No. 815,368. PATENTED MAR. 20, 1906.

A. C. MORSE.

CRUTCH.

APPLICATION FILED JUNE 21, 1905.

Fig. 1.

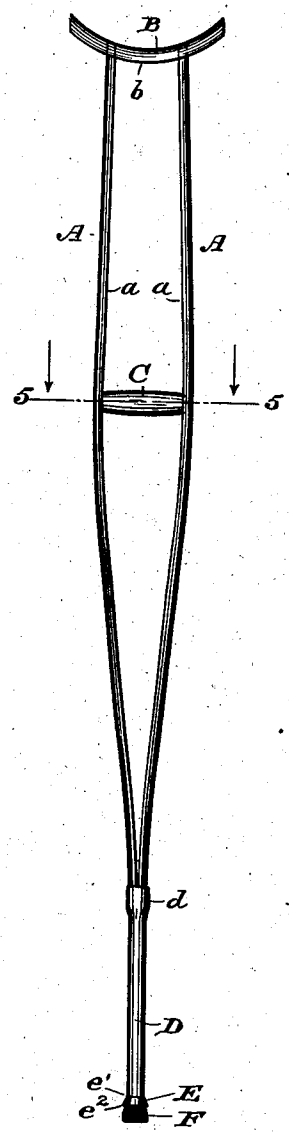


Fig. 2.

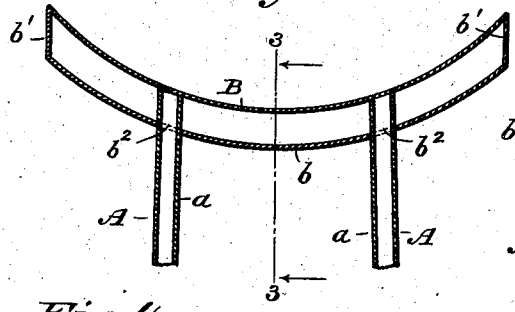


Fig. 3.

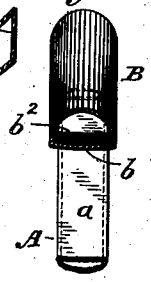


Fig. 4.

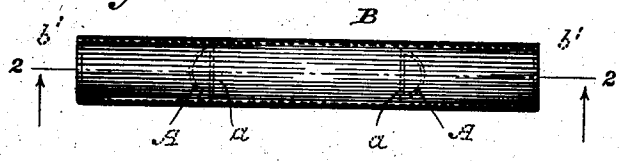


Fig. 5.

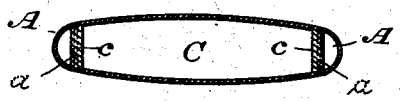


Fig. 6.

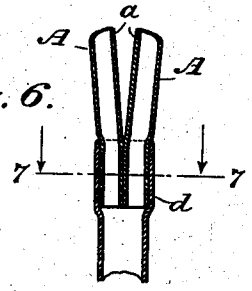
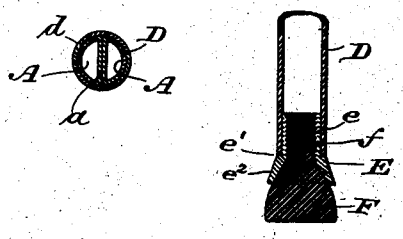


Fig. 7.



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UNITED STATES PATENT OFFICE.

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CRUTCH.

No. 815,368. Specification of Letters Patent. Patented March 20, 1906.

Application filed June 21, 1905. Serial No. 266,331.

To all whom it may concern:

Be it known that I, ALONZO C. MORSE, a citizen of the United States, residing at Shelby, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Crutches, of which the following is a specification, that will enable those skilled in the art to which my invention pertains to make and use the same, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to crutches. Its object is to make them of light metallic tubing; and it consists of certain features of construction, as will hereinafter be specifically described and claimed.

