Johnstone + + + + +

JOHNSTONE'S IMPROVED

Ahl's Adaptable Porous Splints

—WITH—

DIRECTIONS FOR THEIR EMPLOYMENT

—IN—

Fractures and Other Surgical Lesions.

ILLUSTRATED.

SURGEON GEN'LS OFFICE
203
LIBRARY.

REMOVAL
Ahl's Splint Mfg Co., Limited
to 123 and 125 So. 11th St.,
Philadelphia, Pa.

ADDRESS:

AHL'S SPLINT MANUFACTURING CO., LIMITED,

517 LOCUST STREET, PHILADELPHIA, PA.

LEHMAN & BOLTON, PRINTERS, PHILA.

SPECIAL NOTICE TO PHYSICIANS.

THE great merit and value of **"Johnstone's Improved" Ahl's Adaptable Porous Splints,** combined with the unparalleled success in their INTRODUCTION and SALE has been the cause of certain unscrupulous individuals attempting the manufacture of a Spurious Article, which they call "Ahl's Improved Splints," "Porous Felt Splints," "Poro Plastic Felt for Physicians' Use," and the like.

We, therefore, give notice to all Surgeons and Physicians, that the Ahl's Splints and Appliances are only manufactured and offered for sale by **Ahl's Splint Manufacturing Co., Limited,** of **Philadelphia,** and that all other articles, as heretofore stated, are an infringement on our patents and will be diligently prosecuted according to law.

W. H. JOHNSTONE,

Manager.

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Col A. J. Whittier Agent
1303 F St N. W.

NOTICE.

JOHNSTONE'S IMPROVED

AHL'S ADAPTABLE POROUS SPLINTS.

The price of a complete set, embracing fifty (50) pieces—twenty-five for adults and twenty-five for children—is thirty dollars ($30.00) and freight. They will be sent to any express station collectable on delivery (C. O. D.) Such a set is adapted to the treatment of any fracture.

The different pieces are as follows:

		ADULTS.	CHILDREN.
No. 1.	Inferior maxillary	1	1
" 2.	Clavicle	1	1
" 3.	Shoulder-caps	1	1
" 4.	Humeral	2	2
" 5.	Elbow (right and left)	2	2
" 6.	Radial " " "	2	2
" 7.	Ulnar " " "	2	2
" 8.	Femoral	4	4
" 9.	Anterior knee-joint (right and left)	2	2
" 10.	Posterior " " "	2	2
" 11.	Anterior tibial " " "	2	2
" 12.	Posterior fibular " " "	2	2
" 13.	Straight pieces (for fingers, toes, etc., etc.)	2	—
" 14.	Club-foot	—	2
		—	—
		25	25

Purchasers of our Splints (see page 3) in ordering duplicates, will please state number and name of Splint, and be certain to state whether for the right or left side.

AHL'S SPLINT MANUFACTURING CO., Limited.

PHYSICIANS' PRIVILEGES.

Through MISUNDERSTANDING and MISREPRESENTATION it has become current that *Ahl's Splint Manufacturing Co., Limited*, refuse to sell single pieces of the Improved Splints, or in fact, anything less than a full and complete set of these Splints consisting of *50 pieces*, (as will be found set out in detail on page second of this book,) and that the physician who possesses a set and has occasion to renew or resupply it with pieces destroyed, lost, or consumed, or perchance duplicate pieces that may, when wanted, be in service in other cases of similar fracture, he must purchase an entire new set in order to get a single piece or pieces that he may require. Please let this be most clearly and emphatically understood as positively false; on the contrary, any physician who possesses a set of **Johnstone's Improved Ahl's Adaptable Porous Splints**, can always and at any time have sent to him by mail, post-paid, any Splint as per schedule, (page 2) on receipt of one dollar ($1.00.)

Our sole object is to introduce to the profession a common-sense and valuable Splint in the most accommodating manner, and at a price that shall be within the reach of all; viz.: thirty dollars ($30.00.) Every piece included in such a set has been criticised by the ablest Professors of Surgery in the world. See report Centennial Board of Award, (group 24,) page 14, and pronounced scientifically correct.

Being disposed to gain favor and admiration for both our Splints and our mode of doing business, which is done direct with the surgeon or physician, either by mail, or through our traveling agents, (all of whom are skilled surgeons,) we only take orders for complete sets (50 pieces) from each new name entered upon our books, *after which, all such purchasers are privileged to order in duplicate* as hereinbefore stated, at will. This accommodation, without further comment, will be appreciated as particularly advantageous to the practicing physician.

Endeavoring to conform and harmonize our business principles with the undeniable merit possessed in our Adaptable Porous Splints, we beg leave to solicit your patronage with the above guarantee for your protection.

Very Respectfully,

AHL'S SPLINT MANUFACTURING CO., LIMITED.

RUBBER BANDS.

We offer for what it is worth (and we feel confident of its great value if adopted) the suggestion—that in dressing a fracture with **Johnstone's Improved Ahl's Splints,** use RUBBER BANDS instead of the usual roller bandages employed to retain the Splints in position. *They of course can only be used in conjunction with the Adaptable Flexible Felt Splint manufactured solely by us.*

THE ADVANTAGES MANIFOLD.

When a surgeon has placed the bones in apposition, our perfectly conformed Splint is applied posterior and anterior, and what can be easier than to pass over the limb and around the two Splints a stout RUBBER BAND, then another, and another, all done in an instant; observe the saving in time!

The most valuable point, however, we have yet to call your attention to. The swollen condition of the limb immediately following the occurrence of the fracture, is always a stubborn thing to deal with, and after adjustment of the broken ends of the bones the dressing or splinting at this juncture is but a temporary affair, requiring the anxious care of the surgeon lest the swelling should decrease rapidly in his absence, and consequently the bandages and splints become loosened. This of course, necessitates re-dressing, which must be done a number of times prior to the disappearance of all swelling. The snug encasement of the limb during the early period of the fracture being particularly necessary to guard against the spasmodic action and contraction of the muscles against the soft ununited ends of the bones, which is the frequent cause of *deformity*, and consequent *suits* for *malpractice.*

SOLUTION OBVIOUS.

Let the limb be swollen however much, all such difficulty is positively and easily overcome by the simple use of **Johnstone's Improved Splints,** with nothing but *rubber bands* to retain them in position. The peculiar yet flexible condition of our Splints secured by these bands becomes an *automatic* dressing, at a glance the surgeon will observe its perfection and perfect security, for as the swelling decreases the even and constant tension attained by these bands surrounding the limb and splints producing an equal pressure, which is bound to follow the changes of the surface until it has resumed its normal condition.

We fearlessly contend that a fracture of any of the long bones, unaccompanied by abrasion or contusion properly reduced at the start, need never be re-dressed or touched until the patient is ready to be discharged. It is not difficult to imagine the extreme satisfaction to the surgeon's mind to know that, whether present or not, it is practically impossible to disturb the broken parts, and furthermore, that a deformity can never occur.

NOTICE.

PRICE LIST OF RUBBER BANDS.

Philadelphia, Sept. 1st, 1880.

TO THE PROFESSION:

On and after this date, every purchaser of a set of our **JOHNSTONE'S IMPROVED AHL'S ADAPTABLE POROUS SPLINTS** shall be supplied, free of charge, with a complement of *SUPERIOR RUBBER BANDS,* consisting of three sizes—No. 1, No. 2, and No. 3—six bands of each size, making eighteen in all, which will be found wrapped up with the Splints in the case.

We have been compelled, owing to the great demand made upon us by our *Patrons* to supply them with these most superior and convenient bandages, to make arrangements that would enable us to supply all demands, with the proper and best quality of rubber, of which bands for splinting purposes must necessarily be composed; it being well known that the ordinary merchandise rubber bands, used for office and stationery purposes, are made of a composition which, when subjected to a slight heat, become disintegrated and rotten, which would entirely unfit them for the purpose we have devised.

Hereafter, therefore, we will be pleased to supply *our patrons* with our "SUPERIOR BANDS," which we will send by mail, post-paid, on receipt of the price, as set out in price-list below. It will only be necessary to give the number and quantity.

No. 1.—¾	inches	wide,	2	inches	long.	Per	Doz.	30	Cents.
" **2.**—¾	"	"	2½	"	"	"	"	40	"
" **3.**—¾	"	"	3	"	"	"	"	50	"

Respectfully,

AHL'S SPLINT M'F'G CO., Limited,

W. H. JOHNSTONE, Manager.

INDORSEMENTS AND REFERENCES.

We have a just pride in calling attention to the following list of distinguished and eminent physicians and surgeons—the very highest authorities in the land, whose opinions can be found and are set out at length in another part of this book:—

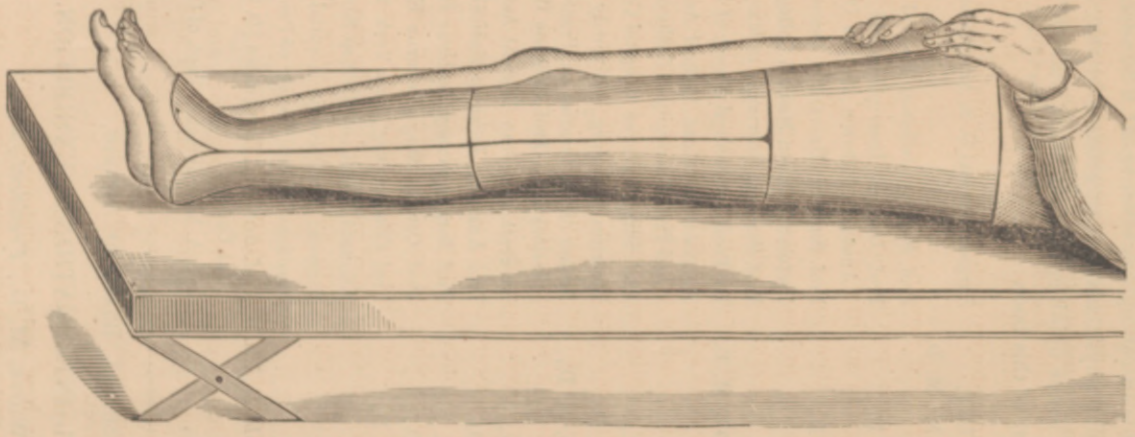
BRIG. GENL. C. A. FINLEY,	Surgeon General U. S. Army, (retired.)
SAMUEL D. GROSS, A. M., M. D., D. C. L., LL. D., Oxon,	Prof. Surgery, Jefferson Medical College.
JOSEPH PANCOAST, M. D.,	Prof. General Descriptive and Surgical Anatomy, Jefferson Medical College.
D. HAYES AGNEW, M. D.,	Prof. Surgery, University Pennsylvania.
F. F. MAURY, M. D.,	Lecturer Jefferson Medical College.
N. R. SMITH, M. D.,	Prof. Surgery, University of Maryland.
WASHINGTON L. ATLEE, M. D.,	Ex-President Medical Society of Penna.
PAUL F. EVE, M. D.,	Ex-Prest. American Medical Association and Prof. University of Nashville, Tenn.
JAMES R. WOOD, M. D.,	Prof. Surg., Bellevue Hospital Col., N. Y.
VALENTINE MOTT, M. D.,	Emeritus Prof. Surg., University of N. Y.
FRANK H. HAMILTON, M. D.,	Author of "A Treatise on Fractures and Dislocations," Prof. Bellevue Hosp. Col.
J. MARION SIMS, M. D.,	Ex-Prest. American Medical Association.
W. H. PANCOAST, M. D.,	Prof. Anatomy, Jefferson Medical College.
ALEX. B. MOTT, M. D.,	Prof. Surg. Anatomy, Bellevue Hosp. Col.
LEWIS A. SAYRE, M. D.,	Prof. Orthop. Surg., Bellevue Hosp. Col.
J. M. CARNOCHAN, M. D.,	Prof. Clinical Surg., New York Med. Col.
BENJ. LEE, M. D.,	Eminent Practitioner Orthop. Surg., Phila.
R. J. LEVIS, M. D.,	Surgeon, Pennsylvania Hospital.
S. B. KIEFFER, M. D.,	President Medical Society of Penna.
CHRISTOPHER C. COX, M. D., LL. D.,	Prof. Anatomy, Georgetown (D. C.) Medical College.
GEO. C. COOPER, M. D.,	U. S. A. Med. Director, Dept. of Columbia.

