(No Model.)

# E. M. McVICKER.

## CLEVIS.

No. 406,761. Patented July 9, 1889.

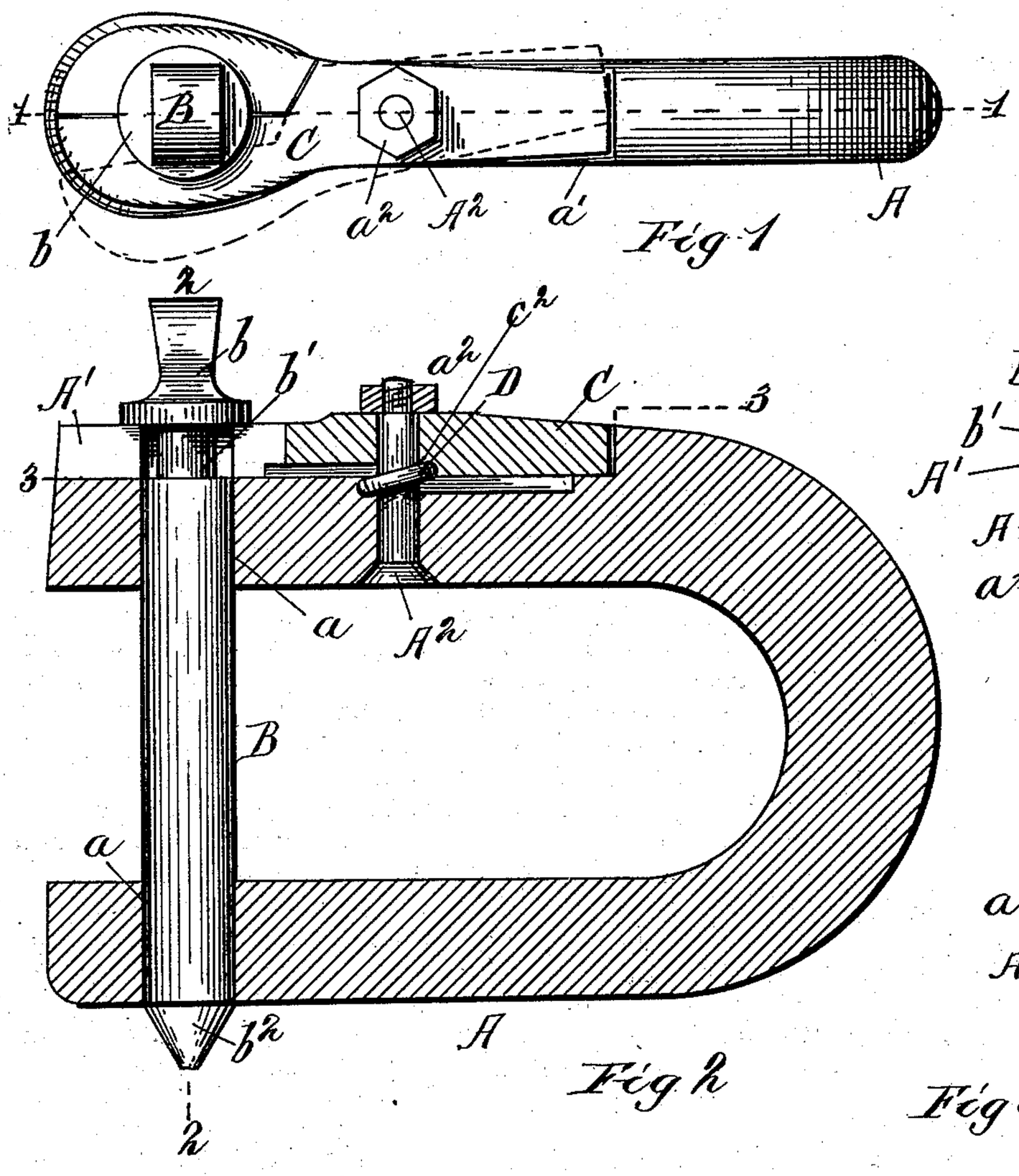



Fig 2

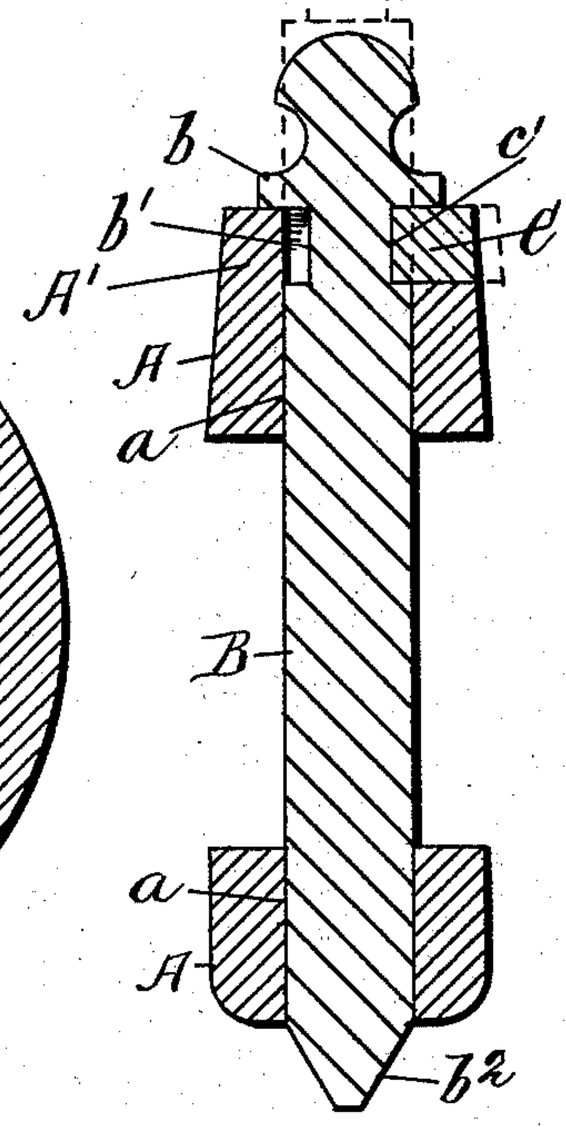



Fig 3

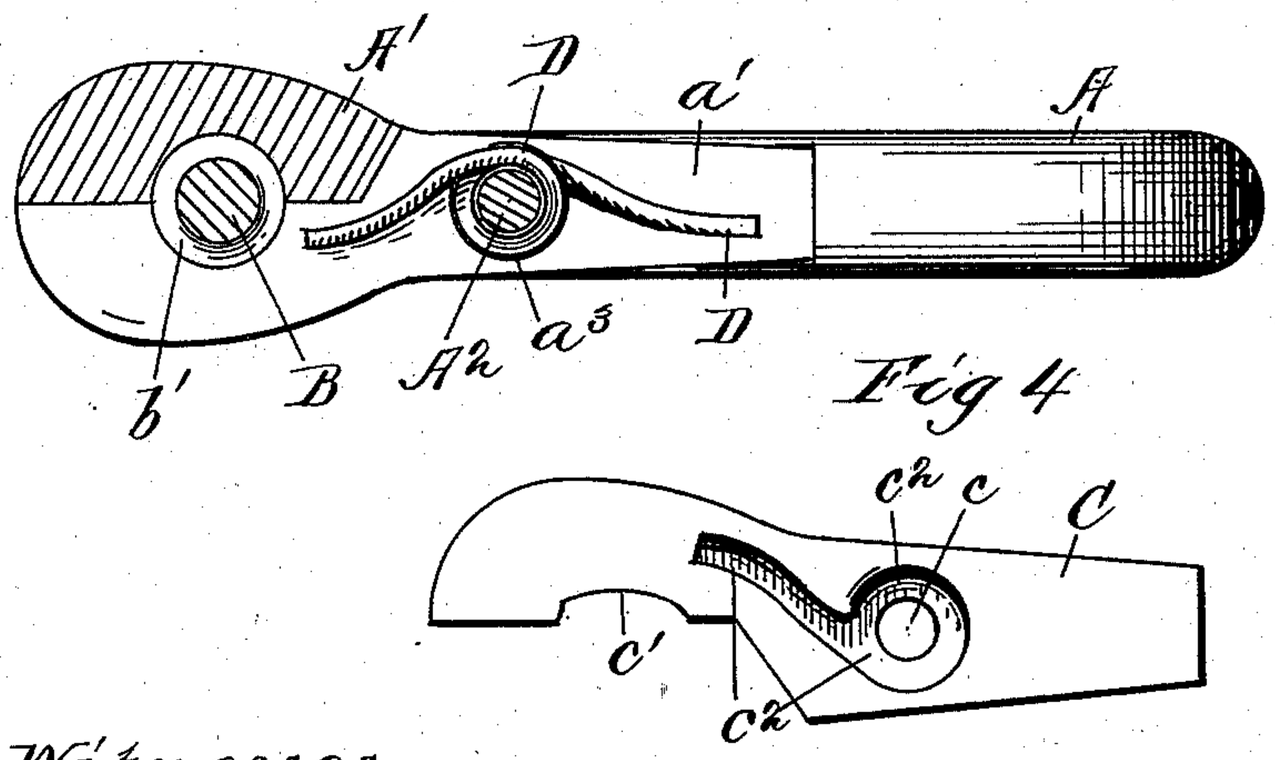
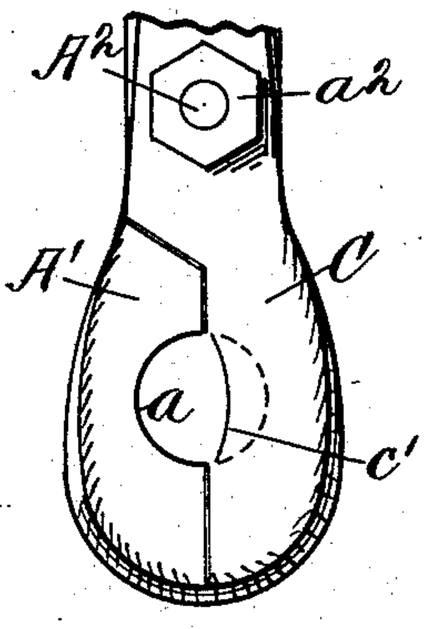



Fig 4

Fig 6




Figs 5

Witnesses
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# UNITED STATES PATENT OFFICE.

EMERY M. McVICKER, OF MADISON, WISCONSIN.

## CLEVIS.

SPECIFICATION forming part of Letters Patent No. 406,761, dated July 9, 1889.

Application filed November 30, 1888. Serial No. 292,314. (No model.)

*To all whom it may concern:*

Be it known that I, EMERY M. McVICKER, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented a certain new and useful Improvement in