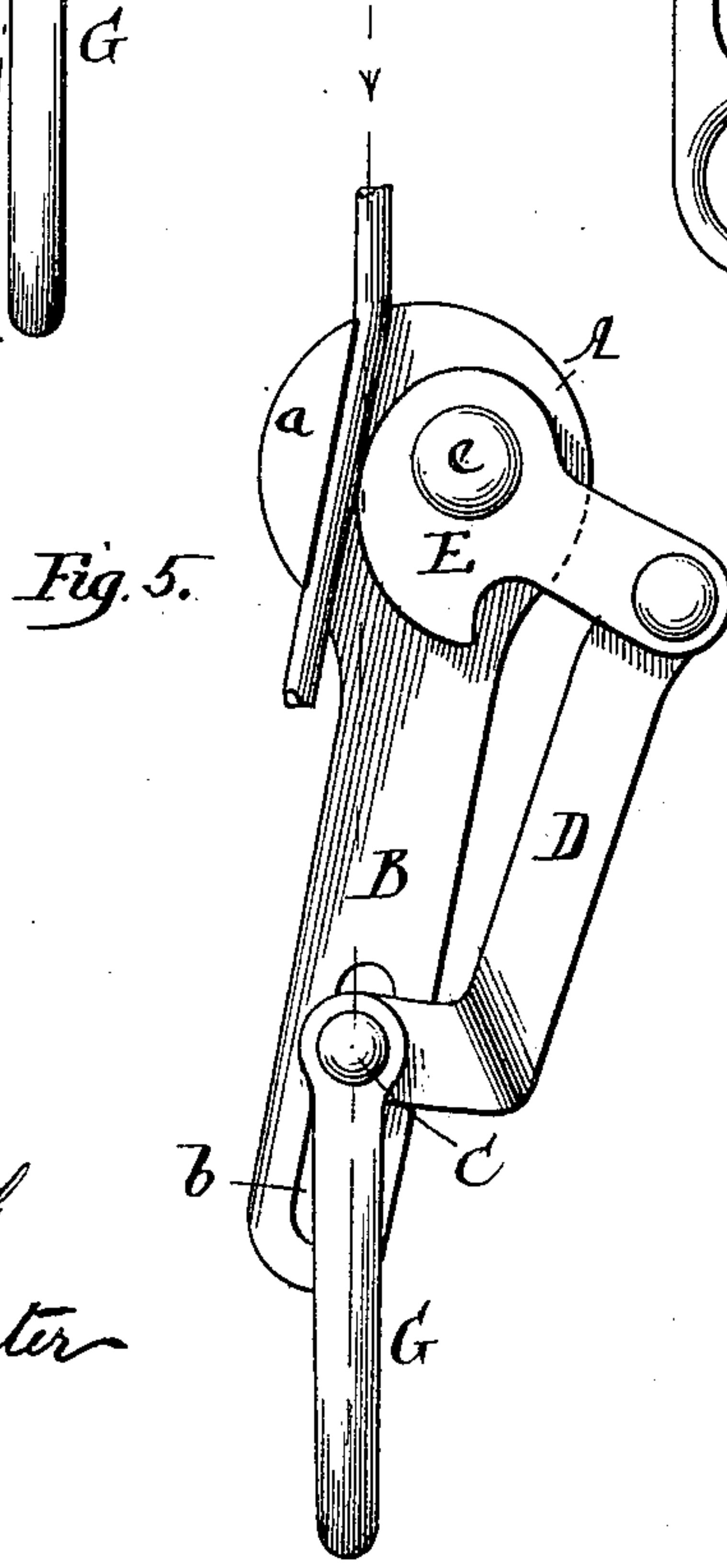