GROUP 24, BOARD OF AWARDS,

CENTENNIAL INTERNATIONAL EXHIBITION.

C. B. WHITE, M. D., *President Judge.*

ERNEST FLEISCHEL, M. D.,
J. H. THOMPSON, A. M., M. D., } *Group of Judges.*
WILLIAM ROTH, M. D.,



This cut illustrates the complete encasement of the leg, embracing Fibular, Tibial, Anterior and Posterior Knee-Joint and the Femur Splints. Surgeons will readily recognize the great value of this perfect system of dressing, in case of a complete fracture of all the bones of either limb.

JOHNSTONE'S IMPROVED

AHL'S ADAPTABLE POROUS SPLINTS.

No branch of surgery causes the physician more anxiety and more frequently leads to suits for malpractice, and consequent loss of time, money and reputation, than the *treatment of fractures.* The difficulties are to preserve perfect adjustment of the extremities of the fractured bones, control the inflammatory symptoms, and maintain the action of neighboring joints.

The SPLINTS which have heretofore been used for this purpose, whether of wood, tin, gutta percha, leather, wire, plaster of Paris, or binder's board, have given so little satisfaction that the best treatises on surgery yield none of them any warm praise. Wood is hard and unyielding, and liable to produce abrasions and ulcerations from pressure; gutta percha is heating, is softened by warm water dressings, and emits a disgusting odor; leather is also softened by water, and soon contracts an unpleasant odor; binder's board is stiff and unyielding, as well as difficult to adapt to rounded surfaces; wire splints Professor Gross justly stigmatizes as "unmanageable;" plaster of Paris, so much a favorite with many surgeons, is inconvenient and painful in application, requires a tedious time to harden, and is softened by water dressings; tin is too difficult to manipulate and adjust, and its sharp edges cause pain. Nearly every apparatus for fractures, moreover, either shuts the limb up in an awkward box, or suspends it from the ceiling, or in some other way confines the patient in an uncomfortable position, and greatly interferes with the motion and exercise essential to promote nutrition, and to favor a speedy and satisfactory cure.

The only splints which fulfil every indication in the case of fractures, whether simple or complicated, and which are free from all these objections, are

THE ADAPTABLE POROUS SPLINTS.

They have been tested extensively in both civil and military practice for a number of years, and have been indorsed and recommended in the most unqualified manner by the most distinguished surgeons of America, and many others whose letters will be found at the close of this pamphlet.

It is not too much to say of these appliances that with them the practitioner—no matter how rusty his anatomical knowledge—*cannot fail* to treat fractures with complete success, because they are so moulded to the form of the healthy limb that when once applied they *render impossible* any deviation from the normal shape and length. At

the same time, their *porosity* allows the free application of cold or warm-water dressings; they permit passive motion by their *flexibility*; they are perfectly adapted to the contour of the limb, and hence promptly relieve the pain caused by unadjusted fragments; and as they are also light, soft, odorless, durable, and finally, the *cheapest ever put in the market*, they seem to fill the ideal of a surgical splint as closely as can be imagined.

Among other high testimony to their value is the satisfaction they gave to army surgeons during the late war. Many thousand sets were bought and issued by the Medical Department U. S. A., and were found to answer the purpose admirably, although at that time the process of manufacture was much less perfect than it is now. They are still the adopted splint of the U. S. Army, new orders having lately been received.

DESCRIPTION OF THE ADAPTABLE POROUS SPLINTS.

The splints are made of a tough, flexible material, about as thick as heavy binder's board, and are moulded to the perfect form of the limbs, over models. They can be *adapted* at will, to limbs of various sizes, by immersing the splint in boiling water and then fitting it to the part, which is protected by muslin cloths saturated with cold water. They are, however, not in the least injured, nor is their consistancy altered by the continued application of water as hot or as cold as the skin can bear. Their *flexibility* enables them to accommodate themselves to the increase or reduction of the swelling, and by exerting a gentle and equable pressure to hasten its disappearance.

When once fitted to the limb they are not easily displaced or loosened. The patient can move about and change his position without pain or injury, while the muscular structure in the fractured limb is maintained in perfect quiet. Hence they are invaluable when persons with serious fractures have to be transported long distances, and also when the general health will suffer from confinement to bed. It is one of the most satisfying proofs (both to physician and patient) of the perfection of these splints, to witness how promptly the pain disappears when the fractured limb is snugly encased in them. There is no necessity to wait for hours or days till the inflammation is passed, as is sometimes recommended. Nor is the physician exposed to the impertinent interference of officious outsiders in loosening bandages and disarranging the fracture on the plea of relieving pain.

Their *porosity* is a peculiar and a valuable property. While the material is firm and insoluble, it permits readily the passage of air and fluids, so that, on the one hand, the heat from the inflamed surface, the perspiration, and the morbid exhalations, are not confined, to the

detriment of the patient, *as is the case in every other kind of splint*, but pass off freely; and on the other hand, lotions of cold or warm water, medicated or not with alcohol, carbolic acid, arnica tincture, solutions of the sulphites, etc., can be constantly applied without disturbing the dressings. This, it will readily be seen, is a *most invaluable* property when the parts are bruised, lacerated, filled with extravasated blood, or erysipelatous, and give these splints a conspicuous advantage over all others.

Nothing is more injurious, in treating fractures, than the necessity of removing the splints in order to dress or examine the limb. With these splints this is *never necessary*. Lotions and water dressings can be applied *through* them; their flexibility does not allow congestion, œdema, or gangrene from stoppage of the arterial circulation; the bones *must be* in place, for the limb is steadily kept at normal size and length, and for the same reasons ulcerations from pressure are unknown, and if the fracture is complicated the material can be readily cut or pared with a knife, so as to leave a fenestra, or opening, through which the external wound can be dressed. Each splint adjusts itself as nicely to the limb as the scabbard to the sword, and there is no need of weights, or pulleys, or fracture boxes, or swings, or of six weeks in bed. You need not take off the splints till you are ready to discharge the patient, and you need not give yourself five minutes' anxiety as to the result.

This *flexibility* gives these splints a peculiar advantage in treating injuries near joints. Here the danger is that the joint will become anchylosed, or partially so, owing to the immobility in which it is kept. But these splints, when bent at an angle, are just flexible enough to allow passive motion to be exercised to sufficient extent, without in the least disturbing the shafts of the bones.

The difficulty of *extension and counter-extension* is happily met by these splints. Closely fitting the limb both in its circumference and in its length, they prevent the spasmodic action of the muscles, the overriding of fragments of bone, and the consequent deformity. If the limb is firmly and gently held in its normal shape and length, no deformity can possibly result, and this the ADAPTABLE SPLINTS do in the most perfect manner. The varying contour of the limb itself, and the tuberosities of the bones in the vicinity of the joints, offer all the points for extension and counter-extension which are necessary. No pads, cushions, sand bags, or other clumsy contrivances are needed, and the heat, inflammation and confinement to bed which these enforce, are happily escaped. So perfect is the support given that a surgeon of long experience writes us: "With these splints once applied, any other limb, or part of a limb, is as likely to be fractured as the fractured parts to be disturbed." What more could be asked?

With such appliances *false joints* are unknown. These nearly invariably arise from want of care either on the part of the physician or the patient. But kept in constant apposition as they are by these splints, the ends of the fractured bones cannot fail to unite, even where the system is debilitated and the vascular action of the limb torpid. Indeed, we have had repeated cases where false joints were *cured* by exciting proper inflammation at the fractured extremities, and then adjusting these splints to the limb.

These qualities peculiarly recommend these appliances for the

TREATMENT OF FRACTURES IN CHILDREN.

Every physician knows how unsatisfactory it is to treat fractures in children by ordinary splints; how ready the parents are to loosen the bandages and disarrange the apparatus, if the child complains of pain; and how ready, also, to throw the whole blame on the medical attendant, if the result is bad, owing to their folly. The temptation to this is removed by the freedom from pain which attends the use of the ADAPTABLE SPLINTS, their lightness and coolness, the impossibility of disturbing the fracture when once adjusted, and the soft and agreeable feeling they impart. For these reasons we manufacture a separate and complete set for children.

OTHER SURGICAL LESIONS.

In whatever contingency a limb needs perfect rest and mechanical support, these splints will be found far superior to any others yet invented. In sprains and injuries, such as rupture of the ligaments of a joint, and in diseases of the articulations, of whatever nature, where motion is injurious, they can be used with great advantage. They often afford great relief in incised, gunshot and other wounds of the muscular system; and in varicose veins they have been found of value.

HOW TO APPLY THE SPLINTS.

The ADAPTABLE SPLINTS are sold in sets, each piece being already moulded on a perfect model of the human limb, slightly above the average in size, an allowance being made for the swelling which accompanies a fracture. In the large majority of cases they are, therefore, ready for immediate use, and require no adaptation. When, however, it is wished to alter their form, they must be immersed for half a minute or so in water at 212° Fahrenheit which renders them perfectly pliable for a few seconds, during which time they should be brought to the desired form, and then plunged into cold water. They at once become as firm as ever.

