

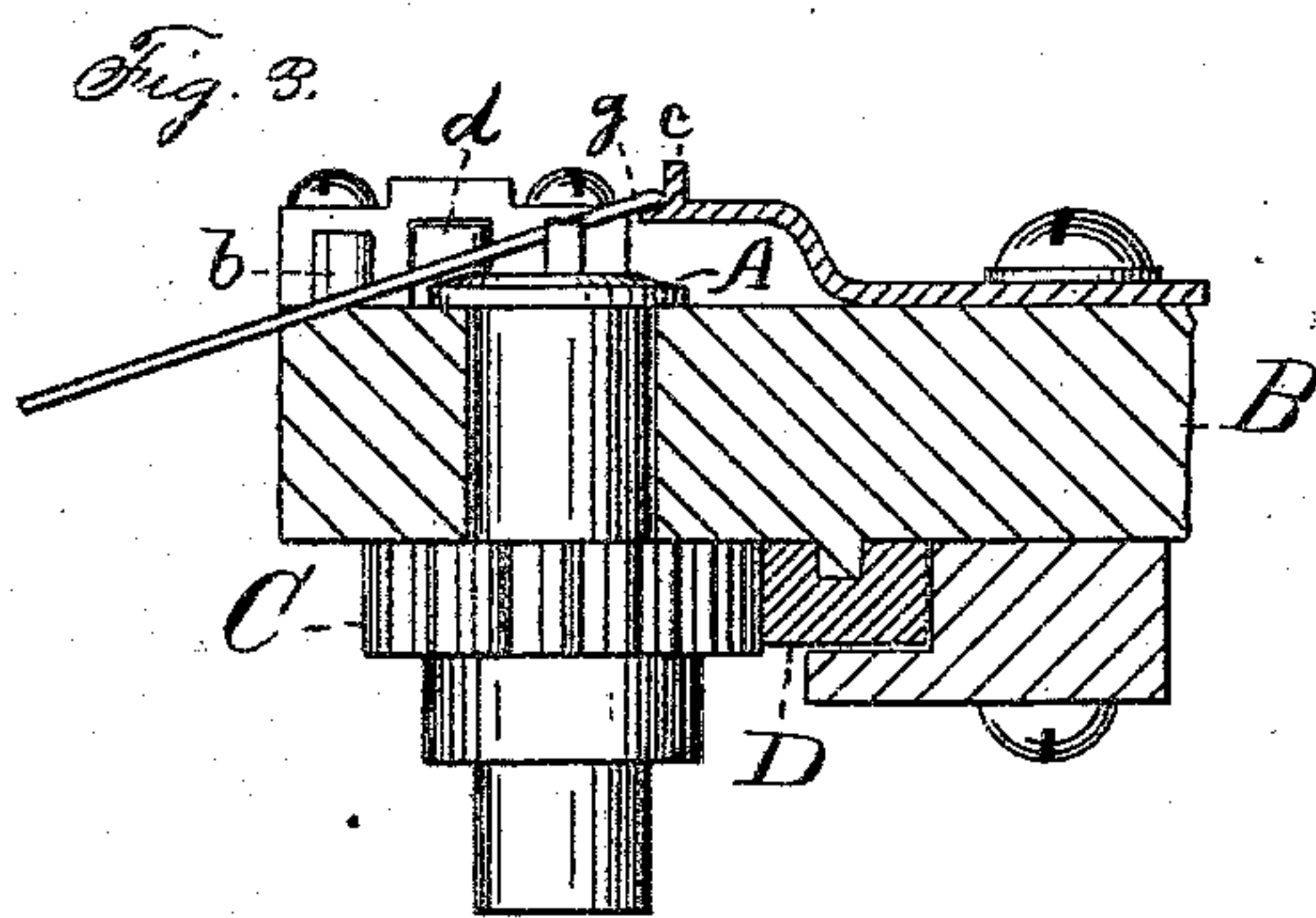
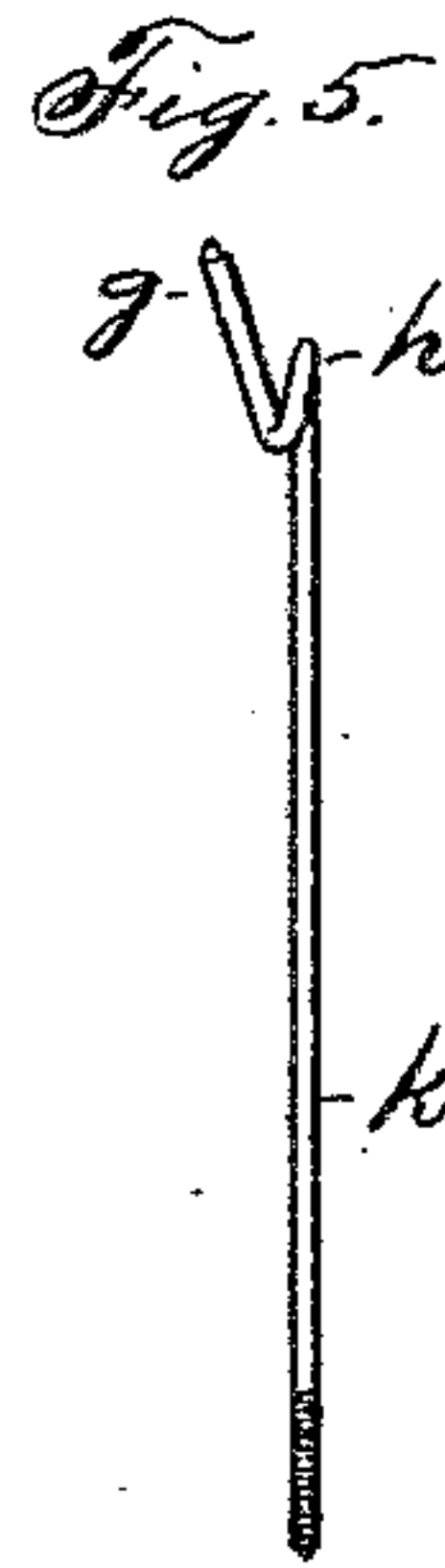
