(No Model.)

P. F. HANLEY.

SPLINT.

No. 471,252. Patented Mar. 22, 1892.

Fig. 1.

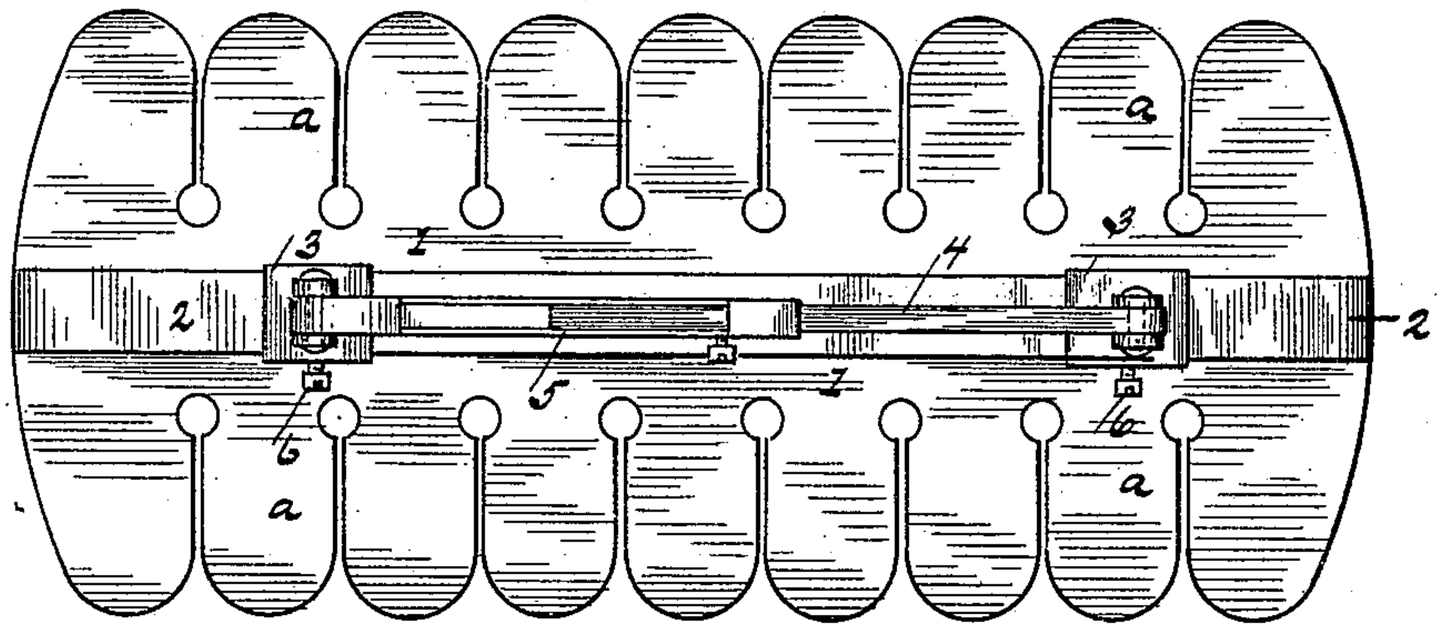


Fig. 2.

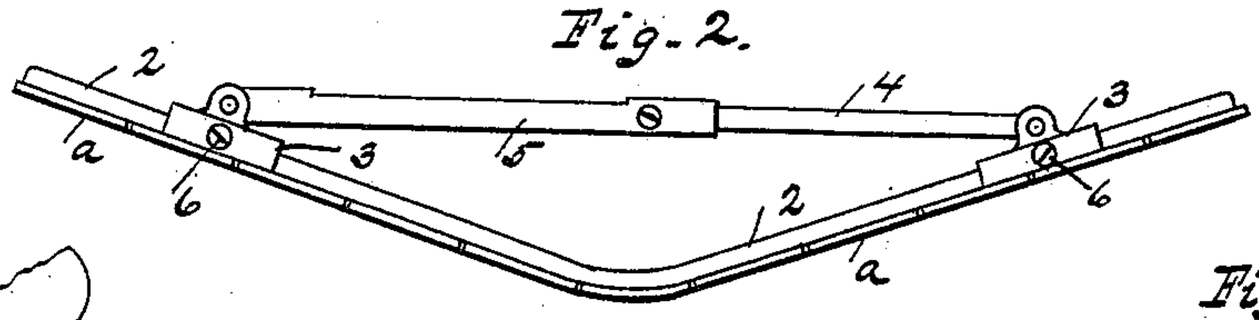


Fig. 3.