Clevises, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of a clevis embodying my invention; Fig. 2, a sectional view of the same taken on the line 1 1 of Fig. 1; Fig. 3, a sectional view taken on the line 2 2 of Fig. 2; Fig. 4, a sectional view taken on the line 3 3 of Fig. 2; Fig. 5, a bottom plan view of the spring-catch; and Fig. 6, a detail plan view of the end of the clevis, the pin being removed.

Like letters refer to like parts in all the figures of the drawings.

My invention relates to clevises, and has for its object to provide means for holding the clevis-pin in position and preventing accidental displacement thereof.

To these ends my invention consists in certain novel features, which I will now proceed to describe, and will then particularly point out in the claims.

In the drawings, A represents the body of the clevis, which may be of any suitable form, having in the present instance the usual U shape, being provided with an aperture *a*, extending vertically through its free ends to receive the clevis-pin B. This latter is provided with an enlarged head *b*, by means of which it may be handled and which serves to prevent its slipping down through the aperture *a*. Immediately below this head the pin is reduced, as shown at *b'*, this reduction being preferably effected by forming a circular groove entirely around the said pin immediately below the head, although the same result may be obtained by flattening the pin at this point. The lower end of the clevis-pin is preferably given a conical shape, as shown at $b^2$, for the purpose hereinafter described.

