N. F. BLACKARD.

CRUTCH.

APPLICATION FILED DEC. 5, 1916.

1,241,815. Patented Oct. 2, 1917.

Fig. 1.

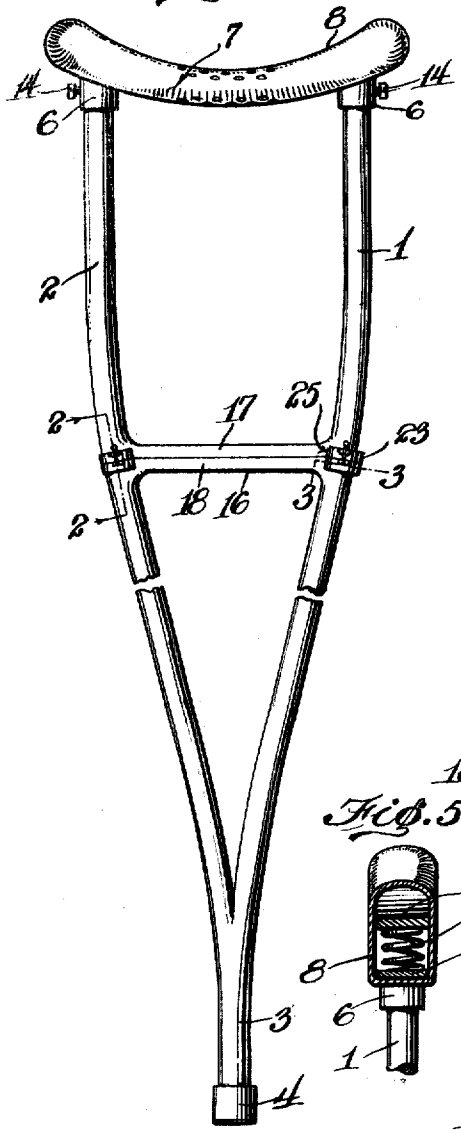


Fig. 2.

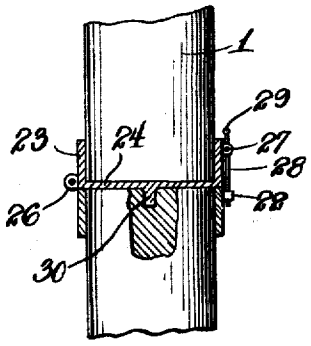


Fig. 3.

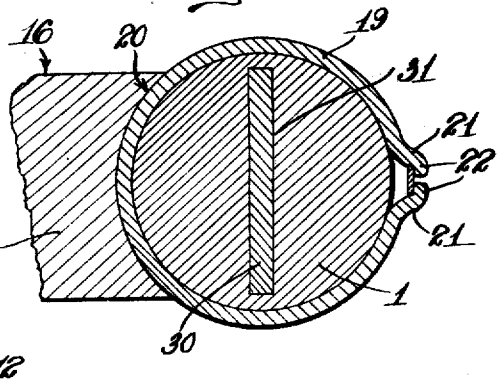
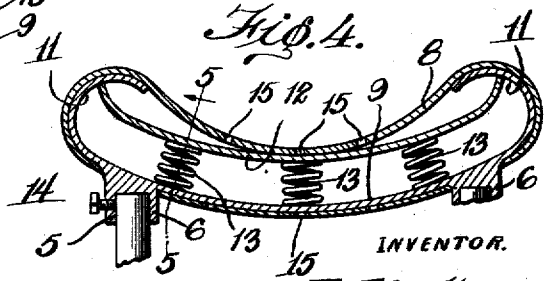


Fig. 5.

Fig. 4.



WITNESSES

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CRUTCH.

1,241,815. Specification of Letters Patent. Patented Oct. 2, 1917.

Application filed December 5, 1916. Serial No. 135,222.

To all whom it may concern:

Be it known that I, NANCY F. BLACKARD, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Crutches, of which the following is a specification.