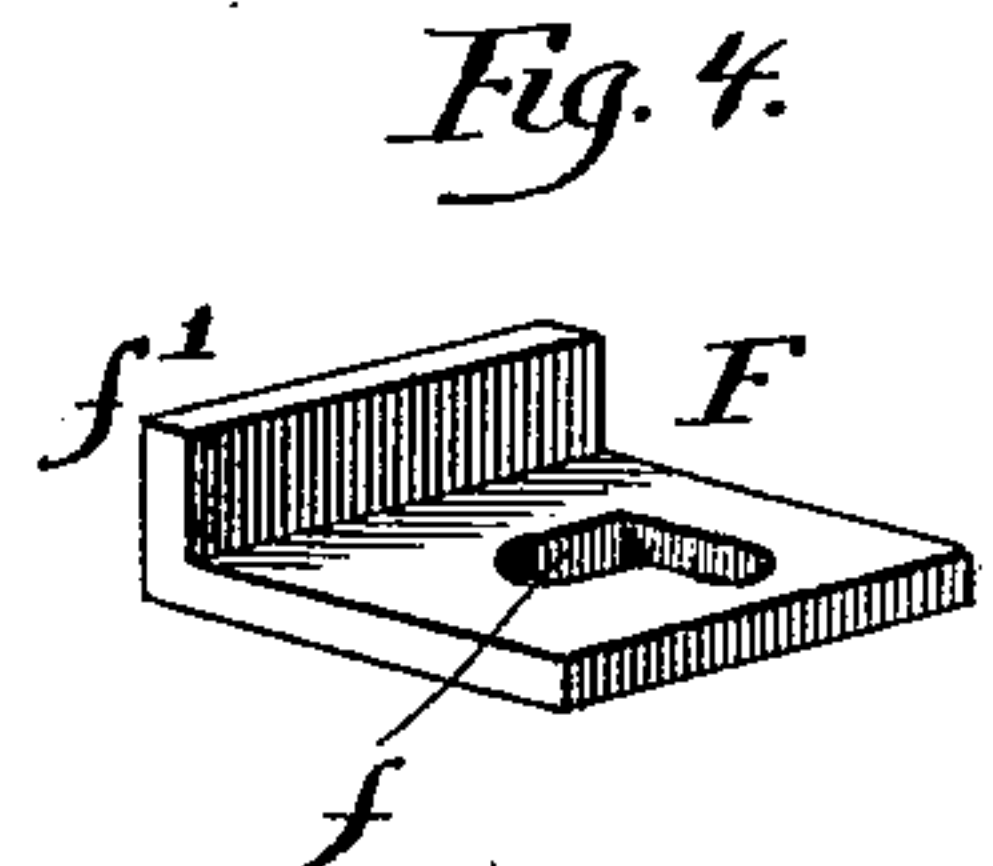
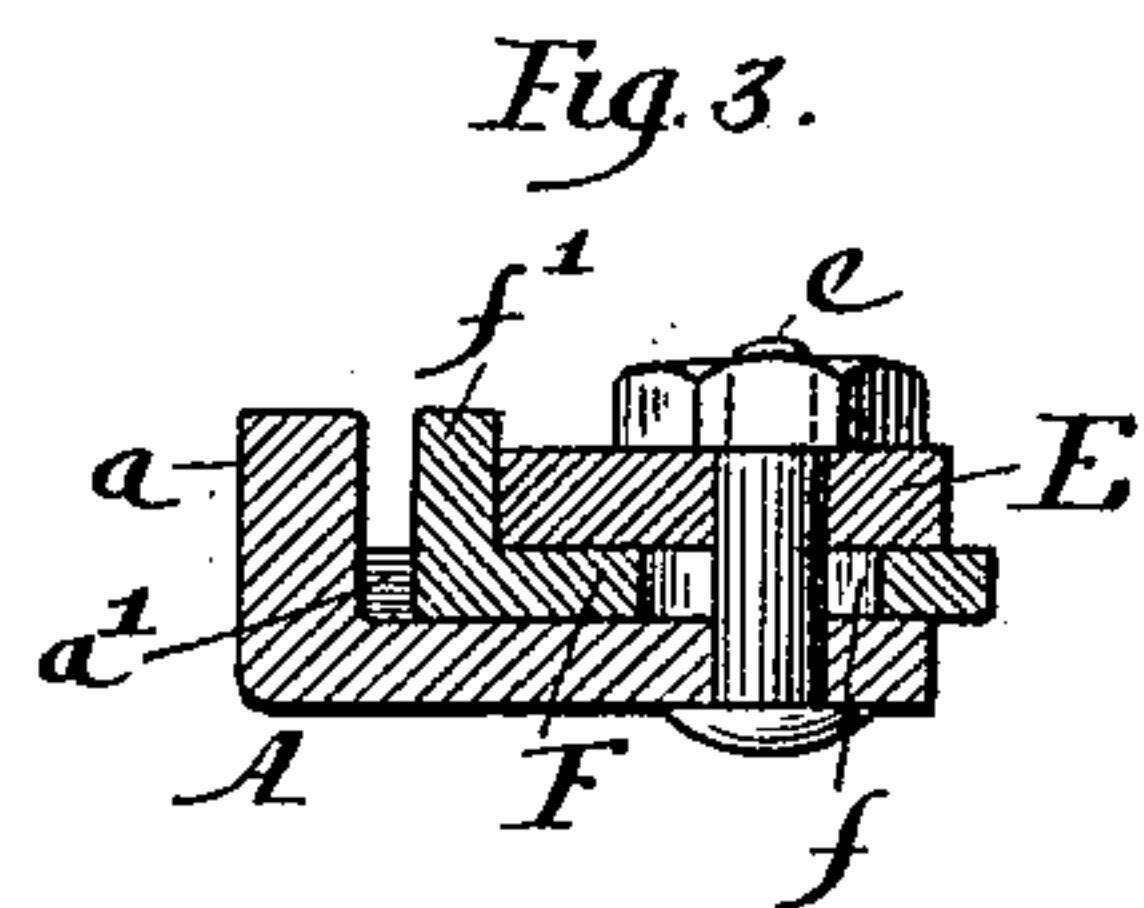