When they are moulded over a limb, it must be protected by a bandage soaked in cold water, so that the heat is not painful. Gen-

erally it is enough to approximate, or to separate the longitudinal edges of the splints in order to adapt them to any limb. The edges can readily be pared with a knife, and openings cut over wounds.

Having brought the splint to the desired shape, lay two or three thicknesses of old linen or muslin smoothly over its internal surface before applying it. *Do not bandage the limb;* it is not good surgery. Retain the splint in place by an ordinary roller bandage. This can be tightened as the swelling diminishes, without removing the splint or disturbing the fracture. (See note Rubber Bands, page 4.)

If the limb is fractured in several places—as, for instance, above and below the elbow or knee—the proper splints can be applied, the one overlapping the other, thus forming a complete case for the limb. Passive motion of the joint can be maintained, water or medicated lotions can be applied, and wounds of the soft part can be examined and dressed without disturbing the splints, and without allowing for a moment the limb to depart from its normal shape and length. Deformity and ununited fractures thus become *impossible,* and many fractures of the comminuted and complicated varieties can be treated with perfect success by these splints, which, without them, would *require amputation.*

We know by experience that every physician who uses these splints once, will *never again be without them.* They will often repay ten times their cost in the first year, in the greater success of the treatment of surgical lesions, and the consequent increase of practice and mental satisfaction which the physician will enjoy.

DETAILED DESCRIPTIONS OF THE SETS.

WHAT CONSTITUTES A COMPLETE SET.

The complete set of ADAPTABLE POROUS SPLINTS contains twenty-five (25) pieces for adults, and twenty-five (25) pieces for children, making in all fifty (50) pieces. They weigh altogether not quite five pounds, and are neatly packed in nests, in a light wooden box with a firm fastening. This allows them to be conveniently transported in the physician's carriage. The complete set costs thirty (30) dollars, and if at any time a piece is lost or damaged, it will be replaced at a trifling expense, if desired. (See note 1st, page 3.) If a surgeon wishes any special form of apparatus constructed of the same material, it can be made for him by addressing the publishers of this circular, for work on Deformities.

It will be seen that *every fracture* treated by these appliances can be at once and satisfactorily placed and retained in position by one or the other of the splints in these sets. A set, therefore, forms a complete outfit for a physician.

SPLINTS FOR THE SUPERIOR EXTREMITIES.

LOWER MAXILLARY SPLINTS, (Fig. 1.)—This splint embraces the entire chin, and forms a complete support to the fractured part, while at the same time it allows, by its flexibility, sufficient motion to open the mouth slightly to take food and drink. They are more comfortable than the gutta-percha splint. Retain it by Barton's bandage.

Fig. 1.

INFERIOR FOREARM SPLINT FOR THE ULNA (Fig. 2), AND SUPERIOR FOREARM SPLINT FOR THE RADIUS (Fig. 3).—These two splints are intended for all fractures of the forearm, and also for sprains and dislocations at the wrist-joint, complicated or not with fracture. Very often actual fractures of the head of the radius or ulna are diagnosed as sprains, and result in semi-anchylosis. These cases, even when of several months' duration, can be reached with complete success with these splints. They are also admirably adapted to treating Barton's fracture, fulfilling every indication as well as Bond's splint, requiring no pads or compresses, and being less likely to be followed by stiffness of the joint. They may be used either in combination or alone. As the radius and ulna are more liable to fracture than any other bones, ready made splints are very convenient.

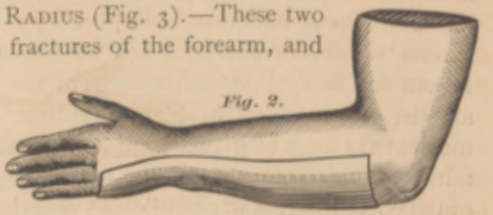


Fig. 2.

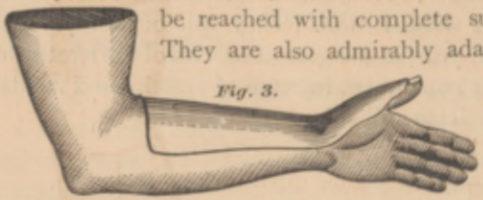
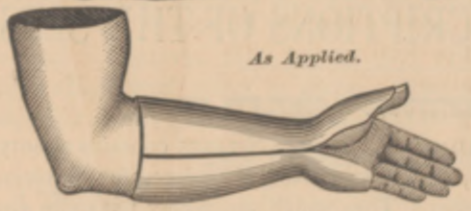


Fig. 3.



As Applied.

ELBOW SPLINT (Fig. 4).—This is for fractures and dislocations of the radius, ulna and humerus at or near the elbow-joint. In combination with the Inferior and Superior forearm splints, it is adapted to all fractures of the ulna and radius, at the middle or upper third, or compound comminuted fractures of the same bones. Where both radius and ulna are fractured, bring the parts into contact, then apply splints Figs. 2, 3 and 4 and bandage over all from the hand

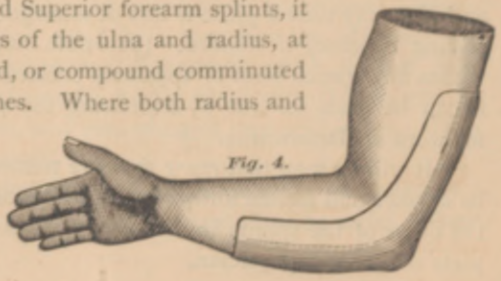
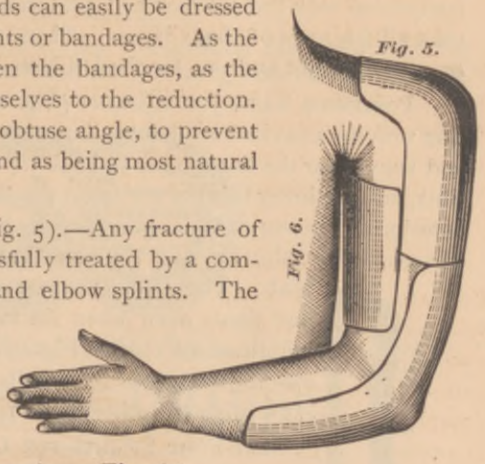


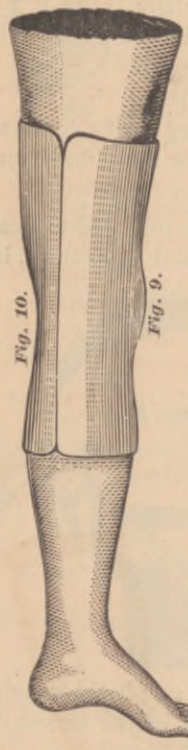
Fig. 4.

to the shoulder. If the fracture is comminuted, cut a part or parts out of the splints corresponding to the points of comminution, and bandage around them. The wounds can easily be dressed without disturbing the splints or bandages. As the swelling is reduced, tighten the bandages, as the splints accommodate themselves to the reduction. The Elbow splint is at an obtuse angle, to prevent the lapping of soft parts, and as being most natural to sling.



Shoulder Splint (Fig. 5).—Any fracture of the humerus can be successfully treated by a combination of the shoulder and elbow splints. The shoulder splint fits over the exterior face of the shoulder, and it is to be used with the short, slightly curved piece to be applied to the opposite surface, (Fig. 6.)

SPLINTS FOR THE INFERIOR EXTREMITY.



Anterior Tibia Splint (Fig. 7).—This splint is intended for fractures of the tibia proper, and especially for fractures, either simple or compound, in the vicinity of the ankle-joint. It reaches from the knee-joint to the instep, and embraces the ankle-joint perfectly. Fractures of the malleoli will be readily treated by combination of this and the following piece. There are two splints of this kind to each set.

Posterior Fibula Splint (Fig. 8).—This splint is suited to treating fractures of the fibula proper, and also in the vicinity of the ankle-joints, either simple, compound or comminuted. Figs. 7 and 8 are combined for a complete apparatus for treating bad compound fractures of the tibia and fibula, either in the upper, middle, or lower third, and at the ankle-joints. There are two splints to each set—one for the left and one for the right limb.

ANTERIOR KNEE-JOINT SPLINT (Fig. 9).—This splint is adapted to treat fractures of the tibia, fibula and femur near the joint, and also, in connection with the anterior and posterior tibia and fibula splints, to treat all fractures of those bones. There are two splints to each set—one for the right and one for the left knee-joint.

POSTERIOR KNEE-JOINT SPLINT (Fig. 10).—This splint, in connection with the anterior knee-joint splint, treats fractures of the tibia, fibula and femur near the knee-joint, and also the upper third of the fibula and tibia, and the lower third of the femur; and also, in connection with the anterior and posterior tibia splints, treats all fractures of those bones. There are two splints to each set—one for the right and one for the left limb. These splints can be used for the tibia and fibula also, when fractured about the middle of the shaft. Figs. 9 and 10 are used also for fracture of the patella, and are admirably adapted to keep it in position.

Fig. 11.

CLUB-FOOT SPLINTS FOR CHILDREN (Fig. 11).—This splint is intended for treating the club-feet of children, after operation or without operation, which it does very successfully. There are two club-foot splints for each set. If the application of these splints be commenced soon after birth, where this deformity is present, and so adapted (by the foot being bent sidewise, at an angle to the leg portion,) that they exert a constant yet moderate pressure toward the normal line of the limb, the deformity may, in some instances, be remedied without an operation.

Fig. 12.

FEMORAL SPLINTS (Fig. 12).—These splints are intended to treat fracture of the lower third and middle of the femur, and upper third, in combination with anterior and posterior knee-joint splints, as represented in Figs. 9 and 10. They encase the fractured limb perfectly. These *splints* are also intended, and admirably suited, for the treatment of fracture of the ribs and hip-joint.

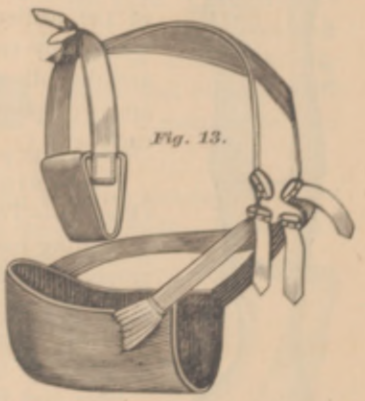


Fig. 13.

FRACTURE OF THE CLAVICLE (Fig. 13).—This frequent injury will be most satisfactorily treated by Levis' modification of Fox's apparatus. This consists, in brief, of a trough for the forearm, an auxiliary pad and a broad strap over the sound shoulder. We supply the trough, perforated at the proper points for the attachment of the necessary straps. The rest of the apparatus can be readily improvised.

INTERNATIONAL EXHIBITION,

PHILADELPHIA, 1876.