This invention relates to improvements in crutches and more particularly to a folding crutch having a resilient arm-rest for providing comfort to the person using the crutch by eliminating a jar when the weight of the body is thrown upon the arm rest.

As a further object of the invention the crutch is divided into two sections hingedly connected together for permitting the crutch to be folded.

As another object of the invention the crutch is provided with locking elements carried by each of the truss arms of the crutch for locking the crutch in operative position after the same has been unfolded.

A further object of this invention is the provision of a crutch which consists of comparatively few parts and is simple in construction, but durable and well adapted to withstand the rough usage to which devices of this character are ordinarily subjected.

For a full description of the invention and the advantages and merits thereof, reference is to be had to the following description and the accompanying drawings, wherein is illustrated the preferred form of my invention, in which;

Figure 1 is a side elevation of a crutch showing my invention applied thereto.

Fig. 2 is a fragmentary section on the line 2—2 of Fig. 1.

Fig. 3 is a detail transverse section on the line 3—3 of Fig. 1.

Fig. 4 is a detail longitudinal section through the arm-rest.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Referring to the drawing, wherein is illustrated the preferred form of my invention, and in which like numerals of reference indicate corresponding parts throughout the several views, the crutch is of the usual shape and construction including the truss arms 1 and 2 which are joined together at their lower ends to meet the leg 3 upon the end of which is mounted the tip or ferrule 4. The upper ends of the truss arms 1 and 2 are spaced apart in the usual manner and are received in the recesses 5 formed in sleeves 6 which are carried by the arm-rest, designated in its entirety by the numeral 7.

An outer covering 8 of leather or other suitable material is provided for the arm-rest thus providing a casing within which the resilient shock absorbing means is arranged. As shown by Fig. 4 of the drawing, the casing or leather covering 8 is provided with openings through which the cups or sleeves 6 are extended, while within the casing the cups are integrally connected to a retaining plate 9 which has its ends curved to provide loops 11 which form end supports for the covering 8. Between the loops 11, the top surface of the covering or casing 8 is formed to sag downwardly to receive the arm of the person using the crutch and the loops will permit a certain amount of springing action to be imparted to the central portion of the casing when the weight of the person is resting upon the casing. This action is due, as will be readily apparent by referring to Fig. 4, to the curve of the loops 11 which permit them to retain a certain amount of resiliency.

For providing an additional resiliency for the device whereby shock and jar will be entirely eliminated, I have provided a curved plate 12 within the casing, and formed with its ends curved sharply upwardly and in engagement with the curved surface of each of the loops 11. Interposed between the retaining plate 9 and the plate 12 is a plurality of coil springs 13. When the sleeves 6 are rigidly fastened to the ends of the truss arms 1 and 2, by the set screws 14, the arm-rest will be rigidly supported for receiving the arm of the person using the crutch. When the weight of the person is applied to the arm-rest the springing action of the springs 13 and the loops 11 will absorb all of the jar and shock that commonly occurs when the weight of a person is intermittently applied to and removed from the crutch. For permitting the proper ventilation of the leather cover or casing I have provided a plurality of apertures 15 through which air may pass for passing into the interior of the casing.

The truss arms 1 and 2 are joined together by a cross piece 16 which is longitudinally split thereby dividing the truss arm into an upper half 17 and a lower half 18. The upper end of each lower portion of each truss arm is integrally connected to the lower half 18 of the cross piece. This con-

struction provides two folding sections for the crutch that are adapted to be folded together whereby the crutch may be confined in a minimum of space when not in use.

The upper end of each lower portion of each truss arm is provided with a sleeve 19 shown in detail in Fig. 3. This sleeve completely surrounds the truss arm and is extended through a curved slot 20 formed at the point where the lower half 18 of the cross piece joins the truss arms. Two struck out portions 21 are provided on each sleeve 19 for providing retaining ears 22. The lower end of the upper section of each truss arm is received in a cup 23 which has its bottom end closed by the plate 24. This cup is extended through a slot 25 similar to the slot 20 in the lower section of the crutch. The cup 23 and the sleeve 19 are provided with co-acting ears for receiving a pintle 26 thereby providing a hinge upon which the sections are swung when moved into folded position. Opposite to the hinge, the cup is provided with two ears 27 which carry a pivot pin for receiving a latch 28, one end of which is adapted to be embraced by the ears 22 when the sections are in operative position. The opposite end of the latch has a knob 29 which may be pressed for releasing the latch from engagement with the ears 22.