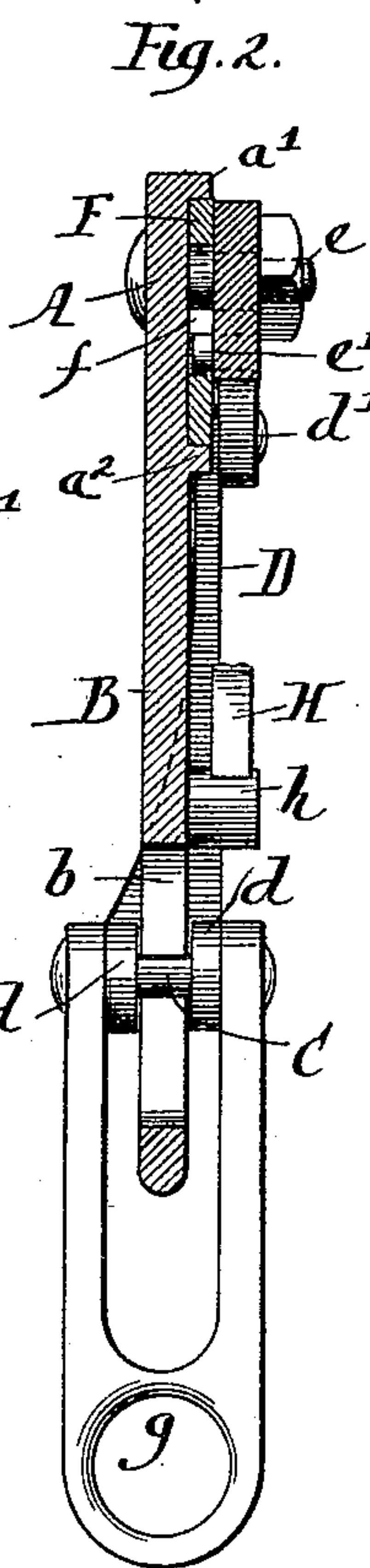