The United States Centennial Commission has examined the Report of the Judges, and accepted the following reasons, and decreed an award in conformity therewith.

Philadelphia, December 30th, 1876.

REPORT ON AWARDS.

PRODUCT,

ADAPTABLE POROUS SPLINTS

NAME OF EXHIBITOR,

DR. DAVID AHL.

The undersigned having examined the product herein described respectfully recommends the same to the United States Centennial Commission for award for the following reasons:—

FOR LIGHTNESS, FIRMNESS, FLEXIBILITY AND CHEAPNESS.

C. B. WHITE, M. D.
Signature of the Judge.

APPROVAL OF GROUP JUDGES.

ERNST FLEISCHEL, M. D.
J. H. THOMPSON, A. M., M. D.
WM. ROTH, M. D., *Surgeon General, German Army.*

A true Copy of the record.

FRANCIS A. WALKER,
Chief of the Bureau of Awards.

Given by authority of the United States Centennial Commission.

A. T. GOSHORN,
Director General.

J. L. CAMPBELL,
Secretary.

J. R. HAWLEY,
President.

OFFICIAL REPORT OF THE BOARD OF AWARDS,

GROUP 24,

OF THE

United States Centennial Commission.

SPLINTS.

Several years since, splints carved from soft wood, suitable for the various fractures, were offered, and were favorably received by the profession of this country.

The introduction of Ahl's invention has entirely superseded them.

Ahl's Adaptable Porous Splints are made of felt, saturated with gums which are insoluble in water. While soft they are moulded on blocks which have been cast from a series of models of various sizes taken from the limbs of soldiers of the United States Army. Their principal advantages are:—

1. By dipping them in hot water they can be moulded to every inequality of the limb, rendering padding unnecessary, even in the most complicated cases.

2. Their shape and firmness being unaffected by cold water, or heat under 150° Fah., cold water can be freely applied to the limb without disturbing the adjustment of the splint.

3. Being porous, the limb can be completely encased with the material and yet kept cool, there being abundant opportunities for evaporation.

4. The adaptation of the splint to every part of the limb being perfect, a fracture when well adjusted, can be transported any distance without disturbing the fractured limb or incommoding the patient, a most important consideration in field practice.

5. Their cheapness, compactness, simplicity, firmness, combined with lightness and almost indestructibility.

The Judges examined these splints with great care and interest, testing them to their complete satisfaction and were unanimous in the opinion that they supply a necessity in the treatment of fractures, deformities and the diseases of the joints, which has long been felt, but never before filled, and mark decided progress in this important branch of prothesis.

TESTIMONIALS.

We take pleasure in laying before the medical public the following opinions of eminent American surgeons on the ADAPTABLE POROUS SPLINTS, and we feel a commendable pride in adding that in *no single instance* has an unfavorable opinion been expressed upon them by any medical man who has examined and used them :—

PHILAD'A, May 14th, 1877.

TO WHOM IT MAY CONCERN.

This is to certify that Dr. David Ahl's ADAPTABLE POROUS FELT SPLINTS were adopted into the U. S. Army while I was Surgeon General, during the war, by a Board of Surgeons composed of Edwards, McLaren and Getty, and that thousands of sets were purchased and used with great satisfaction in the field and hospitals. I know they are still the adopted Splints of the U. S. Army, new order having lately been given. I believe them to be an invaluable splint, well adapted for field, hospital and other practice.

BRIG. GENL. C. A. FINLEY,
Surgeon General U. S. Army. [*retired.*]

From SAMUEL D. GROSS, M. D.,
Professor of Surgery in the Jefferson Medical College, Author of "A System of Surgery, and Ex-President of the American Medical Association."

Sets of Splints adapted to all regions of the body, and put up in portable cases, have lately been introduced to the profession by Dr. Ahl, and are likely from their convenience and cheapness, to come into general use. They are very light and flexible, and are not affected by cold or warm dressings, and are easily moulded to every inequality of the surface of the part to which they are applied —*System of Surgery, vol. 1, p. 867, edition of 1866*

From JOSEPH PANCOAST, M. D.,
Emeritus Professor of General, Descriptive and Surgical Anatomy in the Jefferson Medical College, Philad'a.

I have great pleasure in recommending the "Adaptable Splints," invented by Dr. David Ahl, to the favor of the profession.

JOSEPH PANCOAST.

1611 CHESTNUT ST., PHILADELPHIA, August 31st, 1877.

The SPLINTS of Dr. David Ahl, for simplicity, efficiency and economy in the treatment of fractures, *merits* the *highest* commendations.

D. HAYES AGNEW,
Prof. Surgery, University of Pennsylvania.

1611 CHESTNUT ST., PHILADELPHIA, February 6th, 1879.

The Adaptable Felt Splints, formerly known as those of Dr. Ahl, with the improvement now made by W. H. Johnstone, which renders them in every way superior to the former, I regard as very excellent appliances in the treatment of fractures.

D. HAYES AGNEW,
Prof. Surgery, University of Pennsylvania.

From F. F. MAURY, M. D.,

Surgeon to the Jefferson Medical College Hospital, one of the Surgeons to Philadelphia Hospital, and Lecturer, Jefferson Medical College, Phila.

I have great pleasure in commending to the Profession, Dr. Ahl's Adaptable Splints, as I regard them a step forward in Surgical Appliances.

F. F. MAURY, M. D.,
Lecturer, Jefferson Medical College.

From NATHAN R. SMITH, M. D.

Professor of Surgery in the Medical Department of the University of Maryland, etc.

I think Dr. Ahl's "Adaptable Porous Splints" a very useful article, and should think from their lightness, simplicity, etc., that they should come into general use.

N. R. SMITH, M. D.

From WASHINGTON L. ATLEE, M. D.

of Philadelphia, ex-President of the Medical Society of Pennsylvania.

It affords me very great pleasure to be able to recommend the SPLINTS invented by Dr. David Ahl. I know of none more readily and speedily adjusted, more capable of properly securing and maintaining in exact apposition the fractured portions of bone, more comfortable to the patient, and more satisfactory to the surgeon, and none the results of which are more successful.

WASHINGTON L. ATLEE, M. D.

From PAUL F. EVE, M. D.

Ex-President of the Amer. Med. Assoc'n, and Prof. Operative and Clinical Surgery, University of Nashville, Tenn.

I have used Dr. Ahl's ADAPTABLE POROUS FELT SPLINTS in cases of fractures, and have found them well adapted particularly for cases of emergency, and nearly all fractures of the extremities are such. I *do not see how I could well do without them*, and they must prove a great blessing to patients, and relief to surgeons.

PAUL F. EVE, M. D.
Prof. Operative and Clinical Surgery, University of Nashville.

From JAMES R. WOOD, M. D.

Surgeon to Bellevue Hospital, Professor of Surgery in the Bellevue Medical, College, Chairman of the Surgical Section of the New York Academy of Medicine, etc., etc.

I have examined Dr. David Ahl's ADAPTABLE POROUS SPLINTS, and entertain a very favorable opinion of them. I know they must come into general use, being light, convenient and easy of adaption, and are well deserving the attention of surgeons. I consider them a *most indispensable* article for the treatment of fractures.

JAMES R. WOOD, M. D.
Surgeon to Bellevue Hosp., Prof. Surgery, etc.

From the late VALENTINE MOTT, M. D., LL. D

Emeritus Professor of Surgery in the University of New York, President of the N. Y. Academy of Medicine, etc., etc.

I have examined the SPLINTS of Dr. David Ahl, for fractures and other injuries of the limbs, and am satisfied that they are a valuable addition to our appliances for their relief.

VALENTINE MOTT, M. D., LL. D.

From FRANK H. HAMILTON, M. D.

Professor of Fractures and Dislocations in the Bellevue Hospital Medical College, author of "A Treatise on Fractures and Dislocations," etc.

Having examined carefully the ADAPTABLE SPLINTS invented by Dr. David Ahl, I feel warranted in recommending them to the profession as superior to all other manufactured splints now in use. They possess all the essential qualities of a good splint, having firmness, pliability and lightness.

FRANK H. HAMILTON, M. D.

Prof. Military Surgery and Fractures and Dislocations, Bellevue Hosp. Col.

From Dr. J. MARION SIMS,

Ex-President American Medical Association, Madison Avenue, N. Y.

I regard your ADAPTABLE POROUS SPLINTS as a very important invention, and supplying a great want in surgical practice. Their flexibility, porosity, and being unaffected by water dressings, are invaluable qualities. I consider them indispensable to every physician and surgeon.

Very Respectfully, J. MARION SIMS, M. D.

From WM. H. PANCOAST, M. D.

Professor of Anatomy, in Jefferson Medical College, Philadelphia.

MY DEAR DR. AHL: I have been using your splints now for some years, and introduced them into the Philadelphia Hospital, I consider them *invaluable*. Besides their lightness, which permits motion of the limb when necessary, their nice adaptability to the limbs, the facility of their application and reinforcement by additional splints of the same material, their perfect coolness is very important and valuable. The splints being porous allows ventilation, and also of the application of cooling evaporating lotions.

Thanking you again for your most valuable invention, and hoping that you may introduce the *Splint* generally,

I am, very sincerely yours,

W. H. PANCOAST, M. D.

1100 Walnut St., Philadelphia.

From ALEXANDER B. MOTT, M. D.

Professor of Surgical Anatomy in Bellevue Hospital Medical College, formerly Sur. U. S. Vols.

It gives me pleasure to recommend to the profession the SPLINTS invented by Dr. David Ahl. They have *many advantages* over the most approved kinds now in use, being light, and readily applied to fractures and injuries of the limbs, etc.

ALEX. B. MOTT, M. D.

Prof. Surgical Anatomy in Bellevue Hospital Col.

From LEWIS A. SAYRE, M. D.

Professor of Orthopedic Surgery, in Bellevue Hospital Medical College, Surgeon to Bellevue Hospital, etc., etc.

I have examined with great interest and tested with the utmost satisfaction, the ADAPTABLE POROUS SPLINTS of Dr. David Ahl. They supply a necessity in the treatment of fractures, deformities, and diseases of the joints, which has never before been filled, and which I have long felt and endeavored to supply with leather, but could never do it so satisfactorily as with Dr. Ahl's splints. From the easy manner

in which they can be *moulded* with the most *perfect accuracy* to every inequality of the part applied, they will do away in the majority of cases, with the necessity of all complicated apparatus for extension and counter-extension; and while they give much more comfort to the patient, I am satisfied they will give greater satisfaction to the surgeon, as you can have no sloughing from inequality of pressure.

LEWIS A. SAYRE, M. D.

Prof. Orthopedic Surgery, Bellevue Hospital Col. and Surgeon Bellevue Hosp.

From J. M. CARNOCHAN, M. D.

