our work is when a properly supervised prorgam of rehabilitation is available.

An international meeting such this helps set a possible and workable goal that all mankind can understand and profit from, devoid of misdirection and aims of propaganda, personal gains or sympathies which some welfare agencies tend to be guilty of. It offers all a chance to see the possibilities offered by this hard earned knowledge of real assistance to the disabled, and so, one of hope for a better, longer, and still a good life for all who will offer to do their part to achieve it.

THE IMPORTANCE OF PHYSIO-THERAPY IN THE TREATMENT OF SICK CHILDREN

By Joan M. Jewry-Harbert, M.C.S.P Published by John de Graff, Inc. 1955. New York, N. Y. 84 pages.

Reviewed by Winifred M. Belfrage, Registered Physical Therapist, Denver, Colorado

This informal treatise has to do with an approach to the handling and understanding of children's diseases, as compiled from the findings and observations of the author who is a chartered physiotherapist.

The Author, a specialist in treating children by means of physiotherapy, attempts to give her methods in such

In Memoriam

P. W. KITTRELL, Owner of the Texas Artificial Limb Co. of Houston, died December 4, in Houston, Texas after an illness of two years. Mr. Kittrell as an amputee, had studied the problems of artificial limbs throughout the 44 years that he operated his firm. He had a deep interest in work for crippled children and was a member of the Executive Board of the Gonzales Warm Springs Foundation.

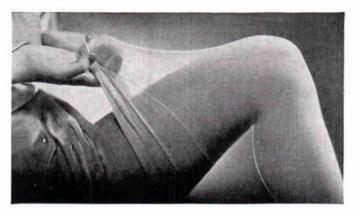
Operations of the Texas Artificial Limb Co. are being continued with his widow, Mrs. P. W. Kittrell as President. Richard H. Terry will serve as General Manager.

HARRY A. AMMERMAN, C. P., Manager of the Modern Limb and Brace Company at Harrisburg, Penna., died November 19, 1955. Mr. Ammerman was formerly employed by J. E. Hanger, Inc. at its Philadelphia office, and by Conrad and Frees in Syracuse. He attended the Suction Socket School in 1951. He is survived by his widow, who is continuing in the business as Manager of the Facility.

a manner as to impress one that her techniques, and the views of the child are in harmonious relationship. It is written solely to share her ideas with fellow physiotherapists so that they may ably reach the child more fully in the solution of health problems.

Several chapters are given to the descriptions of each of the children's diseases and the treatment by physiotherapy of the same. A few ideas for the construction and use of toys, slings, slides, and other mechanical aids used in conjunction with physiotherapeutics are given. Finally, it is concluded by a chapter explaining and illustrating suitable exercises for babies. All in all, it inspires one who works with children, and emphasizes the necessity of application of "good common sense."

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PAGE 64



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TO THE LADIES:

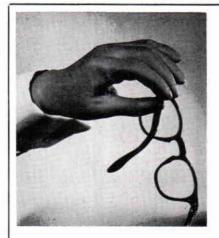
from

OALMA's Woman's Auxiliary

It was indeed gratifying to see so many of our members attending the New Orleans Assembly. Everyone seemed to arrive early, full of enthusiasm about the event at hand. Many were attending their first National OALMA meeting. Happy reunions went on everywhere-in the lobby, in the elevators and in the meeting rooms. Beloved and familiar names were recorded at our registration desk. There was Mrs. McCarthy Hanger, Sr., the mother of the OALMA President, Mrs. Chester C. Haddan came from Denver with her husband. It was wonderful to see the Aungers from Phoenix. Clyde looks fit and healthy again after his serious illness of last year. Mrs. Aunger had many interesting stories to tell about the long motor trip they had just taken. Of course, we missed one of our most popular members-Mrs. Kay Leimkuehler. But we know she has a more important duty this year-namely, the care of a new baby son, named William.

Personally, I think the New Orleans meeting was the most enjoyable I have ever attended—and everyone with whom I talked expressed themselves the same way. We owe a debt of gratitude to our beloved and charming President, Mrs. Ruth Finlay of Milwaukee. Mrs. Goldina Snell and Mrs. Bobbye McGraw were in charge of local arrangements. Their hard work and careful planning paid off handsomely in terms of enjoyment for our members.