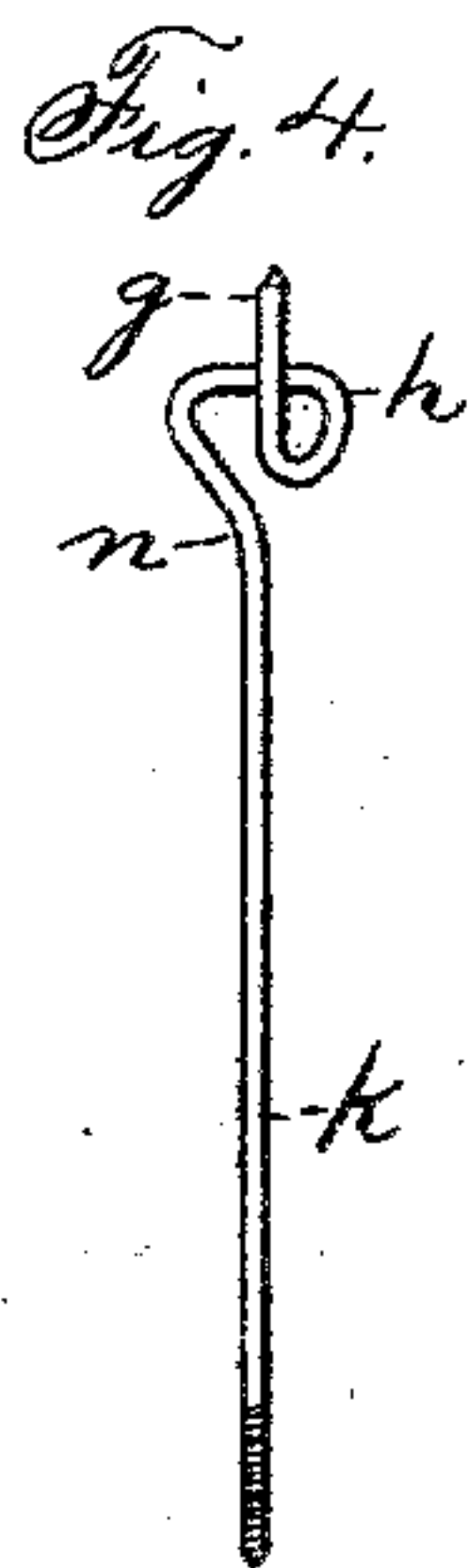
