B. F. AMES.

CRUTCH.

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1,334,208.

Patented Mar. 16, 1920.

Fig. 1

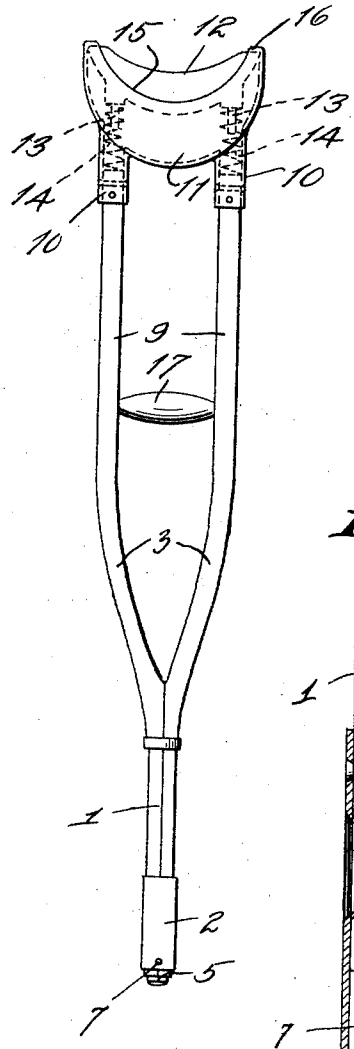


Fig. 3.

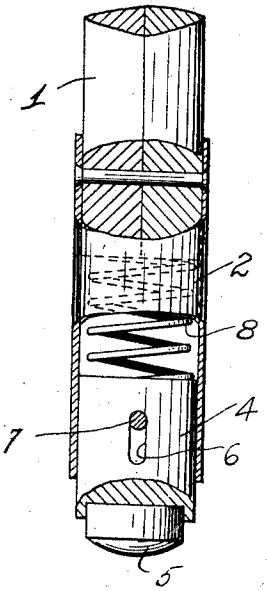
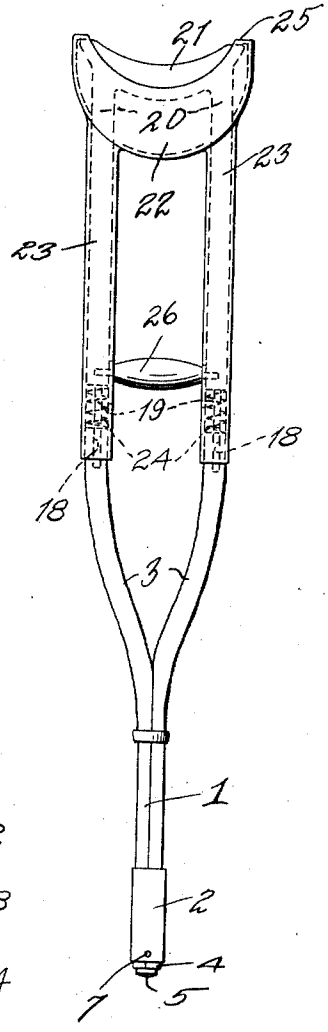


Fig. 2.



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CRUTCH.

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To all whom it may concern:

Be it known that I, BYRON F. AMES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented 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 cushioning means for the crutch in order to avoid the transmission of shocks to the user.

Another object of the invention resides in the provision of a crutch in which a cushioning spring is interposed in the staff in such a manner as to receive and absorb shocks due to the setting of the lower end of the crutch on the surface being traversed.

As a further object the invention contemplates the provision of a cushioned head which rests beneath the shoulders of the user and under his arm in such a manner that when the weight is applied it will be supported by cushioning springs thereby further protecting the user against shocks.

With these and other objects in view as will become apparent as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as will be fully set forth, in the following specification, claimed and illustrated in the accompanying drawings in which:—

Figure 1 is a side view in elevation of one form of this improved crutch.

Fig. 2 is a view similar to Fig. 1 illustrating another form of the crutch, and

Fig. 3 is an enlarged fragmentary detail view partly in section of the cushion used in the lower end of the crutch staff.

Referring to the drawings by characters of reference, the numeral 1 designates the crutch staff, the lower end of which is received in a tubular housing or collar 2. As shown in the drawings the staff preferably consists of two separate half rounded members, the upper ends of which are separated and extend outwardly in the manner illustrated as at 3. Slidably mounted in the lower end of the socket 2 is a plug 4 the lower end of which is preferably provided with a suitable foot 5 of rubber or a similar material. The plug 4 is provided with a transverse slot 6 and extending transversely through the socket 2 near its lower end is a guide pin 7 which is received in the slot 6 and forms a stop to limit the downward movement of the plug 4 within said socket. Disposed between the plug 4 and the staff 1, is a cushioning spring 8 upon which the weight of the user is carried. It will be noted that this construction is particularly simple and provides a cushioning means for the crutch staff wherein complicated connecting means for the ends of the spring are eliminated.

In the form of the invention illustrated in Fig. 1 the arms 3 formed by the separation of the crutch staff extend upwardly to provide the vertical supports 9 which are arranged in spaced parallel relation and have their upper ends received in suitable sockets 10 formed on the head piece 11. Slidably mounted in the head piece is a saddle 12 formed on its under side near opposite ends with depending guide pins 13 which are arranged to be received within the coil springs 14 upon which the saddle is supported. The head piece 11 is provided at its upper end with arcuate recesses 15 in its side walls, thus rendering the entire head piece substantially crescent shaped. Inwardly extending flanges 16 are formed at opposite ends of the head piece and serve to limit the upward movement of the saddle member within said head piece. The usual crutch handle or grip 17 is arranged between the vertical arms 9 hereinbefore described and in this form of the invention, is not cushioned.

In the form of the invention illustrated in Fig. 2 the upper ends of the outwardly bent portions 3 of the staff are provided with vertically extending bores 18 in which guide pins 19 are slidable. These guide pins are carried by the arms 20 formed on the saddle member 21 which is operable within the crescent shaped head piece 22 carried at the upper end of the tubular arms 23, the lower ends of which receive the upper terminals of the separated members of the crutch staff. Cushioning springs 24 are arranged around each of the guide pins 19 and serve to hold the saddle member 21 upwardly and against the inturned flanges 25 of the head piece 22. In this form of the invention the crutch handle or grip 26 is provided with extensions which project through slots arranged in the arms 23 and

into apertures formed in the arms 20. It will thus be seen that the grip is cushioned so that the distance between the upper edge of the saddle member 21 and the grip remains constant regardless of the compression of springs 24.

In use it will be seen that the weight is supported on the saddle member and the cushioning springs and thence transmitted to the staff. The double cushioning arrangement is such as to afford easy travel for the user without the transmission of shocks.

While in the foregoing has been shown and described the preferred form of this invention it is to be understood that certain changes in the construction, combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as claimed.

What is claimed as new is:—

In a crutch, a staff having a bifurcated upper end, springs seated on the ends of the bifurcations, a head secured to the upper ends of the bifurcations, a saddle member slidable within the head and supported on the springs, guide pins carried by the saddle member and extending partially through said springs to hold the springs in place, and flanges at the upper ends of the head to contact with the saddle member and limit its upward movement and a cushion at the lower end of said staff.

In testimony whereof I have affixed my signature.

BYRON F. AMES.