What did we do at this meeting? Well here's a quick review for those of you who couldn't come: We held our annual meeting immediately after the President's Breakfast. Every new member was assigned a "Big Sister" to be their companion during the tour of the famous Old French Quarter. The Old World atmosphere of this part of New Orleans can't be described; you have to see it and enjoy it. For our walking tour we gathered for luncheon in the garden of the Three Sisters Restaurant. Tuesday we had a tour on by bus of the famous homes and beautiful gardens of New Orleans. Then we joined our husbands for the Certification Luncheon. Here the highlight for us was the play on Certification in which Betty Hanicke, Betty Fillauer and Adele Tenenbaum displayed real acting ability. Later that afternoon the City of New Orleans entertained us



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on the official yacht. This was an opportunity to see New Orleans' impressive harbor.

Wednesday morning was given over to our formal Business Session. Forty ladies were present. I am grateful to all of them for their vote of confidence in electing me President for the coming year. I shall endeavor to live up to the splendid records of Mrs. Finlay and the others who preceded me. You can see my fellow officers' pictures on this page: Mrs. Ruth Brown of San Jose, California was promoted to *First Vice President*. Mrs. Virginia Hedges of Indianapolis is our new *Second Vice President*. For *Secretary we* picked Mrs. Bobbye McGraw of Shreveport and for *Treasurer* Mrs. Margaret Peters of Philadelphia. Mrs. Frances Aunger and Mrs. Catherine Arbogast will serve as a Birthday Card Committe for the coming year.

The Banquet and Dinner Dance Wednesday evening were the final events of the Assembly. This informal party seemed to bring everyone so very close together—they all seemed to enjoy the evening immensely. No one was in a hurry to leave.

This year we had something extra—a Post-Assembly Fishing Trip. Several of our members went with their husbands on the trip from Biloxi, Mississippi, and they caught fish too!

We were all thrilled when news came that next year's assembly will be at San Francisco, California in the famous Mark Hopkins Hotel on Nob Hill. From what Mrs. Matt Laurence and Mrs. Herbert Hart told us about the City of the Golden Gate, next year's meeting is going to be the event of a lifetime. I hope you will plan now to arrange your vacation at that time, so that you can do full justice to the many attractions of California. Do you know, for instance, most airplane and railway tickets can be routed so that you can also visit Los Angeles and San Diego at very little or no extra expense. We've asked Mrs. Ruth Brown and Mrs. Matt Laurence to take over the social arrangements for next year's Assembly. We're grateful to these ladies for their cooperation-you can depend on them to plan an exciting time for you.

If any of you ladies have any ideas or suggestions that you think would be of interest for next year, I'd be very happy to hear from you, and we will endeavor to carry out your desires. Any news for publication in our OALMA Journal will also be appreciated.

Hoping to see you all next year in San Francisco and trusting that this will be a prosperous and happy year for all of you, I am

Very sincerely,

President Florence H. Kraft

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PAGE 67

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PAGE 68

"WHATS NEW(S)"



Anton Leins, Jr., C.P. Demonstrates New Kit

Swaging cold fuses the terminal connections to the cable. The kit, which has sufficient parts to rig up controls on approximately 30 complete artificial arms, is manufactured by the Automotive and Aircraft Division, American Chain & Cable Company, Adrian, Mich.

After working with the equipment for the past six months, Anton Leins, Jr., a prosthetist on the staff of the Prosthetic Testing and Development Laboratory of the Veterans Administration in New York, reports excellent results through the use of the kit and the swaging technique. He has encountered no cable breakage since adopting the swaging technique. Previously the terminal fittings were soldered to the cables, with the risk of the acid used in the soldering operation often attacking and weakening the cables. Swaging, he has found, is a much faster process as well.