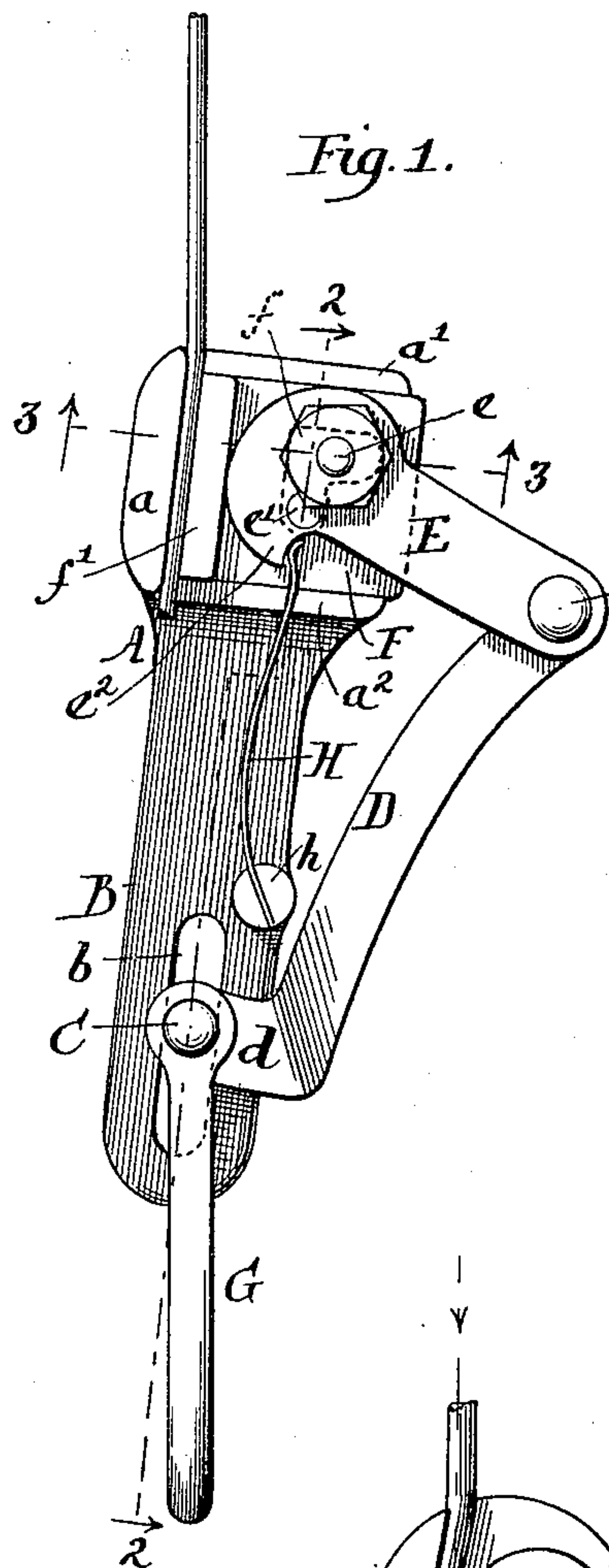