Professor of Clinical Surgery, in the New York Medical College, Surgeon-in-Chief of the State Hospital, Health Officer to the City and Port of New York, &c.

From what I have seen of the qualities of the ADAPTABLE POROUS SPLINTS of Dr. David Ahl, I take pleasure in giving my testimony in favor of the invention. From the facility with which they can be moulded to surfaces unequal or irregular, and from the fact that moisture does not interfere with their solidity they must take the place in every instance of leather, pasteboard, and other materials which were in use in the treatment of fractures.

J. M. CARNOCHAN, M. D.

Prof. of Clinical Surgery, N. Y. Med. Col., Surgeon in Chief to the State Hosp., etc.

From BENJAMIN LEE, M. D.

Eminent in the practice of Orthopedic Surgery, Philad'a, Pa.

The recent improvement in AHL'S ADAPTABLE POROUS SPLINTS, which makes them in reality what they were before in *name* only *perfectly porous* and therefore freely permeable by the exhalations from the Skin, and by atmospheric air, constitutes them one of the most valuable appliances in Modern Surgery.

In the management of Spinal affections and deformities, a wide field is open for these appliances, as a substitute for any of the "fixed dressings" now in use.

Its lightness, permeability, durability, adaptability and rapidity of setting, are a combination of qualities especially desirable for the Splints needed in such affections and to be found nowhere else.

BENJ. LEE, M. D.

1503 Spruce Street.

From R. J. LEVIS, M. D.

Surgeon to Pennsylvania Hospital, etc.

I have used Dr. David Ahl's ADAPTABLE POROUS FELT SPLINTS and I am highly pleased with them. In all fractures they are superior, and in fractures near the joints they are indispensable to produce perfect results.

R. J. LEVIS, M. D.

Dr. Levis, at the meeting of the Medical Society of Pennsylvania, at Pottsville, presented the ADAPTABLE POROUS FELT SPLINTS to the Society, and endorsed them very highly, and pronounced them a very valuable addition to the means now resorted to in the management of fractures.

LOUISVILLE, KY. August 20th, 1878.

It has been my fortune to examine the Adaptable Porous Splints of Ahl, and I must say they should be in the possession of every physician, and especially should the country practioner have a set, as they are easily adjusted and in every way represent the advantages of the fixed dressing in fractures, as well as in diseases of the joints. They possess many virtues that can only be appreciated by their employment.

C. W. KELLY,

Prof. of Descript. Physicological Anat. & Clin. Lecturer, Kentucky School of Med.

St. Louis, Nov. 21st, 1878.

I have examined Ahl's Adaptable Porous Splints. Think them admirable for the purpose for which they are designed. E. H. GREGORY, *1006 Olive St.*,
Prof. Surgery, St. Louis Med. College.

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710 Olive Street, St. Louis, Mo., Nov. 30th, 1878.

Having used Ahl's Felt Splints in various forms of fracture, sprains, etc., where it was necessary to use adaptable movable dressings, I can unhesitatingly recommend them as the best material, presented in the best shape or condition for use in emergencies, &c., with which I am acquainted. My experience includes a number of years—from 1868 to the present time. A. P. LANKFORD, M.D.,
Prof. Surgery, Missouri Med. Col., St. Louis, Mo.

St. Louis, Mo., Nov. 27th, 1878.

With pleasure I subscribe my name to the list of those who so highly recommend the adaptable porous splints of Dr. Ahl. Their firmness, pliability, porosity and ready adjustability, are qualities that cannot fail to commend them to the intelligent surgeon. Yours, truly,
E. YOUNKIN, M. D., *813 N. 21st Street,*
Prof. of Surgery, American Medical College, St. Louis.

Eclectic Med. College, 1100 N. Market Street,
St. Louis, Mo., Nov. 20th, 1878.

To the Profession.

It affords me pleasure to express my hearty approval of Dr. Ahl's Adaptable Porous Splints. After personal examination, I find them the "*Ne plus ultra*" yet attained in this most important auxiliary to surgical practice. I unhesitatingly pronounce them without a rival for elegance, comfort, effectiveness, adaptability and hygenic importance. The agent of the Ahl Splint Manufacturing Co., Limited, does not, in my opinion, overestimate their practical value. Indeed when compared with all pre-existing competing apparatus, too high an estimate of worth would be impossible. GEO. H. FIELD, A.M., M.D.,
Prof. Surgery, St. Louis Eclectic Med. College.

Michigan State Medical Society.
Office of the President, Edward Cox,
Battle Creek, Mich., Oct. 14th, 1878.

I have carefully examined "Ahl's Adaptable Porous Splints" The agent yesterday applied his elbow splint to a case of fractured ulna, complicated with dislocation of the head of the radius. They are flexible, can easily be adapted to the contour of the limb, are light and porous, and in my opinion no better splint has been furnished the profession. EDWARD COX.

Milwaukee, Wis., Nov. 14th, 1878.

I have carefully examined the set of Dr. Ahl's Adaptable Porous Felt Splints just purchased. I consider them the best I have ever seen. They possess a combination of qualities inherent in no other material employed at present in the treatment of fractures. As a means to correct various deformities, they will have a wide range of application. I take pleasure in recommending them to the profession for general use. N. SENN, M. D.,
President State Medical Society of Wisconsin.

From S. B. KIEFFER, M. D.

President of the Medical Society of the State of Penn'a.

DAVID AHL, M. D.

Dear Dr.—After having used your SPLINTS in almost every form of fracture—simple, comminuted and compound—I feel constrained to write to you, in order to express my delight at their utility. They are so simple, so durable, and yet so admirably adapted to fulfill every indication in fractures and dislocations, that I would not discharge my sense of duty did I not express my obligations for their introduction. In not a single instance have I failed to accomplish with them all that has been accomplished by other appliances; and the comfort and convenience to the patients have been so marked that in some instances persons suffering have doubted the nature and extent of their injury. Having my splints always at hand, I find, besides the saving of time, myself spared much of the annoyance and vexation usually incident to surgical practice. With my full endorsement as to their utility, and with the assurance that any one who has ever used them will not do without them, I congratulate you on the success of your achievements. With kind personal regards, I remain, Doctor, Yours, very truly, S. B. KIEFFER, M. D.

From CHRISTOPHER C. COX, M. D., LL. D.

Editor of the National Medical Journal, Professor of Anatomy in the Georgetown Medical College, Washington, D. C.

I have carefully examined the "Adaptable Splints" of Dr. David Ahl, and have no hesitation in recommending them for their ready adaptation and their faculty for retaining fractured bones in perfect apposition They deserve to be introduced into general use. CHRISTOPHER C. COX, M. D., LL. D.

From GEORGE E. COOPER, M. D., U. S. A.

Formerly Medical Director to the Army of the South-West, at present (1871) Medical Director to the Department of the Columbia.

DR. DAVID AHL. *Sir*:—I have used your "Adaptable Splints" in the field and hospital practice, and have found them all that could be asked for, and all that you demand for them. Yours, truly, GEO. E. COOPER, M. D., *Surg. U. S. A.*

From W. G. STEWART, M. D.

President of Cumberland Co. Pa. Medical Society.

I have used Dr. David Ahl's ADAPTABLE POROUS FELT SPLINTS in a large number of fractures, both simple and compound, for the last seven years, with uniform success in every case. They fulfill all the indications of successful surgery, and are indispensable to the successful treatment of fractures. Under no circumstances would I do without them. In fractures near joints, they are absolutely necessary to preserve the integrity of the joints. I consider them indispensable to the surgeon, and every physician and surgeon should have a set.

W. G. STEWART, M. D., *Prest. Cumberland Co. Medical College.*

From B. VAN DER KIEFT, M. D.

Formerly Surgeon U. S Vols., in charge of the General Hospital, Annapolis, Md.

I take great pleasure in recommending Dr. David Ahl's Adaptable Porous Splints. I have used them on the field and in the hospital, and in the transportation of the wounded, and consider them much superior to any splints in use. They fill a vacuum that has long been felt in army and civil practice.

B. VAN DER KIEFT, M. D., *Surg. U. S. Vols.*

[From the Philadelphia Medical and Surgical Reporter for January 29th, 1876.]

SURGICAL SPLINTS, ESPECIALLY AHL'S SPLINTS.

BY S. B. KIEFFER, A. M., M. D.,

Of Carlisle, Pa., Ex-President of Medical Society of the State of Penna.

There are a few things which cause the general practitioner of medicine and surgery more annoyance than the delay, and not unfrequently the difficulty in providing suitable appliances for the treatment of difficult and complicated fractures. In plastic surgery wonderful progress has been made in the last few decades; but in conservative surgery much yet remains to be accomplished, if not so much in the way of results, at least for the comfort of patients and the surgeon's own gratification in the saving of time and other inconveniences. For the city surgeons, whose resources are more general, this question of available splints ready at hand is not so important; though even here it is a question of primary interest how the ends in practical and conservative surgery may be best accomplished. But for the general practitioner, whose time is greatly divided between medicine and surgery, and whose resources are quite limited, the very best, most convenient, and at the same time most practically useful splint, is a consideration second in importance to no other. Much time and great ingenuity have been expended in the devising of surgical splints. The result has been splints in endless variety, alike as to cost, quality, simplicity, complexity and durability; splints of exquisite finish and neatness, and splints cumbersome and unwieldy enough to be strikingly in harmony with the primitive ages. What we want is precisely that kind of splint which will meet all ordinary indications, which will be light and comfortable to the patient, and allow him the greatest possible amount of freedom, and at the same time be easy of adjustment, and, as far as possible, always ready at hand.

Of all the splints at present in use, I know of none, though I have travelled through the whole range of them, from the impromptu splint to the most complex and costly ones, equal to the "Adaptable Porous Felt Splints" recently introduced to the notice of the profession by David Ahl, M. D. For those who have seen and used them, no recommendation can be necessary; but it is with the view of calling the attention of my medical brethren, to whose notice they may not yet have been brought, to their convenience and wonderful utility in what may be styled the more artistic branch of the profession, that I now write. I have used this porous felt splint almost exclusively for the last four years; and besides the saving of time in providing and the adjusting of them, and the uniform comfort of the patient, the result in all cases of simple and compound fractures, of the long bones especially, as well also in fractures of the patella, the condyles of the humerus, the malleolar processes, and in dislocation of the elbow and ankle joints, have been far more satisfactory than from any other appliances used before. In fractures of the lower extremities, the starch and plaster-paris dressings bear no comparison with them; and as for fracture-box, now almost venerable with age and service, the one who uses it in this day should be indicted on the charge of "cruelty to animals."

This porous felt splint is light and easily adjusted, and when applied, so admirably adapts itself to the inequalities of the surface that it will not irritate or fret the most delicate skin. At the same time, however, it is firm and unyielding after being

applied; and not being affected by cold or warm water applications, gives the surgeon wonderful command over that class of fractures which require lotions and frequent dressings.