• John B. Swainson, a Michigan state senator and a double amputee, was successful in securing the passage by the state Legislature of bills to abolish sales and usage taxes on prosthetic equipment "worn next to the skin." E. F. Schmitt of the E. H. Rowley Company of Detroit has sent the Journal a photograph of Senator Swainson and a copy of his own letter to patients, in support of the Senator's bill.

New Addresses —

The following firms have reported change of address—we suggest that you write the new address in the Official Registry, and the OALMA Membership Roster:

1) The Atlanta Artificial Limb Company is now at 555 Forrest Road, N.E., Atlanta, Georgia.

2) The United Limb & Brace Company is now located on the street level at 15 Berkeley Street, Boston 16, Mass. Telephone: HAncock 6-4018. Free customer parking is provided.

3) J. E. Hanger of Pittsburgh, is now located in its new quarters at 34th & Liberty Ave., Pittsburgh 1, Penna. The telephone is MUseum 1-4553. The new building is airconditioned, and has good parking facilities.

• L. Laufer and Company, Associate Member of OALMA, has moved to a new and convenient location in New York City. Their new address as of September 1 is—50 West 29th St., New York, 1, N. Y. Telephone number is—Murrayhill 5-2181.

IT PAYS TO COOPERATE . . .

Advertisers in this JOURNAL are reflecting a willingness and eagerness to cooperate with limb and brace establishments. They are displaying an interest in providing the materials and the type of service in which you are interested. They are doing their part to insure the success of your JOURNAL, and since they read the magazine too, they have a better understanding of your problems, your requirements, your supply needs.

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PAGE 70

Journal Index for 1955

EDITOR'S NOTE: This index to the four issues of 1955 is arranged in two parts. Part I is a subject index. Part II is an index to authors and titles. Part II also includes (a) Obituary notices, listed under the name of the deceased; (b) Book Reviews, listed by title and under the name of the reviewer. The month and inclusive page numbers are given for each entry.

(Part I: Subjects)

- Abduction Abduction for Shoulder Disarticulation Prosthesis, William E. Hitchcock, Sept. 1955, 23-26.
- Above Knee Prosthesis—The role of Physical Therapy in the Use of the Above Knee Prosthesis, Winifred Belfrage, Angelia Keifer et al., Sept. 1955, 59-70.
- Amputees, Advice To—Advice to the Amputee, Preston J. Burnham, M.D.; Sept. 1955, 47-56.
- Amputees, Congenital— The Congenital Amputee, Jerome S. Kessler, Sept. 1955, 39-49.
- Amputees, Training—Amputee Training in a Rehabilitation Center, Mrs. Vivian Shepherd, June 1955, 49-52.
- Amputees, Veterans—We Buy Hope for Veterans; The Work of the Service Contracts Section, Mrs. Adenia Stearn, June 1955, 19-22.
- Back Check—Observations on Failures of Back Checks on Artificial Legs, Francis L. Smith with John L. Young, March 1955, 41-44.
- Braces— An Adaptable Orthopedic Cervical Brace, M. J. Benjamin, Dec. 1955, 53-55. Practical Considerations in the Fitting, Use and Care of Corrective and Supportive Braces, Albert E. Corfman, Jr., Sept. 1955, 29-37. Principles of Bracing in the Rehabilitation of the Paraplegic, Arthur S. Abramson, March 1955, 28-35. Some Aids to Reduce Failures of Orthopedic Parts, Francis L. Smith and John L. Young, June 1955, 43-46.
- Certification—(see also American Board for Certification) — Certification Exhibit Shown at World's Largest Medical Convention, June 1955, 35-36. Certification Meeting at New Orleans, Dec. 1955, 29-31. What Certification Means to the Individual; a Reminder from the President of the Certification Board, June 1955, 37-39. Why Be Certified; A Message from Dr. Robert Mazet, Jr., Dec. 1955, 15-17.
- Certification Examinations Certification Examinations in 1956, Dec. 1955, 33. The New Orleans Examinations, Dec. 1955, 33. Two Crowded Days, Dec. 1955, 34-35.

Cervical Braces—An Adaptable Orthopedic Cervical Brace, M. J. Benjamin, Dec. 1955, 53-55.