(No Model.)

J. M. KLEIN.
WIRE STRETCHER OR CLAMP.

No. 481,179.

Patented Aug. 23, 1892.



Witnesses:
Fred Gerlach
J. B. Carpenter

Inventor:
John M. Klein
By *Prin. Fisher*
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN M. KLEIN, OF CHICAGO, ILLINOIS.

WIRE STRETCHER OR CLAMP.

SPECIFICATION forming part of Letters Patent No. 481,179, dated August 23, 1892.

Application filed April 22, 1891. Serial No. 389,903. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. KLEIN, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Wire Stretchers or Clamps, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has relation to that class of wire stretchers or clamps designed more especially to aid in stringing telegraph-wires, barb-wires, or the like, although the invention in whole or in part may be found applicable to other purposes.

My invention consists in the novel features of construction hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the conclusion hereof.

Figure 1 is a view in side elevation of one form of clamp embodying my invention. Fig. 2 is a view in longitudinal section upon line 2 2 of Fig. 1. Fig. 3 is a view in transverse section upon line 3 3 of Fig. 1. Fig. 4 is a detail perspective view of the sliding plate of the movable clamp-jaw. Fig. 5 is a view in side elevation of a modified form of clamp embodying features of my invention.

Referring more particularly to Figs. 1 to 4 of the drawings, A designates the body of the clamp, which is furnished near its outer end with a shoulder or offset *a*, constituting the stationary jaw. From the body A, and preferably formed in one piece therewith, extends the projecting arm or portion B, the outer end of which is provided with the long slot *b*, through which passes the pivot-bolt C, by means of which the yoke-shaped end *d* of the pitman or operating-bar D is connected with the projecting arm B. The opposite end of this pitman or operating-bar D is pivotally connected, as at *d'*, with the upper end of the movable jaw E, which in turn is secured by a bolt *e* (or a rivet may be used for the purpose) to the body A of the clamp at proper distance from the offset or shoulder *a*. The lower edge of the movable jaw E is formed eccentric, and between the movable jaw E and the body A is interposed a sliding clamp-plate F, that is held in position by the guide-ribs *a'* and *a''* of the body A. This

sliding-plate F is provided with a slot *f*, preferably of the shape shown in Figs. 1 and 4, and through this slot passes the pivot-bolt *e*, the slot *f* permitting the plate F to move freely to and from the stationary jaw *a*. The clamping-plate F is formed with a lateral extension *f'*, corresponding to the stationary jaw *a* of the body A, and between this extension *f'* and the stationary jaw *a* the wire will be clamped. Upon the opposite face of the extension *f'* bears the eccentrically-shaped face of the movable jaw E, so that when this jaw is operated to clamp the wire it will force the clamp-plate F against the wire, thereby causing the wire to be tightly gripped between the stationary jaw *a* and the extension *f'* of the plate F.

In order to enable the plate F to be lifted away from the wire when the latter is to be released, I prefer to provide the inner face of the movable jaw E with a pin *e'*, adapted to enter a portion of the slot *f* in the plate F, so that by the swinging of the jaw E about its pivot-point the plate F can be moved to permit the release of the wire. It will be observed that the pitman or operating-bar D, through which passes the pivot-bolt C, terminates at such bolt, and upon the ends of this pivot-bolt are held the yoke-shaped ends of the link or coupling G, which is preferably provided with an eye *g*, through which will be passed a suitable handle, to which may be joined a rope or wire, whereby the clamp may be held by the operator.

From the foregoing description it will be seen that when a wire is to be clamped it will be placed between the stationary jaw A and the extension *f'* of the clamping-plate F. By now retracting the link or coupling G and with it the operating-bar or pitman D the movable jaw E will be shifted about its pivot-bolt, thereby causing the eccentric end of this jaw to force the plate F tightly against the wire to be clamped. When the wire is to be released, the coupling G will be forced inward, so as to reversely swing the movable jaw, and as this jaw is thus swung it will cause the clamping-plate F to move away from and so release the wire.

In order to maintain a slight pressure upon the wire and prevent the slipping of the clamp therefrom in case the operator releases the

strain, I prefer to employ a spring H, one end of which is attached to an offset h upon the extension B of the clamp, while the opposite end of this spring bears upon a shoulder e^2 ,
5 formed upon the movable jaw E.