In the accompanying drawings, which show my invention in general form and details of construction now deemed most desirable by me, Figure 1 is a side elevation of a steel tubular crutch embodying the features of my invention. Fig. 2 is a view of the upper end of the crutch, showing the arm-piece and the side members in section on the line 2 2 of Fig. 4. Fig. 3 is a sectional view of the same on the line 3 3 of Fig. 2. Fig. 4 is a plan view of the top of the arm-piece. Fig. 5 is a transverse section through the cross or hand bar and the side members on the line 5 5 of Fig. 1. Fig. 6 is a vertical section of the lower end of the crutch. Fig. 7 is a transverse section of the same on the line 7 7 of Fig. 6. Figs. 2 to 7, inclusive, are drawn on three times the scale of Fig. 1.

In my crutch the two side members A A are composed, preferably, of half-round or D-shaped steel tubing arranged with their flat faces *a a* facing inwardly. The arm-piece B is also composed of a piece of half-round steel tubing, curved as shown and having its flat side *b* beneath and its ends closed by pieces *b'*, properly secured by brazing or otherwise. The lower or flat side is apertured at b^2 to correspond with the sections of the side members A A, which pass through these apertures and abut against the inner surface of the rounded top and are brazed in place.

At a suitable distance below the top piece the space between the side members is spanned by the cross-bar or handpiece C, composed of round steel tubing and preferably made on diminishing taper from the center toward its ends. These ends abut against the flat inner faces of the side members and are provided with metallic plugs *c*, which pass through apertures in the flat faces of the side members and are brazed to these members and to the cross-bar.

Toward the lower end of the crutch the side members are brought together with their flat faces in contact and are embraced by the end of a round tube D, the upper end of which is slightly expanded to form a socket *d* for the reception of the ends of the members A, which are secured therein by brazing or otherwise.

At the lower end of the tube D is a socket E, secured therein by any suitable means. This socket has a shank *e*, which extends up into the tube D and terminates in a shoulder *e'*, below which is a flaring receptacle e^2 for a rubber tip or cushion F.

The shank *e* is internally screw-threaded, as shown, and the cushion has a neck or stem *f*, which is screwed into the socket to hold the cushion in place.

A crutch constructed as described and shown is handsome, light and strong, and remarkably durable and being without bolted or screwed joints to become loosened by strains and wear will in ordinary service last a lifetime. By actual test one of these crutches weighing one pound and seven ounces is abundantly strong for a man weighing over two hundred pounds.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

1. In a crutch composed entirely of metallic tubing, a curved arm-piece of D-shaped tubing with its flat side down, side members composed of D-shaped tubing with their flat sides in, suitably joined to the arm-piece and brought together at their lower ends, a tubular cross-bar united at its ends to the side members and a tubular lower end piece having a socket at its upper end to receive the contacting lower ends of the side members, all the parts being suitably joined by brazing or otherwise, substantially as set forth.

2. In a crutch composed of metallic tubing a curved arm-piece of D-shaped tubing with its flat side down, side members composed of D-shaped tubing and arranged with their flat sides in, apertures in the lower flat side of the arm-piece corresponding to the shape of the side members which pass through said apertures and abut against inner surface of the top of the arm-piece, substantially as set forth.

3. In a crutch a tubular metallic arm-piece, side members composed of D-shaped

metallic tubing arranged with their flat sides in and suitably joined to the arm-piece, a tubular cross-bar having projecting plugs at its ends and apertures in the flat sides of the side members to receive the projecting ends of said plugs, substantially as set forth.

4. In a crutch, a tubular metallic arm-piece, side members composed of D-shaped metallic tubing arranged with their flat sides in and suitably connected to the arm-piece and a cross-bar connecting the side members below the arm-piece, the lower ends of the side members being brought together with their flat sides in contact and a tubular end piece socketing the contacting lower ends of the side bars and forming the lower end of the crutch, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALONZO C. MORSE.

Witnesses:
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