- Federal Trade Commission— New Code for Orthopedic Appliance Field, March 1955, 13.
- Congenital Deformities Prostheses For The Congenital Amputee, Jerome S. Kessler, Sept. 1955, 39-42.
- Davies, Charles H., 1890-1944— Personal Recollections of Charles H. Davies, J. A. Duckett, March 1955, 59-62.
- Ethics, Codes Of-New Code for Orthopedic Appliance Field, March 1955, 13.
- Examinations see Certification-Examinations.
- Hand, Artificial—Problems in Design of Artificial Hands, Maurice J. Fletcher, June 1955, 59-68.
- Medical Profession, Relations With Remarks on Improving Relationships between Orthotists, Prosthetist, and Orthopedists, William E. Kenney, Sept. 1955, 17-21.
- OALMA Assembly 1955— National Assembly to Meet at New Orleans, June 1955, 10-13. Fun in New Orleans; Recreation for the Assembly Delegate, Leo Waller, June 1955, 15-16. On to N'Orleans! The National Assembly Opens Oct. 16; Sept. 1955, 15. Leimkuehler Named Program Chairman for 1955 National Assembly, March 1955, 47. National Assembly Convenes at New Orleans; W. Frank Harmon Heads OALMA, Dec. 1955, 19-25.
- Membership—Welcome to New Members of OALMA, March 1955, 37; June 1955, Inside Front Cover.
- Orthopedic Appliance and Limb Manufacturers Association— Grand Award for OALMA, March 1955, 62. A Report from the President of OALMA, March 1955, 7; June, 1955, 9; Sept. 1955, 11; Dec. 1955, 11-13. OALMA Elects New Regional Directors; New Board Takes Office at Assembly, Sept. 1955, 26.
- Orthopedic Appliance and Limb Manufacturers Association. Regions— Cross - Country Report; What the Regions are Doing, March 1955, 49-57.

Orthopedic Appliance and Limb Technician, see Orthotist; Prosthetist

- Orthopedic Appliance Industry- New Code for Orthopedic Appliance Field, March 1955, 13.
- Orthotists— Artificial Limb and Brace Work Rated Essential; Government Revises List of Critical Occupations, June 1955, 31.
- Paraplegia-Bracing For—Principles of Bracing in the Rehabilitation of the Paraplegic, Arthur S. Abramson, March 1955, 28-35.
- Physical Therapy— The Role of Physical Therapy in the Use of the Above Knee Prosthesis, Winifred Belfrage, Angelia Keifer et al., September 1955, 59-70.
- Prosthetics Education and Training Prosthetic Schools to Open; June, 27-28.
- Prosthetics-Lower Extremity see Back Check; Suction Socket.
- Prosthetics-Research— General Strong to Head. New Prosthetic Research Board, Dec. 1955, 49-51.
- Prosthetics-Terminology-Which Leg? Comment by "The Observer," June 1955, 39.
- Prosthetists—Artificial Limb and Brace Work Essential; Government Revises List of Critical Occupations, June 1955, 31.
- Rehabilitation Centers— Amputee Training in a Rehabilitation Center, Mrs. Vivian Shepherd, June 1955, 49-52.
- Shoulder Disarticulation, Prosthesis For Abduction for Shoulder Disarticulation Prosthesis, William E. Hitchcock, Sept. 1955, 23-26. Harness for Shoulder Disarticulation Amputees, Robert J. Pursley, March 1955, 15-25.
- Suction Socket— The Below Knee Suction Socket, by John Galdik; Comment by Charles O. Bechtol, Dec. 1955, 43-47.
- U. S. Veterans Administration, Dept. of Medicine and Surgery, Procurement Div., Service
- Contracts Section—We Buy Hope for Veterans; the Work of the Service Contracts Section, Mrs. Adenia Stearn, June 1955, 19-22.

Upper Extremity-Prosthesis (See also: Shoulder Disarticulation Prosthesis)

Trans-Carpal Disarticulation-Prosthesis — Prosthesis for a Trans-Carpal Disarticulation, Clinton L. Compere and Robert G. Thompson, Dec. 1955, 41-42.

