No. 649,718. Patented May 15, 1900.

L. A. DEUTHER.

SURGICAL SPLINT.

(Application filed Jan. 5, 1897.)

(No Model.)

Fig.1.

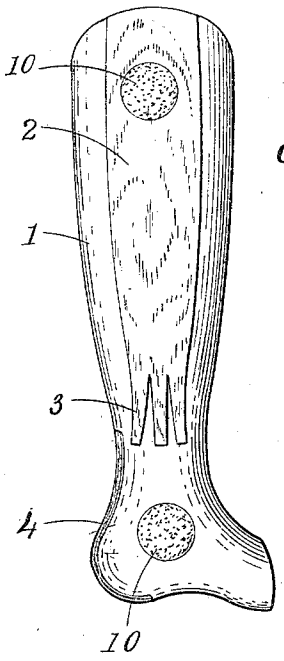


Fig.2.

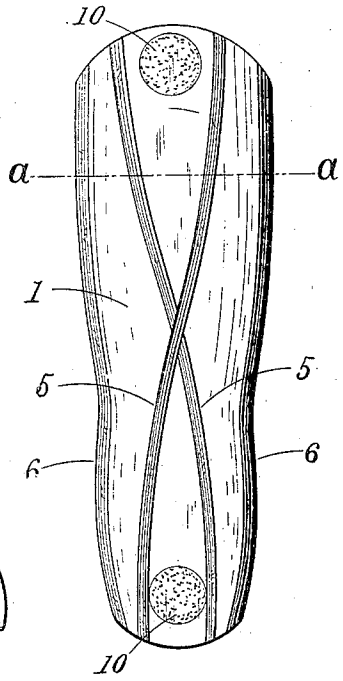


Fig.3

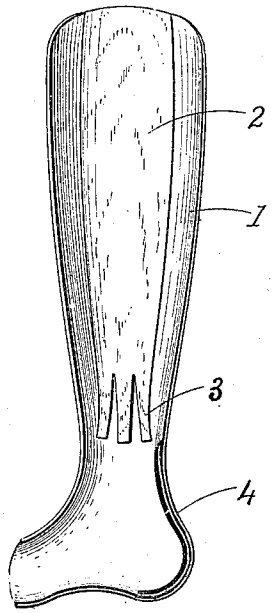
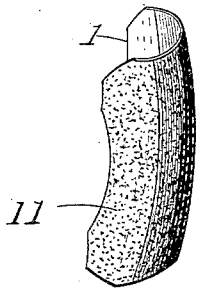


Fig.5.

Fig.4.



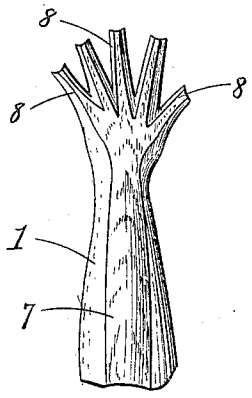


Fig.6.

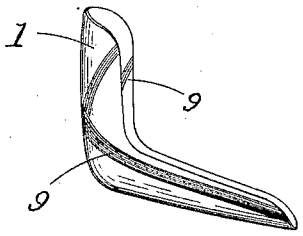
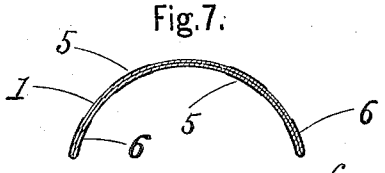


Fig.7.



Witnesses,
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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

LORENZ A. DEUTHER, OF BUFFALO, NEW YORK.

SURGICAL SPLINT.

SPECIFICATION forming part of Letters Patent No. 649,718, dated May 15, 1900.

Application filed January 5, 1897. Serial No. 617,998. (No model.)

To all whom it may concern:

Be it known that I, LORENZ A. DEUTHER, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Surgical Splints and Modes of Constructing the Same, of which the following is a specification.

The object of my invention is to provide a surgical splint for holding and supporting broken or fractured limbs during the healing process, or for other analogous purposes, with a covering of sand or equivalent material to produce a roughened surface upon the splint to prevent slipping, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an exterior side elevation of a splint technically called the "internal-ankle" splint. Fig. 2 represents a side elevation of the posterior-patella splint. Fig. 3 also represents a view of the internal-ankle splint, showing an interior side elevation of the same. Fig. 4 represents a perspective view of the femur-splint. Fig. 5 represents a side elevation of the hand-and-forearm splint. Fig. 6 is a perspective view of the posterior-elbow splint. Fig. 7 represents a sectional view on or about line *a a*, Fig. 2.

Referring to the drawings in detail, 1 represents the paper or fibrous material of the splints. The protecting-strips of wood veneering are rigidly secured to the fibrous material, preferably by cement, and are formed in various shapes and sizes adapted to the different styles of splints. As splints are formed in various shapes, fitting the various members and portions of the human body, the protecting-strips must necessarily be formed and applied differently to each, so that inflexibility and rigidity will be attained where required without interfering with the flexibility needed to allow the splint to conform to and fit closely around the injured member or body portion. In the figures shown in the drawings I illustrate some of the best-known shapes of the splints and also show the shape, form, and general arrangement thereon of the protecting-strips which have been found by experience to be best adapted to the individual requirements of the several splints therein shown.

In Figs. 1 and 3 (the representation of an internal-ankle splint) I use a broad strip of veneering 2, terminating in the forked projections 3. I also protect the heel portion of the said splint with a strip 4.

In Figs. 2 and 7 (the posterior-patella splint) I use two strips 5, crossing each other, as shown in said Fig. 2, and also provide the side edges thereof with protecting-strips 6.

In the hand-and-forearm splint (shown in Fig. 5) I use a broad strip 7, extending centrally lengthwise thereof and terminating in the forked portions 8, each of the said portions 8 extending centrally lengthwise along each of the finger portions of the said splint.

In Fig. 6 (the posterior-elbow splint) I cross the strips 9 above the joint, substantially as shown in the said figure.

Heretofore it has been found that the bandages used to bind the splint to the injured member are, unless they are wound very tightly, liable to slip, and thus loosen the splint from the said member and perhaps cause serious damage—in some cases reopening the wound. In order to obviate this, I produce a roughened surface upon certain portions of the exterior face of the splint, preferably by covering the said portions with rough material—sand, for instance—substantially as shown at 10 in Figs. 1 and 2, or for some splints it may be advisable to cover the entire exterior surface thereof with the rough material, as shown at 11, Fig. 4. By this means, although the bandages are not wrapped tightly enough to impede or interrupt the circulation of the blood, the liability of slipping and the danger arising therefrom are entirely obviated.

In constructing my improved splint I cover the same with one or more coatings of shellac and when dry I add one or more coats of turpentine varnish or varnish containing turpentine. My object in thus coating the splint is to prevent the same from being injured by the preparation employed in dressing the injured member.

Sometimes turpentine is used as dressing,

which is very liable to dissolve the exterior coats of turpentine varnish; but owing to the inner coats of shellac, which the said turpentine dressing cannot cut or eat into, the splint is thoroughly protected.

If alcohol is used for the dressing, it cannot penetrate the outer coatings of turpentine varnish to dissolve or injure the inner coatings of shellac.

I claim as my invention—

1. A surgical splint, having its entire outer surface or other portions thereof covered with sand, whereby the bandages used to bind the splint to the injured member are prevented from slipping.

2. A surgical splint comprising a body portion of comparatively-flexible material, strengthening-strips secured to suitable portions of said portion, and roughened-surfaced portions produced on the exterior face of said splint, as and for the purposes described.

LORENZ A. DEUTHER.

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