The upper portion of the upper arm of the clevis-body A is cut away, as shown at *a'*, leaving, however, one-half of the end portion to extend upward to the original height, as shown at A'. This cut-away portion receives the spring-catch or latch-lever C, which has substantially the shape of that portion of the clevis-body which is cut away, and which, therefore, when in its normal position, lies flush with the rest of the body, thus doing away with any angles or projections. This latch is provided with an aperture *c*, to receive a pivot-post $A^2$, which extends upward from the clevis-body A. A nut $a^2$ upon the threaded upper end of this post, or some other suitable device for the purpose, is employed to hold the latch C in position. It will be observed that the latch is provided with a slight indentation or notch *c'* on the inner edge of its forward-projecting portion, to enable it to fit around the reduced portion *b'* of the clevis-pin B when closed.

D represents a spring coiled around the post $A^2$, and having one end connected to the clevis-body and the other end connected to the latch. This spring is inclosed between the latch and clevis-body, and in order to accommodate the same there is formed in the under face of the latch a groove $c^2$, surrounding the aperture *c* and extending rearward therefrom, as shown more particularly in Fig. 4. A similar groove $a^3$ is formed in the upper face of the clevis-body surrounding the post $A^2$ and extending forward therefrom. When the parts are assembled in the manner shown in the drawings, this spring is completely covered and protected by the parts between which it is located and acts to force the latch normally inward to cause it to engage with the clevis-pin.

The operation of the device is as follows: Before the clevis-pin is inserted the parts are in the position indicated in Fig. 6 of the drawings, and by placing the conical end $b^2$ of the clevis-pin B in the aperture between the projection A' and end of the latch C and forcing the same downward, the latch is forced outward to admit the pin, which is then forced clear down through the aperture *a* into the position shown in the other figures of the drawings. When the reduced portion *b'* comes opposite the latch C, the spring D will force the said latch inward, so that it will engage with the said reduced portion, and by this engagement lock the pin firmly in posi-

tion and prevent accidental displacement thereof. When in this position, the head *b* of the pin rests partly upon the projection A′ and partly upon the top of the latch C. When it is desired to release the pin, the latch C is actuated to disengage it from the pin, preferably by pushing against the forward end of the latch, and when the same is in the position shown in dotted lines in Fig. 1 the pin may be removed and the latch allowed to return to its normal position.

It will be observed that I have provided a simple and effective device, which does not increase the size of the clevis and which presents no projections or shoulders, which device will automatically engage with and lock the clevis-pin in position when the same is inserted, and which may be readily disengaged to permit the removal of said pin.

I am aware that it is common to secure clevis-bolts both by springs and by latches of various kinds, and I therefore do not wish to be understood as claiming such a construction, broadly.

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

1. The combination, with the clevis provided with rigid arms having end apertures and an independent pin, of the latch or arm pivoted on one of the said rigid arms of the clevis and adapted to be turned upon its pivot so as to be brought into engagement with the clevis-pin, and a spring bearing upon said pivoted latch or arm and holding the same normally in a position to engage with the clevis-pin, substantially as and for the purposes specified.

2. The combination, with the clevis-body having rigid arms, one of which is cut away, as described, and an independent pin, of a spring-actuated latch or arm pivoted on said cut-away portion and having the form thereof, whereby a flush surface without any projections is provided, substantially as and for the purposes specified.

3. The combination, in a clevis, of the body A, with rigid arms provided with apertures *a*, one of said arms being cut away, as shown at *a*′, and having projection A′, arranged at one side of the aperture *c*, and having a latch in the form of said cut-away portion, on which it is mounted and abutting normally against the projection A′, substantially as and for the purposes specified.

4. The combination, with the clevis-pin, of the clevis-body having rigid arms, one of which is cut away, as described, a pivoted latch mounted on said cut-away portion and having the form thereof, and a spring for actuating said latch, said spring being arranged entirely between the latch and clevis-body and wholly inclosed thereby, substantially as and for the purposes specified.

5. The combination, with the independent clevis-pin, of the clevis-body A, having rigid arms, one of which is provided with a pivot-post $A^2$ and groove $a^3$, the latch C, having aperture *c* to receive the pivot-post and groove $c^2$, and the spring D, coiled around said post and having its ends arranged, respectively, in the grooves $a^3$ and $c^2$, substantially as and for the purposes specified.

EMERY M. McVICKER.

Witnesses:
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