(Part II: Authors & Titles)

- Abduction for Shoulder Disarticulation Prosthesis—William E. Hitchcock, Sept. 1955, 23-26.
- Abramson, Arthur S.— Principles of Bracing in the Rehabilitation of the Paraplegic, March 1955, 28-35.
- An Adaptable Orthopedic Cervical Brace-M. J. Benjamin, Dec. 1955, 53-55.

- Advice to the Amputee-Preston J. Burnham, Sept. 1955, 47-56.
- Ammerman, Harry A.— Obituary, Dec. 1955, 63.
- Amputee Training in a Rehabilitation Center-Mrs. Vivian Shepherd, June 1955, 49-52.
- Artificial Limb and Brace Work Rated Essential—Government Revises List of Critical Occupations, June 1955, 31.
- The Back and Its Disk Syndromes— Review, December 1955, 61.
- Bechtol, Charles O.— Comments on the Galdik B/K Suction Socket, December 1955, 46-47.
- Belfrage, Winifred—Angelia Keifer, Verne T. Inman, and Chester C. Haddan, The Role of Physical Therapy in the Use of the Above Knee Prosthesis, September 1955, 59-70. *Review of* Importance of Physiotherapy in the Treatment of Sick Children, De-
- cember 1955, 63. The Below Knee Suction Socket- John Gal-
- dik, December 1955, 43-46. Benjamin, Milburn J.—An Adaptable Orthopedic Cervical Brace, December 1955, 53-55.
- Bidwell, Robert N.—Review of Physical Therapy After Amputation, June 1955, 73.
- Burnham, Preston J.— Advice to the Amputee, September 1955, 47-56.
- Certification Examinations in 1956— December 1955, 33.
- Certification Exhibit— Shown at World's Largest Medical Convention, June 1955, 35-36.
- Davies, Charles H.— 1890-1944, Personal Recollections of; by J. A. Duckett, March 1955, 59-62.
- Certification Meeting at New Orleans-December 1955, 29-31.
- Changing Attitudes Towards the Disabled— Review, December 1955, 61-63.
- Children's Appliances to be Featured at New York Session— March 1955, 11.
- Comments on the Galdik B/K Suction Socket— Dec. 1955, 46.47.
- Compere, Clinton L.—Review of Human Limbs and Their Substitutes, March 1955, 67;--and Robert G. Thompson, Prosthesis for a Trans-Carpal Disarticulation, December 1955, 41-42.
- The Congenital Amputee— Jerome S. Kessler, September 1955, 39-42.
- Corfman, Albert E., Jr.—Practical Considerations in the Fitting, Use and Care of Corrective and Supportive Braces, September 1955, 29-37.

Couch, John-Obituary, March 1955, 73.

Cross-Country Report— What the Regions are Doing, March 1955, 49-57.

ORTHOPEDIC & PROSTHETIC APPLIANCE JOURNAL

PAGE 72

- Duckett, J. A.— Personal Recollections of Charles H. Davies, 1890-1944, March 1955, 59-62.
- Exhibit by Region X-Northern California, March 1955, 37.
- Fawver, Mrs. Dorothy—Obituary, March 1955, 73.
- Filippis, Anthony—Review of Juvenile Amputee Training Program, Sept. 1955, 75.
- Fletcher, Maurice J.— Problems in Design of Artificial Hands, June 1955, 59-68.
- Galdik, John-The Below Knee Suction Socket, Dec. 1955, 43-46.
- General Strong—To Head New Prosthetic Research Board, Dec. 1955, 49-51.

Grand Award for OALMA-March 1955, 62.

- Griffith, Thomas Edward— Obituary Notice, Sept. 1955, 75.
- Haddan, Chester C.— Joint author, see The Role of Physical Therapy in the Use of the Above Knee Prosthesis, Sept. 1955, 59-70; Review of The Postural Complex, Dec. 1955, 59-61.
- Hanger, McCarthy, Jr.— O A L M A's President Reports, March 1955, 7; June 1955, 9; Sept. 1955, 11.
- Hanicke, Erich—Review of The Back and Its Disk Syndromes, Dec. 1955, 61.
- Harmon, W. Frank—A Report from the President of OALMA, Dec. 1955, 11-13.
- Harness for Shoulder Disarticulation Amputees Robert J. Purchay, March 1055, 15, 25
- -Robert J. Pursley, March 1955, 15-25. Hitchcock, William E. — Abduction for
- Shoulder Disarticulation Prosthesis, Sept. 1955, 23-26.
- Human Limbs and Their Substitutes Review, March 1955, 67.

