

(No Model.)

G. B. MAIN.
CRUTCH.

No. 529,659.

Patented Nov. 20, 1894.

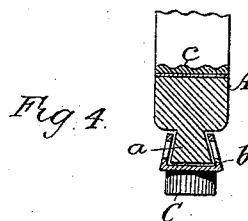
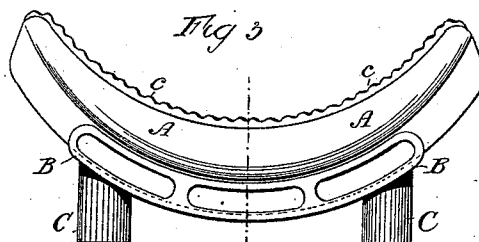
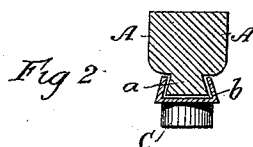
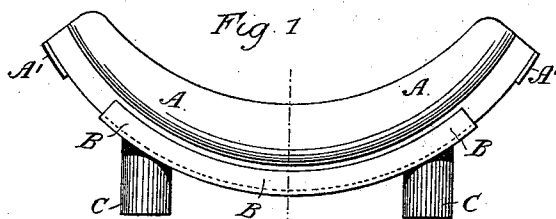
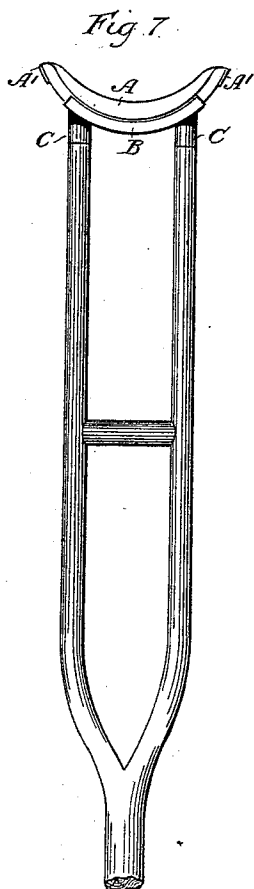
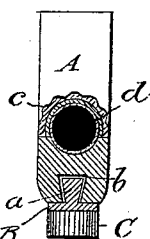
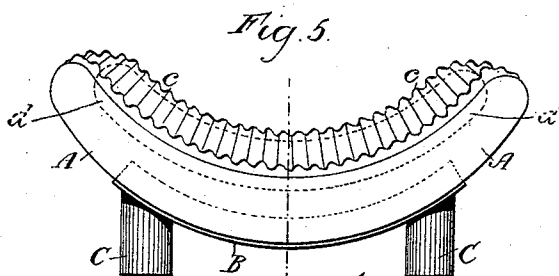


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

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CRUTCH.

SPECIFICATION forming part of Letters Patent No. 529,659, dated November 20, 1894.

Application filed August 15, 1894. Serial No. 520,388. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BAILLIE MAIN, oil manufacturer and refiner, a subject of the Queen of Great Britain and Ireland, of Springvale Mills, Cowlairs, Glasgow, Scotland, have invented certain Improvements in Crutches, of which the following is a specification.

My invention relates to improvements in crutches, and has a twofold object; the first being to remove from under the arm the friction at present existing and caused by the forward and backward movement of the crutch when in use; and the second to so construct the cushion as to allow a continual circulation of air between it and the arm, whereby greater ease and comfort is secured to the user.

In carrying out my invention I cause the point of frictional contact to be removed from the body or arm by making the head or crosspiece of the crutch in two parts, one part being stationary and the other part slidable on the stationary part which allows the cushion or arm rest to remain stationary during the forward and backward movement of the crutch, and thereby transferring the friction from between the arm and the cushion to the lower point of contact between the two parts of the head or crosspiece.

There are many ways or forms of slidable adjustment for carrying out my invention, and I do not confine myself to any, but the simplest methods—at least so far as I at present am aware—are the following, reference being made to the accompanying sheet of drawings, of which—

Figure 1 represents in side elevation a head or crosspiece of a crutch made in accordance with my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a similar view to Fig. 1, illustrating a somewhat modified form of slidable piece provided with slotted sides in order to insure lightness in the lower or slidable portion of the head or crosspiece. Fig. 4 is a transverse section of the same. Fig. 5 illustrates a further modification both in giving motion to the crutch and providing a pneumatic cushion, as will be hereinafter more fully referred to; and Fig. 6 is a trans-

verse section of the same. Fig. 7 gives a general view of a crutch showing my improvements applied thereto.

The upper or stationary portion of the head is marked A, and the lower or slidable portion B. The lower edge of the said stationary piece A forms a sector of a circle, and in cross section (reference being had to Fig. 2) constitutes a dovetail projection *a*. This dovetail projection *a* works in the dovetail recess *b* of the lower slidable portion B of the crutch, which is also made a sector of a circle, and concentric with that of the upper portion A. Stops A' are formed to limit the movement of the slidable portion B. The slidable portion B is provided with two sockets C for connecting the head or crosspiece to the crutch. In Fig. 3 the slidable portion B has slots formed in the sides of the dovetail recess so as to minimize its weight. The part of the head or crosspiece which comes in contact with the arm-pit is covered over with a covering of hollow rubber, solid tube, flat web rubber cloth padded, or other resilient material to form a pad or cushion *c*. This pad or cushion *c* is provided with a corrugated surface, or raised or indented, straight or waved lines or other form, thus preventing the whole surface of the cushion coming in contact with the arm of the wearer, and so allowing a continuous circulation of air between the cushion and arm-pit.

In Fig. 5 the dovetail arrangement is reversed. The dovetail recess or groove *b* is formed in the portion A, and the dovetail projection *a* in the lower portion B. In this form of head or crosspiece a pneumatic pad is provided consisting of a tube *d* fitted into the hollowed portion *e* of the portion A. This tube *d* may either be filled with compressed air, or air at the atmospheric pressure. A covering of rubber similar to that described with reference to Figs. 3 and 4 is placed over the tube.

I claim—

1. A crutch comprising a head having a stationary upper part and a laterally slidable lower part; substantially as described.
2. A crutch comprising a head having a sta-

tionary upper part and a laterally slidable lower part connected together by a longitudinal tongue and groove joint; substantially as described.

- 5 3. A crutch comprising a head having a stationary upper part, and a laterally slidable lower part and stops located on the upper part for limiting the movement of the lower part upon the upper part; substantially as described.

- 10 4. A crutch comprising a head having a corrugated surface for permitting the circu-

lation of the air thereabove; substantially as described.

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

GEORGE BAILLIE MAIN.

Witnesses:

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