Two years ago the writer was called, in consultation with Dr. W. W. Dale, in the case of a boy aged ten years, who had been injured by being caught in the straps of a threshing machine. The right arm was almost literally torn from the shoulder, about three inches from the joint. The arm was twisted once around on its axis and lay along the side, and the upper portion of the humerus projected out at right angles to the body, almost entirely stripped of muscular covering. Amputation at the neck seemed imperative, but by urgent entreaties of the mother, who preferred that her boy should die rather than lose his arm, a more careful examination was made of the parts. It was now found that the bone was not only fractured, but comminuted to the extent of an inch and a half along the shaft. The muscles were entirely severed as by a knife, except the deltoid, which was torn in shreds, portions of which were subsequently removed because they could not be replaced The arm was held to the shoulder by a band of uninflamed integument, with its underlying cellular tissue and fascia, about an inch and three-fourths broad, and on the surface of which lay exposed the artery and nerve. Pulsation at the wrist was distinct, the forearm and hand were moderately warm, and the little fellow could slightly move the index finger. In these circumstances, by the aid of the "felt splints," we resolved upon an attempt to save the arm. Without any attention to the bone, except to allow one end to lap upon the other, the soft parts were brought together and held as well as possible with stitches, and then secured by means of the humeral felt splints, including the shoulder splint. First making in the splint a large opening over the wound, it was dressed with whiskey and water dressing, and the splints were allowed to remain on five days before removing them. Three fourths of the wound had now united by first intention. Having a perfect mould for the arm, it was only necessary in subsequent dressings to immerse the splints in hot water in order to adapt them to the changes arising in the progress of the case. Notwithstanding the subsequent loss of several pieces of bone—one an inch long and half the circumference of the shaft—union took place by periosteal contact, and the result is a thoroughly healed arm. It has been interesting to note the gradual restoration of function, and this has now been so far accomplished as to enable him to pitch ball, use his knife, place his hat on his head, and so on, though there is still a disposition on the part of the hand to pitch forward. I know of no other splints by means of which we could have accomplished the same results.

In a recent case of fracture of the tibia and fibula, with contusion of the ankle joint, the old gentleman, who had had a similar injury before, treated, I believe, by the old fracture-box, hinted strongly at a curtailment of his bill, because, for want of suffering and inconvenience, he doubted the nature of the lesion. I suggested that we would take the bill, and if it should occur to him again to have a similar misfortune, we would give him the advantage of his former experience, if he preferred it. He seemed to think, however, that after all the shortest and most easy way to recovery was the best.

I desire to call the attention of the profession to the utility of these splints in "varus." My success in the treatment of this deformity has been so satisfactory, by means of this felt club-foot appliance, that it is doubtful whether I shall again use the knife in my patients. The splint should be applied about the third month. The foot should be held as nearly in position as possible, and the splint moulded to

the limb by an assistant, and then immersed in cold water. A re-adjustment of this once in ten days cannot fail to accomplish the end desired, and it is done without pain or inconvenience to the child.

I have just discharged a case of "varus" cured with complete success, commencing with the splint when the child was two and a half months old, and without previous operation for division of the tendons, and the cure was so perfect at the end of three months, that an experienced eye could hardly have detected the seat of disease, except that the foot affected was slightly smaller than the other. I ordered an ordinary shoe, with light saw-blade braces on each side extending to the knee, in order to obviate any subsequent tendency on the part of tendons to contract. The angle of the foot is the same as the foot not affected. In "vulgus" the splint is equally adapted to overcome the deformity. I have now under treatment a case of deformity—a child four years old—who was operated on in a neighboring city more than a year ago. The little fellow had been wearing the ordinary cumbersome apparatus for supporting the ankle and foot ever since the operation, but unfortunately without success. By means of the club-foot felt splint the improvement has been so great, that, though still under treatment, it promises a success equal to the former case. Besides their utility, they are far less troublesome, only requiring to be re-adjusted once in about ten days, and are so comfortable to the little patients, that they are destined largely to supersede the knife and other appliances ordinarily in use. After an experience of some years with the "Adaptable Porous Felt Splints," I do not know how I should get along without them.

From Benjamin B. Ross, M. D.
East Saginaw, Mich., July 22d, 1878.

Having used Dr. Ahl's Adaptable Porous Splints, I can testify to their great worth. As they are in *practice* as well as in principle, all that is claimed for them. The ease with which they can be applied is not the least of their good qualities.

Very truly, BENJ. B. ROSS, M. D. East Saginaw, Mich.

From Edward T. Caswell, M. D.,
President R. I. Medical Society, Surgeon to the R. I. Hospital.
Providence, R. I., March 21st, 1879.

I take pleasure in recommending to the profession the Adaptable Splints of Dr. David Ahl. I have used them for many years, and have found them extremely convenient and serviceable. Johnstone's recent improvement, by which they have been rendered porous, has added materially to their value.

EDWARD T. CASWELL, M. D., *Prest. R. I. Med. Society, etc.*

From James Collins, M. D.,
Surgeon to German Hospital, Philadelphia.

Philad'a, August 14th, 1878.

Dear Sir:—I have examined and purchased a set of the *Improved Adaptable Porous Splints*, and am delighted with them. They possess all the qualities *necessary* in a splint, being altogether superior to the original splint manufactured by Dr. Ahl—these being thoroughly *porous*, light and pliable; the porosity being the great *desideratum*, which must command the notice of all surgeons. In the treatment of deformities, where splints, or artificial support, are required, these appliances are *vastly superior* to any I have ever seen. I highly commend them to the *profession*.

Yours, &c., JAMES COLLINS, M. D.,
Surgeon to German Hospital, Philad'a.

From GUSTAV C. E. WEBER, M. D.
Prof. of Surgery in the Charity Hospital Medical College, Cleveland, Ohio, etc.

I have used in a number of cases of fracture, Dr. Ahl's ADAPTABLE POROUS SPLINTS, and have invariably been highly pleased with the facility of application and efficiency in fulfilling all the indications which presented themselves. In a large class of fractures, especially those near the joints, these splints are superior to anything that has been devised before. In my opinion no practicing surgeon should be without them. A single application will satisfy him regarding their value.

GUSTAV C. E. WEBER, M. D., *Prof. of Surgery, etc.*

From PROCTOR THAYER, M. D.
Professor of Surgery in the Cleveland Medical College.

From what I have seen of the ADAPTABLE POROUS SPLINTS, I fully agree with Dr. Weber as to their value. P. THAYER, M. D., *Prof. of Surgery, etc.*

From DONALD MACLEAN, M. D.
Professor of Surgery, University of Michigan.

ANN ARBOR, MICH., August 5th, 1878.

Ahl's Adaptable Porous Splints, are the only patent splints that I have ever felt disposed to use. They certainly have much to recommend them.

DONALD MACLEAN, M D.,
Prof. of Surgery and Anatomy, University of Mich.

From L. HUMPHREYS, M. D.,
Prest. Medical Society of the State of Indiana.

SOUTH BEND, IND., Sept. 3d, 1878.

I have purchased a set of Ahl's Adaptable Porous Splints and am much pleased with them, and am of the opinion, that they are superior to all others.

Respectfully, yours, L. HUMPHREYS, M. D.,
Prest. State Medical Society of Indiana.

Testimonials from Eminent Homœopathic Surgeons.

From GEO. R. STARKEY, M. D., Philadelphia, Pa.
Ex-Professor of Surgery in the Homœpathic Medical College of Pa.

MY DEAR SIR: I have given my careful attention to the ADAPTABLE FELT SPLINT, to which my notice has been kindly directed. I do not hesitate to say that a long-continued and widely-felt *desideratum* has at last been supplied. I have seen the necessity of using plastic material in many forms of fractures. The weight and rigidity of some materials, the imperviousness of others, have left something to be much desired in this direction. In the ADAPTABLE FELT SPLINTS I am persuaded that all these wants are supplied. The lightness, firmness and perfect plasticity of the material are all that can be desired. But especially in its porousness a quality of great value. Much ingenuity is displayed in the *forms* of these splints, by which extension and counter-extension may be secured at points in such close proximity

to the seat of fracture, and without any extraneous apparatus. If these are so satisfactory to the surgeon, they must be much more so to the patient, both on the score of comfort during convalesence, and the certainty of restoration of a well-formed limb. They possess my entire confidence. GEO. R. STARKEY, M. D.

Prof. Surgery in the Hom. Med. Col. of Penna.

The Adaptable Porous Felt Splints of Dr. David Ahl are, in my opinion, the best in use, and fulfill every indication, being light and agreeable to the patient, easily applied and durable. Their porosity prevents the skin from blistering by allowing the escape of moisture. The same splint can be readily used at different times for limbs of unequal size, by being moulded in hot water. They have my unqualified commendation. MALCOLM MACFARLAND, M. D.

Professor of Clinical Surgery, Hahnemann Medical College, Phila.

I have carefully examined the Adaptable Porous Felt Splints, and find them a most admirable and handy contrivance for the various forms of fractures. They are easy of application, and as they are easily adapted to the inequalities of the parts at the seat of fracture, they are less likely than other splints to permit motion of the fractured ends. BUSHROD W. JAMES, M. D.

Prof. af Surgery, Hahnemann Medical College.

From an examination of the Adaptable Porous Felt Splints of Dr. David Ahl, I am satisfied that in the general treatment of fractures, no appliances known to me are equal to these, and I recommend them with pleasure.

H. F. BIGGAR, M. D.

Prof. of Anat. and Clinical Surgery, Cleveland Homœopathic College.

I unhesitatingly pronounce Ahl's Adaptable Porous Felt Splints the best in use, and believe they will be the means of preventing deformities and nonunion in the treatment of fractures. I hope every physician will purchase a set.

S. R. BECKWITH, M. D.,

Prof. of Surgery, in Homœopathic Med. Col., Cleveland.

Besides the above we have equally flattering testimonials to the value of these SPLINTS from Prof. W. Parker, of New York; Profs. A. C. Post, John Watson and Gurdon Buck, of the same city; Prof. N. S. Schneider and W. S. Jones, of Cleveland, and in short from every surgeon who has given them a trial.

We respectfully call the attention of Physicians to the fact that every physician to whom we have exhibited these Splints has highly endorsed them, and that, in no instance, after having bought them, has he hesitated in declaring his entire satisfaction with them. We have received hundreds of complimentary letters relative to their utility in all cases, some of which we print on the following pages.

TESTIMONIALS.

PARIS, ILL., August, 1878.

I regard Dr. Ahl's Porous Splints the most valuable of modern surgical improvements. J. L. HAYS, M. D.