The feature of employing a clamping-plate F is particularly advantageous when copper wire or like soft wire is to be stretched, since the clamping-plate affords a broad bearing against
10 the wire and thereby avoids all danger of cutting or marring the same.

In the form of my invention illustrated in Fig. 5 of the drawings the body A of the clamp is provided with a stationary jaw a and with
15 the projecting arm B, having slot b , through which passes the pivot-bolt C for uniting the pitman or operating-bar D with the projecting arm B, and in this construction, also, as in the construction hereinbefore described,
20 the movable jaw E is connected by a pivot-bolt e to the body A of the clamp. In this form of my invention, also, the link or coupling G is the same as the link or coupling illustrated in Figs. 1 and 2, and in like manner is attached to the pivot-bolt C. In fact,
25 the modification illustrated in Fig. 5 differs from the construction illustrated in Figs. 1 and 2 only in that the movable jaw E is not provided with a clamping-plate, since this modified form of invention is designed more
30 especially for iron or steel wire, which is not so apt to be injured by the action of the stretcher, as is the case with copper or like soft wire.

It will be observed that in each of the constructions above described the operating bar or pitman D terminates at the arm or extension B of the clamp, and this pitman or bar is
35 provided with a link or coupling, to which is attached the handle or rope, whereby the operator holds the clamp.
40

The feature of terminating the connecting bar or pitman D at the extension B of the clamp and causing the outer end of the pitman to slide upon the arm B is important,
45 because it insures a uniform and easy movement of the pivoted jaw, without regard to whether thick or thin wire is being clamped. Under all conditions the distance between the
50 movable jaw and the point at which the end of the pitman D bears upon the arm B is the same, and the pitman slides freely upon said arm without tendency to bind thereon.

The feature of employing a pivoted link or
55 coupling for the operating bar or pitman is of advantage, not merely for the reason that this link or coupling, swinging as it does in the plane of the clamping-jaws, prevents the clamp in a measure from bending the wire

back and forth under the swaying action, but, inasmuch as the coupling accommodates itself to the line of strain, it insures a much easier and more uniform backward movement of the pitman.

The details of construction above set out
65 may be varied without departing from the spirit of the invention.

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

1. A wire-clamp comprising a body A, provided at one end with a projecting arm B, having a long slot therein, and at the opposite end with a stationary jaw a , a movable jaw E, eccentrically pivoted to said body, a
75 pitman or operating-bar D, pivoted at one end to the said movable jaw, and a bolt passing through the slotted end of the projecting arm B and connecting the pitman therewith, substantially as described.
80

2. A wire-clamp comprising a body A, provided at one end with a projecting arm B, having a long slot therein and at the opposite end with a stationary jaw a , a movable jaw E, eccentrically pivoted to said body, a
85 pitman or operating-bar D, pivoted at one end to the said movable jaw, a bolt passing through the slotted end of the projecting arm B and connecting the pitman therewith, and a link or coupling G, connected to said bolt
90 and adapted to swing in the plane of the movement of the clamping-jaws, substantially as described.

3. A wire-clamp comprising a body A, having a suitable offset a , a movable jaw E, eccentrically pivoted with respect to the body A, a
95 suitable operating bar or pitman for shifting said movable jaw, and a clamping-plate interposed between the movable jaw E and the stationary jaw, said clamping-plate being
100 slotted to admit the pivot-pin of the movable jaw, substantially as described.

4. A wire-clamp comprising a body A, having suitable stationary jaw or offset a , and having transverse ribs a' and a^2 , a movable
105 jaw E, eccentrically pivoted with respect to the body A, an operating bar or pitman for shifting said movable jaw, a clamping-plate F, having an offset f' , interposed between the movable jaw E and the stationary jaw or off-
110 set a , the body of said clamping-plate extending between the movable jaw E and the body A of the clamp.

JOHN M. KLEIN.

Witnesses:

GEO. P. FISHER, Jr.,
I. B. CARPENTER.