The plate 24 carries a centrally located tongue 30 which extends into a recess 31 formed in the end of each lower portion of each truss arm 1 and 2 when the crutch is in operative position.

To fold the crutch it is merely necessary to release the latches 28 from engagement with the ears 22. The upper and lower sections of the crutch may then be folded on the hinges for permitting the upper section of the crutch to overlie the lower section thereof. When in use, the latches 28, together with the tongues 30 will retain the sections in rigid position whereby the person using the crutch may use the same in the usual manner.

From the foregoing it will be observed that a very simple and durable crutch has been provided, the details of which embody the preferred form. I desire it to be understood however, that slight changes in the minor details of construction may be made without departing from the spirit of the invention or the scope of the claims hereunto appended.

I claim:

1. A crutch comprising a pair of truss arms, a retaining plate, a supporting plate, spring elements interposed between the supporting plate and the said retaining plate, the ends of the said supporting plate and of the said retaining plate being in engagement with each other.

2. A crutch comprising a pair of truss arms, a retaining plate, a supporting plate, spring elements interposed between the supporting plate and the said retaining plate, the ends of the said supporting plate and of the said retaining plate being in engagement with each other, the ends of the said retaining plate being bent to provide loops extending over the proximate ends of the said supporting plate, and a flexible casing enveloping the supporting plate and the retaining plate.

3. A crutch comprising a pair of truss arms, a retaining plate carried by the truss arms and provided at its ends with curved resilient loops, and a flexible casing embracing the plate and covering the said loops.

4. A crutch comprising a pair of truss arms, a retaining plate mounted upon the truss arms and having its ends curved to provide resilient loops, a supporting plate, and resilient means interposed between the supporting plate and the said retaining plate.

5. A crutch comprising a pair of truss arms, a retaining plate, resilient loops formed at the ends of the said retaining plate, a flexible casing, and resilient means disposed within the said casing for absorbing the shock applied to the said casing, the said flexible casing enveloping the retaining plate and the said resilient loops, the central portion of the casing engaging the said means.

6. A crutch comprising a pair of truss arms, a retaining plate, the said plate having sleeves embracing the ends of the said truss arms, resilient loops formed at the ends of the said retaining plate, a flexible casing, a supporting plate within the casing, and spring elements interposed between the supporting plate and the said retaining plate.

7. A crutch comprising a pair of truss arms, a retaining plate, the said plate having sleeves embracing the ends of the said truss arms, resilient loops formed at the ends of the said retaining plate, a flexible casing, a supporting plate within the casing, spring elements interposed between the supporting plate and the said retaining plate, the said supporting plate having its ends engaged with the curved portions of the said loops.

8. A crutch comprising a pair of truss arms, a cross piece connecting the arms, the cross piece being longitudinally split to divide the cross piece into upper and lower sections, the split extending through each truss arm to divide the same into upper and lower portions, and means connected to the meeting ends of the upper and lower portions in each truss arm for permitting the same to be folded upon each other.

9. A crutch comprising a pair of truss arms, a cross piece connecting the truss arms, an arm-rest carried by the truss arms, the said truss arms and the cross piece being

divided to provide upper and lower sections, and means for permitting the sections to be folded together.

10. A crutch comprising a pair of truss arms, a cross piece connecting the truss arms, an arm-rest carried by the truss arms, the said truss arms and the cross piece being divided to provide upper and lower sections, hinges connecting the sections for permitting folding thereof, and latches for retaining the sections in operative position.

In testimony whereof I affix my signature in presence of two witnesses.

NANCY F. BLACKARD.

Witnesses:
BENJAMIN T. LEWIS,
MABEL C. MABEL.