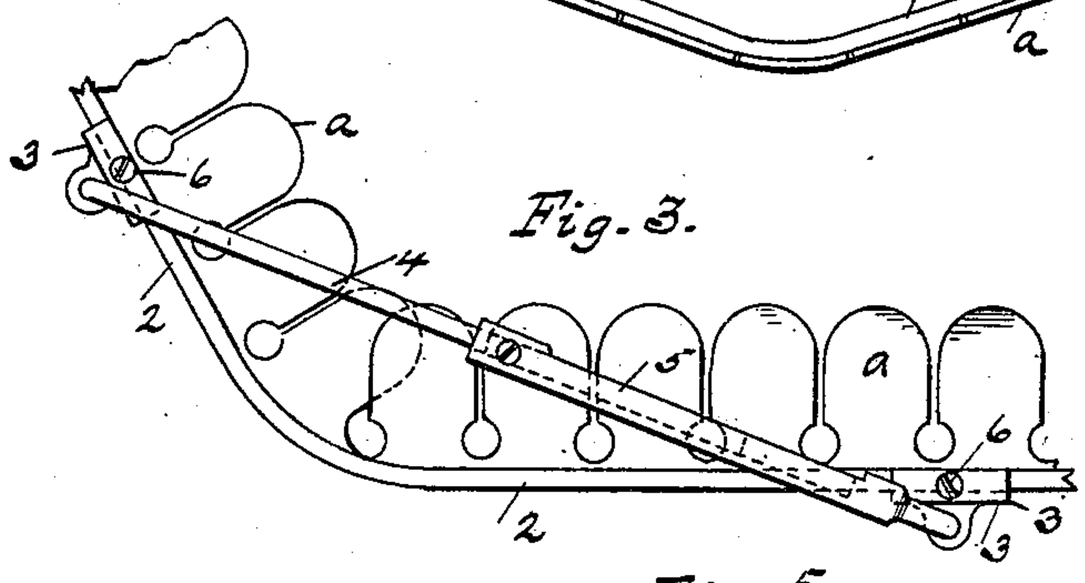


Fig. 4.

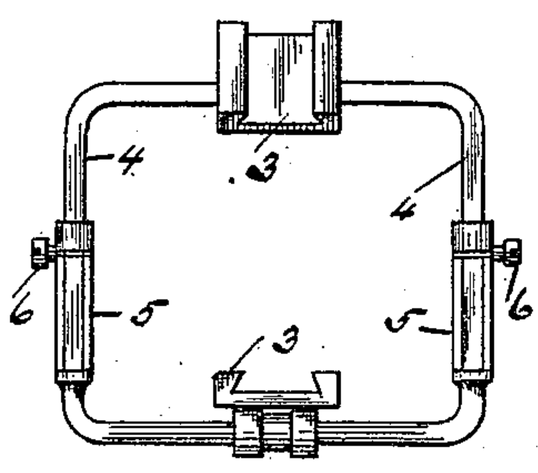
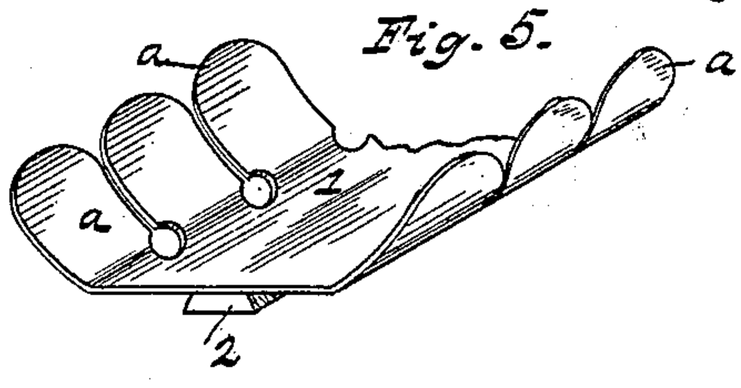


Fig. 5.