Importance of Physiotherapy in the Treatment of Sick Children—*Review*, Dec. 1955, 63.

- Improving Relationships—Between Orthotists, Prosthetists and Orthopedists, William E. Kenney, Sept. 1955, 17-21.
- Inman, Verne T.— Joint author, see The Role of Physical Therapy in the Use of the Above Knee Prosthesis, Sept. 1955, 59-70.
- Institute of British Surgical Technicians see Transactions of the Institute.
- Juvenile Amputee Training Program of the Michigan Crippled Children Commission, *Review* by Anthony Filippis, Sept. 1955, 75.
- Keifer, Angelia—Joint author, see Belfrage, Winifred, et al, The Role of Physical Therapy in the Use of the Above Knee Prosthesis, Sept. 1955, 59-70.
- Kenney, William E.— Remarks on Improving Relationships between Orthotists, Prosthetists, and Orthopedists, Sept. 1955, 17-21.
- Kessler, Jerome S.—The Congenital Amputee, Sept. 1955, 39-42.

Kittrell, P. W .- Obituary, Dec. 1955, 63.

- Leimkuehler—Named Program Chairman for 1955 National Assembly, March 1955, 47.
- Lofstrand, A. R., Jr.—Obituary, March 1955, 73.
- Manual of Hand Injuries—*Review*, Dec. 1955, 59.
- Mathis, William D.—Obituary, March 1955, 73.
- Mazet, Robert, Jr.-Why Be Certified? Dec. 1955, 15-17.

Metropolitan Orthopedic and Limb Manufac-

- turers Association— See Children's Appliances to be featured at New York Session, March 1955, 11.
- Morris, George M.— In Memoriam, Sept. 1955, 75.
- National Assembly— To Meet at New Orleans, October 16-17-18-19, June 1955, 10-13.
- National Assembly—Convenes at New Orleans, Dec. 1955, 19-28.
- National Rehabilitation Association— See Rehabilitation Leaders Confer; Atlantic City Conference Promotes Teamwork, June 1955, 55-56.
- New Addresses—OALMA Members, Dec. 1955, 69.
- New Code for Orthopedic Appliance Field— Federal Trade Commission Approves Rules, March 1955, 13.
- The New Orleans Examinations—Dec. 1955, 33.
- OALMA—Elects New Regional Directors; New Board Takes Office at Assembly, Sept. 1955, 26.
- OALMA—Program at NRA Meeting, Dec. 1955, 57.
- OALMA—Woman's Auxiliary, To the Ladies, June 1955, 71; December, 1955.
- OALMA—President Reports, March 1955, 7; June 1955, 9; December, 1955, 11-13.
- Observations on Failures of Back Checks On Artificial Legs, Francis L. Smith, with John L. Young, March 1955, 41-44.
- The Observer— pseud. see Which Leg? Comment by the Observer, June 1955, 39.
- Odell, Earl W.— Review of Manual of Hand Injuries, Dec. 1955, 59.
- On to N'Orleans!— The National Assembly Open Oct. 16, Sept. 1955, 15.
- Operative Orthopedic Clinics—Review, June June 1955, 73-74.
- Personal Recollections-Of Charles H. Davies, J. A. Duckett, March 1955, 59-62.
- Physical Therapy after Amputation The Treatment of the Unilateral Lower Extremity Amputee, *Review*, June 1955, 73.

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- Trautman, Ray—Obituary, March 1955, 73.
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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.
- (8) 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 the industry member is possessed of the requisite competence to assure his ability to fulfill such guarantee. A prosthetic device is not to be considered as fitting or an orthopedic appliance 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.