PARIS, ILL., August 24th, 1878.

After a careful examination of the Adaptable Porous Felt Splint of Dr. Ahl, I unhesitatingly pronounce it the most desirable splint for all purposes now in use—easy of application and reliable, and I cordially recommend them to the profession, Respectfully, P. B. HOYT, M. D.,

Physician and Surgeon.

MARSHALL, ILL., August 24th, 1878.

I have examined Ahl's Adaptable Porous Splints and take pleasure in saying that they are the only splints in the market that I would use or recommend.

J. M. JANES, M. D.

GEORGETOWN, ILL., August 27th, 1878.

I have thoroughly examined Ahl's Adaptable Porous Splints, and am satisfied that they are the best splints in use. I have purchased a set and cordially recommend them to the profession, as they are almost indispensable to any one treating fractures and deformities. A. M HAWS, M. D.

DANVILLE, ILL., August 28th, 1878.

Of all the splints offered the surgeon, none so completely meet the various indications, combining strength, firmness, lightness, with a long felt want, *porosity*, admitting the application of medicated dressings without removal; they constitute the *ne plus ultra*, and no surgeon can afford to be without them.

Sincerely, yours, H. H. CLARK, M. D.

DANVILLE, ILL., August 28, 1878.

I have used Ahl's Porous Splints for two years, and have found them perfectly reliable and satisfactory in every particular. O. LESSURE, M. D.

URBANA, ILL., August 31st, 1878.

After careful examination of Ahl's Adaptable Porous Splints, I cannot but recommend them to all brother physicians and surgeons as the finest now in use.

F. O'DEE SPRINGER, M. D.

PETERSBURG, ILL., September, 1878.

It affords me great pleasure to say that among the many and varying surgical apparatus that have from time to time been introduced to the profession, none have impressed me so favorably for real practical purposes as Dr. Ahl's Porous Splints.

Yours, respectfully, P. A. ROSENBERGER, M. D.

GOSHEN, IND., August 28th, 1878.

Upon a careful examination of Ahl's Porous Splints, I believe them to be the best ever brought before the profession, and I intend to send in my order for the same. P. D. HARDING, M. D.

QUINCY, ILLINOIS.

I think, with common ingenuity, any surgeon can make Ahl's Adaptable Splints answer the requirements of every fracture.

Respectfully, WM. A. BYRD, M. D.

LINCOLN, ILL., Sept. 3d, 1878.

Ahl's Adaptable Porous Splints are the only patent splints that I have ever felt disposed to use or recommend. C. H. NORRED, M. D.

MASON CITY, ILL., Sept 4th, 1878.

Having carefully examined Dr. Ahl's Adaptable Porous Splints, I find them to fill a vacuum that has always existed among our surgical dressings, and believe them to meet the indications for which they are intended better than anything in their line. J. P. WALKER, M. D.

President of the Brainerd Medical Association.

NIANTIC, ILL., Sept. 11th, 1878.

I have given careful attention to the Adaptable Felt Splints and do cheerfully commend them to the profession, both for cheapness and durability, and consider them indispensable to the surgeon. J. H. RICE, M. D.

DECATUR, ILL., Sept. 16th, 1878.

Ahl's Adaptable Porous Splints in every way represent the advantages of the fixed dressing in fractures and in diseases of the joints, and I believe they fill a vacuum that has always existed in our surgical dressings. They certainly have much to recommend them, and I think they should be in the hands of every surgeon and physician. R. L. WALSTON, M. D.

MASON CITY, ILL.

After a thorough examination of Dr. Ahl's Adaptable Porous Splints, I can conscientiously recommend them to the profession as the best splints in use, as they meet every indication in the treatment of fractures and injuries of bones and joints. I regard their porosity and adaptability as an invaluable invention.

Very respectfully, J. W. SPEAR, M. D.

TAYLORSVILLE, ILL., Sept. 3d, 1878.

This is to certify, that I have made a careful examination of Ahl's Adaptable Porous Splints, and I heartily concur with many of the profession that they are the best splints made for the adjustment of fractures of any kind, and are indispensable to the surgeon. DR. T. M. JOHNS.

CERRO GORDO, ILL., Sept. 16th, 1878.

It affords me much pleasure to say that I have carefully examined Ahl's Porous Splints, and can conscientiously recommend them to the profession as the best splints in use, being porous, light, cheap and adaptable.

A. C. SABIN, M. D.

BEMENT, ILL., Sept. 17th, 1878.

Ahl's Adaptable Splints are the only *patent* splints that I have ever used that meets all the indications for successful surgery. I take much pleasure in recommending them to the profession as being far in advance of any other appliance for treating fractures or injuries of joints. W. S. RULY, M. D.

EFFINGHAM, ILL., Sept. 26th, 1878.

This is to certify, that we have examined Ahl's Adaptable Porous Splints, and think them to be well worthy of general use by the profession.

JOHN LECROM & W. THOMPSON, M. D.'S.

ILLINOIS STATE BOARD OF HEALTH,
CHARLESTON, ILL., Sept. 25th, 1878.

Having made an examination of Ahl's Adaptable Porous Splints for the adjustment of fractures, I have no hesitation in saying they are superior to anything of the kind which has been offered the profession, and have (as I conceive) as a matter of necessity, ordered a set. WM. M. CHAMBERS, M. D.

I fully concur in the above by Dr. Chambers. F. B. HALLER, M. D.
Vandalia, Ill., Oct. 2d, 1878.

VANDALIA, ILL., Oct. 2d, 1878.

I am persuaded, after examination, that these Splints are the best I have ever seen. R. GIBSON, M. D.

KINMUNDY, ILL.

After a careful examination of Dr. Ahl's Adaptable Porous Splints, I am of the opinion that they are superior to any splints now in use. Have no hesitation in recommending them to the profession. They fill a want long felt by the physicians and surgeons. T. W. FORSHEE, M. D.

I heartily agree with and endorse the statement of Dr. Forshee.
L. A. MOREY, M. D., *Vandalia, Ill.*

CHARLESTON, ILL., Sept. 25th, 1878.

I have examined the Porous Splints of Dr. Ahl, and believe them to be the most complete yet invented. L. L. SILVERTHORN, M. D.

CENTRALIA, ILL., Sept. 30th, 1878.

After a careful examination of the Adaptable Splints invented by Dr. Ahl, we feel at liberty to say that they surpass all other splints now in use for the treatment of fractures, and can conscientiously recommend them to the profession.
J. L. HALLEM, M. D., *Dist. Surg. I. C. R. R. Co.*
D. H. McCORD, M. D.

SALEM, ILL., Oct. 1st, 1878.

I hereby certify that I have examined Dr. Ahl's Adaptable Porous Splints and believe them to be superior to all others heretofore used.
W. M. FINLEY, M. D.

SALEM, ILL., Oct. 1st, 1878.

I do hereby certify that I have used Ahl's Adaptable Porous Splints and recommend them for what they claim in the circular, and for being light and easily adjusted they have no superior. J. K. RAINEY, M. D.

SALEM, ILL., Oct. 1st, 1878.

I have examined the Porous Splints of Ahl and consider them the most complete yet invented. R. HOGAN, M. D.

VANDALIA, ILL., Oct. 2d, 1878.

We take great pleasure in recommending Dr. Ahl's Adaptable Porous Splints, and we regard them as very much superior to anything of the kind we have ever seen. Sincerely, yours, G. W. & G. M. BASSET, M. D.'S.

VANDALIA, ILL., Oct. 2d, 1878.

This is to certify that I have examined Ahl's Adaptable Porous Splints and think them the best I have ever seen. J. S. KNOWLES, M. D.

PANA, ILL., Oct. 4th, 1878.

I take pleasure in saying that I have examined with great interest Dr. Ahl's Adaptable Porous Splints, and can conscientiously recommend them to the profession as being the best splints in use. They fill a vacuum long existing, and I regard them as one step forward in surgical appliances, and think every physician and surgeon should have a set. I. H. DODGE, M. D.

MOAWEQUA, ILL., Oct. 5th, 1878.

Having examined Dr. Ahl's Adaptable Porous Splints, I can honestly recommend them to the profession. Yours, A. P. HOXSEY, M. D.

TAYLORSVILLE, ILL., Oct. 8th, 1878.

I have examined Dr. Ahl's Adaptable Porous Splints, and can honestly recommend them to the medical profession. J. H. KITZMILLER, M. D.

MACON, ILL., Oct. 7th, 1878.

Ahl's Adaptable Porous Splint is the most perfect splint we have ever examined for keeping fractured bones in perfect apposition. Its porosity, adaptability, insolubility and almost indestructibility, are invaluable, and possessed by no other splint in use. We cheerfully recommend them to the profession, and believe them to be indispensable. KYNER & EAKINS, M. D.'S.

BLUE MOUND, Oct 7th, 1878.

This is to certify that I have examined Dr. Ahl's Splints and think they are well adapted to the purpose intended. R. TOBEY, M. D.

MORRISONVILLE, ILL., Oct 8th, 1878.

This is to certify, that I have this day examined Dr. Ahl's Adaptable Porous Splints, and consider them the most complete splints I have ever examined, and can cheerfully say they fill a want I have long felt, being easy of application, and when properly applied, give perfect support to fractures or dislocated bones, and a degree of comfort to the patient not to be allowed by any other splints in the market. A. B. SIMMONS, M. D.

MOAWEQUA, ILL., Oct. 5th, 1878.

We have examined Ahl's Adaptable Porous Splints and are particularly pleased with the lightness, porosity and pliability of the material of which they are composed. WM. H. SPARLING, M. D.
WM. P. BUCK, M. D.

MACON, ILL., Oct. 7th, 1878.

I have examined Ahl's Adaptable Felt Splints, and am pleased to state that, in my judgment, of all the appliances for holding in place the fragments of a broken bone, that have come under my notice, this of Dr. Ahl's is the most suple and at the same time the most complete, combining, as these splints do, all the requisites—lightness, porosity, strength and adaptability—it would seem that nothing more could be desired to fulfill all the indications which call for their use. It is really a pleasure to look at a limb encased in these splints, and to see how perfectly they adapt themselves to the inequalities of surface and how firmly the limb is held, certainly avoiding the great pain and irritation which always attends the use of the old fashioned cumbersome contrivances for extension and counter-extension. I regard the conception of Dr. Ahl's as one of the happiest inventions of the age. WM. STURGIS, M. D.

TAYLORSVILLE, ILL., Oct. 8th, 1878.

I fully concur with Dr. Sturgis in the above certificate.

F. H. CLARK, M. D.

CARLINVILLE, ILL., Oct. 15th, 1878.

I have examined Ahl's Adaptable Porous Splints, and think them superior to any other splints offered to the profession, and have ordered a set.