Witnesses:
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UNITED STATES PATENT OFFICE.

PATRICK F. HANLEY, OF HOMESTEAD, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE GLADDEN, OF SAME PLACE.

SPLINT.

SPECIFICATION forming part of Letters Patent No. 471,252, dated March 22, 1892.

Application filed September 24, 1891. Serial No. 406,708. (No model.)

To all whom it may concern:

Be it known that I, PATRICK F. HANLEY, a citizen of the United States, residing at Homestead, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Splints, of which the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a plan view of the back of my splint when flattened out and with a single brace. Fig. 2 is an edge view thereof when transversely bent to accommodate the under curve of a knee-joint; Fig. 3, a side elevation showing the splint transversely bent for an elbow-joint and the ears thereof also turned up, said splint having a double brace, one side of which only is seen. Fig. 4 is an end elevation of the double brace of Fig. 3 removed and with the rods telescoped, and Fig. 5 is a perspective view broken away of a splint without any brace and adapted for straight work.

The purposes of my invention, generally stated, are to devise a splint which will be at once light, pliable, and sufficiently rigid for surgical purposes; also to devise means by which the splint, having been bent to any desired angle, may be retained in said position.

My splint is preferably of a thin pliable metal or equivalent material. The body of the splint is marked 1 in the different views and is substantially rectangular in shape. Its longitudinal edges are deeply crimped, forming two exterior rows of ears *a a*. The back of the splint has a medial longitudinal rib 2, which acts as a stiffener and a guide for the slides of the brace. The brace shown in Figs. 1 and 2 consists of two slides 3 3, to the back rod of which is pivoted the extension-rod 4 and to the other the channeled rod 5, to receive said rod 4. Suitable set-screws 6 6 secure said slides and said extension-rod when in proper position.

Fig. 4 shows a double brace detached from the splint. This brace has two pairs of extension and channeled rods, but with the same slides as the single brace. This style of brace is used where a straight-line single brace would be impossible. As seen in Fig. 4, the channeled rods and the extension-rods start out at right angles to the longitudinal rib, or substantially so, to clear the part bandaged. This lateral extension in the brace therefore necessitates a double brace, as otherwise the pull would be on one side and uneven, which is not the case when a straight-line single brace can be used.

My invention is susceptible of a variety of surgical uses. For example, in cases of fracture in any part of the body, after the part has been bandaged, a splint of suitable size is bent to the contour of the body and then locked in position by the set-screws 6 6. If it is desired to support the leg, for instance, without a sling, the double brace seen in Fig. 4 will accomplish the result, the leg lying between the two sides of the brace. The extension-rods can be slipped in and out a little and then clamped, giving a change in the angularity of position in which the member is held, and thus affording the desired rest.

This invention is also quite applicable to the correction of deformities, such as crooked limbs, &c., as the proper amount of tension for straightening can very readily be applied. The splint shown in Fig. 5 requires no brace, as it is for use in straight work.

It is obvious that a thin sheet of copper made substantially as indicated in the drawings would possess a remarkable degree of flexibility in every direction.

The ears *a a* are used to increase the flexibility without liability of buckling; but where the splint is sufficiently flexible they can be omitted, although they are very convenient to turn up against the sides of the member treated.

The stiffening-rib 2 may sometimes be omitted when the splint itself is sufficiently rigid, and any braces can be adjusted directly on the body of the splint. The stiffening-rib, however, permits of the use of a lighter splint than would usually be practicable without it.

For some cases a very flexible wood could be substituted for the metal body of the splint.

Having described my invention, I claim—

1. A splint of flexible material, the sides of said splint having flexible tongues, substantially as set forth.

2. A splint with a flexible body and longi-

tudinal stiffening-rib, slides adapted to move upon said rib, and extensible rods lying between and pivoted to said slides, with means for clamping said slides and rods in position, substantially as set forth.

3. A splint of flexible material having flexible tongues on its sides and with a longitudinal stiffening-rib, slides adapted to move upon said rib, and extensible rods lying between and pivoted to said slides, with means for clamping said slides and rods in position, substantially as set forth.

In testimony whereof I have hereunto set my hand this 10th day of September, A. D. 1891.

PATRICK F. HANLEY.

Witnesses:
TAYLOR LLOYD,
J. C. HIGHT.