A. J. FITCHER, M. D.

GILLISPIE, ILL., Oct. 10th, 1878.

We have examined Dr. Ahl's Adaptable Porous Splints, and think they are superior to anything of the kind that we have ever seen. They are indispensable in fractures of all kinds. WM. M. GROSS, M. D.
W. K. PEMBROKE, M. D.

JACKSONVILLE, ILL., Oct. 19th, 1878.

My outfit of appliances for the treatment of fractures and other surgical lesions would not be complete without Ahl's Adaptable Porous Splints. I can cordially recommend them to the profession. W. H. H. KING, M. D.

JACKSONVILLE, ILL., Oct. 19th, 1878.

I have seen the Adjustable Felt Splints, invented by Dr. Ahl, and they are calculated to do valuable service in fractures. DAVID PRINCE, M. D.
WM. M. COX, M. D.

MT. STERLING, ILL.

I fully concur in the statement of Dr. Prince.
L. W. CARTER, M. D.

QUINCY, ILL.

I take pleasure in endorsing Dr. Prince's certificate
WM. C. PIPINO.

CANTON, ILL.

We endorse the opinion of Dr. Prince and others as to the value of Ahl's Splints to both surgeon and patient. W. M. SWISHER, M. D.
EDWIN S. SWISHER, M. D.

PEKIN, ILL.

We fully endorse the opinion of Dr. Prince as to the merits of Ahl's Adaptable Porous Splints. R. D. BRADLEY, M. D.

DANVERS, ILL.

I endorse the opinion of Dr. Prince and others as to the value of Dr. Ahl's Adjustable Splints. H. PARKHURST, M. D.

SPRINGFIELD, ILL., Oct. 16th, 1878.

I have examined and purchased a full set of Ahl's Adaptable Porous Splints, and from previous acquaintance with them, believe them to be the *sinequa non* in fractures. F. L. MATHEWS, M. D.

MECHANICSBURG, ILL.

Dr. Ahl's Porous Splints will recommend themselves to all *real* physicians without argument or comment. H. R. RIDDLE, M. D.

QUINCY, ILL., Oct. 25th, 1878.

I have examined Ahl's Adaptable Porous Splints, and have no hesitation in saying that, in my judgment, they are the most perfectly adapted to the ends contemplated and undertaken, in the treatment of fractures, of any form of surgical splints with which I am acquainted. C. R. S. CURTIS, M. D.

QUINCY, ILL., Oct. 25th, 1878.

Having examined the Porous Adaptable Splints of Dr. Ahl's, we do not hesitate to pronounce them a valuable acquisition in the treatment of fractures.
DRS. C. & W. ZIMMERMAN,

QUINCY, ILL.

I fully endorse all Drs. Zimmerman have said about the Splints of Dr. Ahl.
CHAS. A. WARNER, M. D.

CANTON, ILL., Oct. 31st, 1878.

Having thoroughly examined Dr. Ahl's Adaptable Porous Splints, we are satisfied they are *the* splints *above all others* for general practice.
DRS. FLEMING & SUTTON.

CANTON, ILL., Oct. 31st, 1878.

I have examined the splints known a. "Ahl's Adjustable Porous Splints," and from a careful inspection of them, am fully persuaded that they are as good as claimed to be. They supply a want to surgeons long suffered in the past. I think they are in such a high degree of perfection that their appearance recommends them fully for the purpose for which they are intended.

J. V. HARRIS, M. D.

I fully endorse the above. F. C. GALE, M. D.

PANA, ILL., Oct. 31st, 1878.

This is to certify that I have examined Ahl's Adjustable Porous Splints, and find them to be superior to any I have ever seen, and buy they as a necessity.

GEO. W. PATTON, M. D.

PEORIA, ILL., Nov. 6th, 1878.

I have used for the past five years Ahl's Felt Splints for convenience of application and ready adaptability to most all kinds of fractures, and the comfort with which they can be borne as compared with other manufactured splints. I have no hesitation in saying that they are superior to any splint in use.

H. STEELE, M. D.

VANDALIA, ILL., Oct. 2nd, 1878.

I have examined Ahl's Adaptable Porous Splints, and take pleasure in saying that in my opinion they are the most desirable form of splints yet offered to the profession. Fraternally, R. E. BEACH, M D.

Edt. & Prof. Illinois Med. Recorder.

I most heartily concur with the above named gentleman, in regard to the Porous Splints, and think them without doubt the most desirable splints in use.

H. H. DEMING, M. D., *Pana., Ill.*

I most heartily endorse the above recommendation of DR. BEACH and have given proof of my recommendation by buying a set, and think I will meet with more perfect success with their use. DR. D. F. SALANDER, *Morrisonville, Ill.*

I most heartily endorse what DR. BEACH has to say regarding Dr Ahl's Splints and have accordingly bought a set. J. S. BLACKWELDER, M. D.

Litchfield, Ill.

WENONA, ILL , Nov. 28th, 1878.

I hereby certify, that from three years use of Ahl's Porous Splints, I can truthfully state that in my opinion they are the best in use. Superior to Welch's, Day's, the Plaster of Paris, or Starch. Have used them for fractures of all the long bones of the body, with more satisfaction than any splint I have tried. They are neat, clean, light, and readily admit of water fomentation, and by their use we can have a limb adjusted and the patient comfortable, while we were getting the material ready for the use of starch or plaster. In fact I do not see how I could get along without them. K. E. RICH, M. D.

MISHAWAKA, IND., Sept. 3d, 1878.

I have been acquainted with Ahl's Porous Splints for 13 years, I always have considered them the best splints made, and I now think the improved is as much superior to the original, as the original was to pasteboard.

J. B. GREENE, M. D.

MISHAWAKA, IND., Sept. 4th, 1878.

Having examined Dr. Ahl's Adaptable Porous Splints, I unhesitatingly in my opinion pronounce them the best in use. They can be adjusted to the limb as perfectly as a jacket of Plaster of Paris, and the utility of the porosity of the splints is obvious to any surgeon. I have concluded to purchase a set of them.

B. R. O'CONNOR, M. D.

MISHAWAKA, IND., Sept. 5th, 1878.

After an examination of Ahl's Adaptable Porous Splints, I unhesitatingly pronounce them the best in use, and I consider them indispensable to any practicing surgeon. They merit my entire confidence as they possess in principle all that is claimed for them. And I patiently wait the arrival of the set I ordered.

JAS. F. GRIMES, M. D.

WALKERTON, IND., Sept. 6th, 1878.

I have carefully examined Ahl's Splints, and consider them the best I have ever seen, shall purchase a set of them. J. N. ARLINGTON, M. D.

GOSHEN, IND., Aug. 27th, 1878.

I am much pleased with the Ahl's splints and intend to buy a set.

M. M. LATTA, M. D.

FORT WAYNE, IND., Aug. 16th, 1878.

Having had some experience in the use of Dr. Ahl's Adaptable Porous Splints in the treatment of fractures. I take pleasure in recommending them to the profession on account of the many advantages which they possess over any others which I have ever used, among which are their permeability, ready adaptability to all surfaces, lightness, durability, cheapness, &c., &c. J. S. GREGG, M. D.

FORT WAYNE, IND., Aug. 14th, 1878.

I have the honor to state that I have used Ahl's Adaptable Porous Splints in the United States Army, and in private practice with satisfaction. Lightness, pliability and adaptability to irregularities of surface, yet of sufficient firmness to retain a fracture in perfect apposition. Commend them to surgeons.

A. I. LAUBACH, M. D., *Late U. S. Army.*

GOSHEN, IND., Aug. 27th 1878.

We have examined the Ahl's Adaptable Porous Splints, and think them superior to any we have thus far seen or used. DRS. F. HERRING & SONS.

ELKHART, IND., Aug. 27th, 1878.

I have had some experience in the use of the Ahl's Porous Splint in my opinion it is the *best* splint now in use. But it is especially adapted to injuries of bones in close proximity to Joints. C. S. PIXLEY, M. D.

Late resident Surgeon at Charity Hospital, Cleveland, Ohio.

RICHMOND, IND., Oct. 3d, 1878.

I have just examined the improved Ahl's Adaptable Porous Splints, and am satisfied in regard to their improvement over the old article, which I have been using for several years past, which have served me so well in an extensive experience in the treatment of fractures. J. H. McINTYRE, M. D.

WINCHESTER, IND., Oct. 7th, 1878.

This is to certify that I have been using Dr. Ahl's Porous Splints for three years past, and I am free to say that they are all that is claimed for them. I could not think of doing without them. I have treated two cases of Callis fracture of the radius and one of Barton's fracture with perfect results. I have also treated three Cases of Pot's fracture with the most happy results. In those particular fractures I consider them the most perfect appliances of anything that has ever been called to my notice. I have used them in the treatment of various other fractures with entire satisfaction. J. S. CHENOWITH, M. D.

REFERENCES.

The following is but a partial list of the physicians and surgeons who emphatically pronounce our Splints superior to any now in use, all of whom have purchased and are using our "Johnstone's Improved" Ahl's Adaptable Porous Splints.

PENNSYLVANIA.

B. B. Carey, Glen Lock.
J. K. Weaver, Norristown.
J. K. Crawford, Cooperstown.
G. W. Weisel, Williamsport.
J. P. McVicker, "
G. D. Nutt, "
B. H. Detwiller, "
W. M. Howell, Cogan Station.
C. M. Martin, Sunbury.
C. H. Dougal, Milton.
P. McClurg, "
A. G. Walls, Lock Haven.
A. P. Meloy, Renovo.
C. G. Wilson, St. Mary's.
J. S. Bordwell, Ridgway.
A. C. Blodgett, Youngsville.
H. L. Bartholomew, Warren.
M. Pickett, Corry.
D. E. DeRoss, "
B. E. Phelps, "
O. L. Abbey, Union City.
O. C. Sherwood, "
A. Thayer, Erie.
J. L. Dunn, Titusville.
J. D. Littlefield, "
W. H. Jackson, Oil City.
D. C. Galbraith, Franklin.
F. B. Lashells, Meadville.
T. M. Leet, Greenville.
Drs. Dickson, Pittsburgh.
I. H. McClelland, "
J. M. Dunlap, Manheim.
J. B. Heller, Easton.
J. S. Hunt, "
D. R. Greenlee, Meadville.
L. W. Lindley, Perryville.
John W. Detwiller, Bethlehem.
C. E. Humphrey, South Bethlehem.
Truman J. Martin, Bradford.
Henry Wilson, "
L. S. Zeiner, South Easton.
Thomas J. Martin, Allentown.
P. L. Richards, "
C. H. & C. D. Martin, "
E. B. Stephens, Wilkes Barre.
W. G. Weaver, " "
City Hospital, " "
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REFERENCES.

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REFERENCES.

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