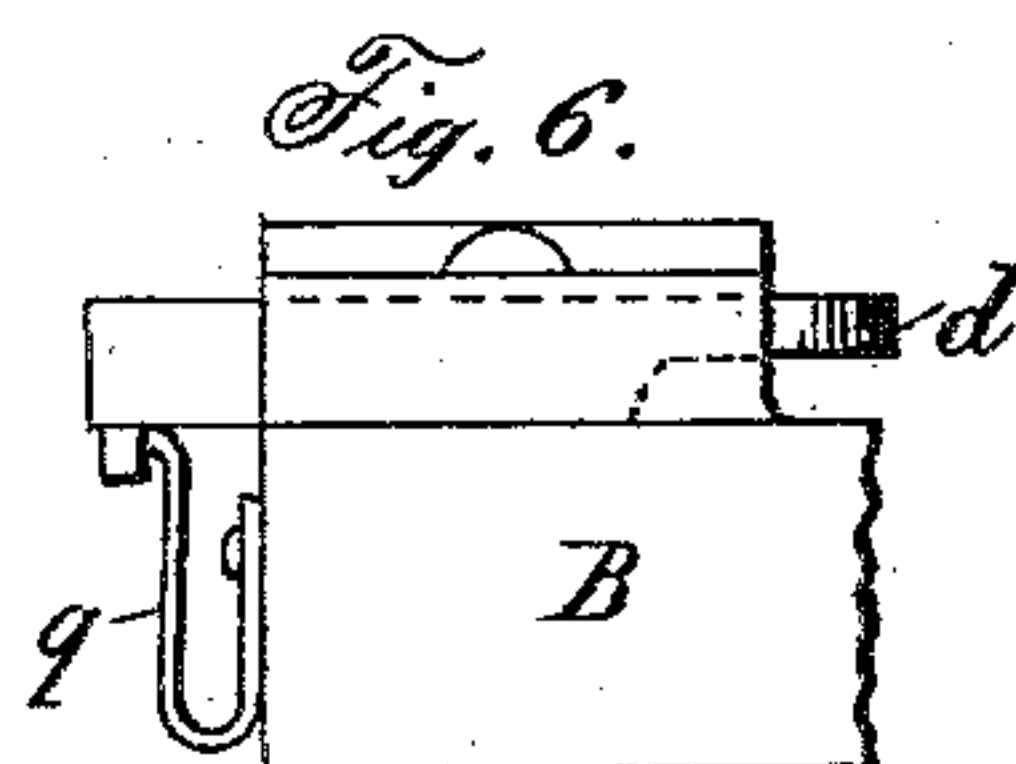
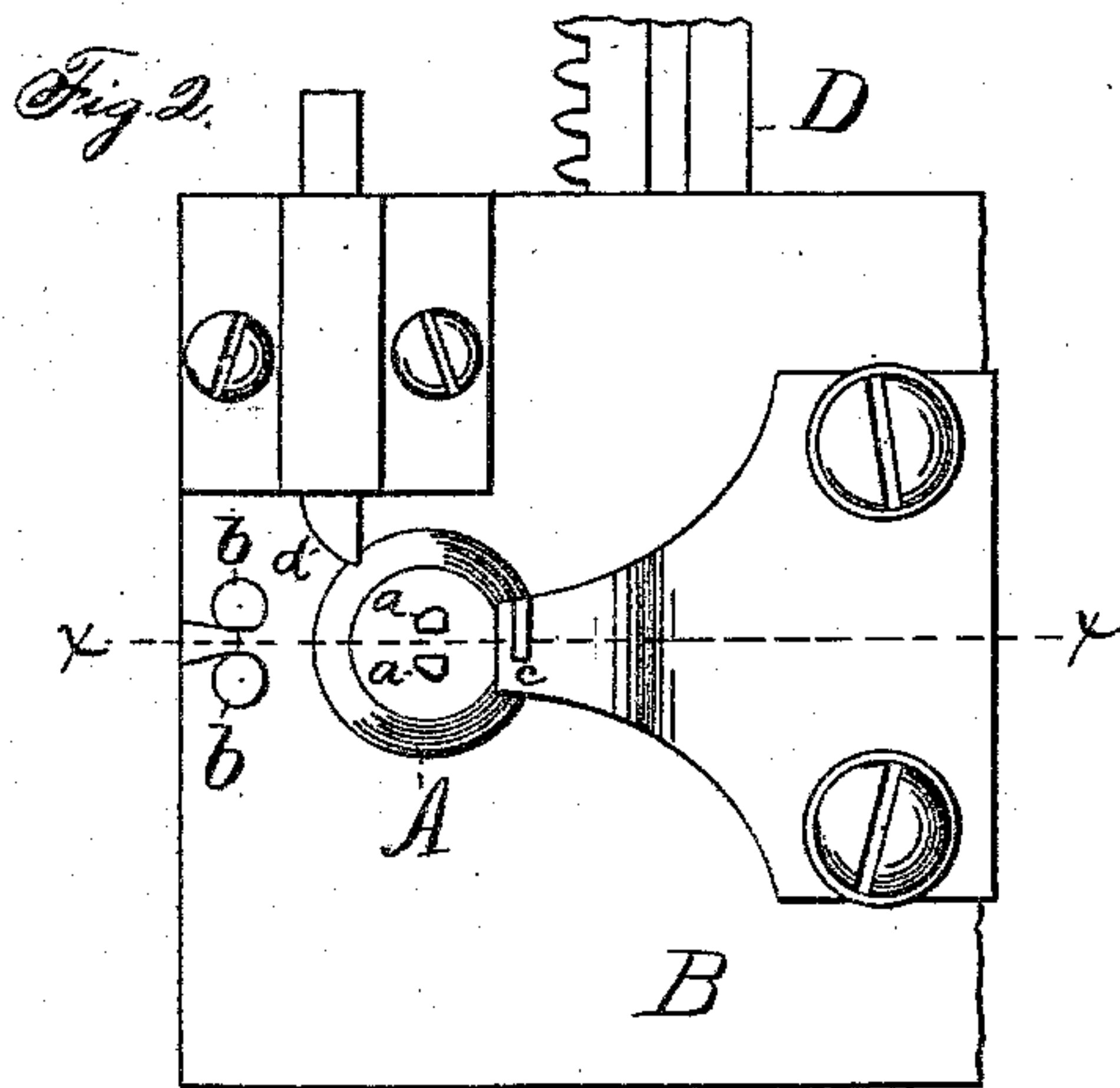
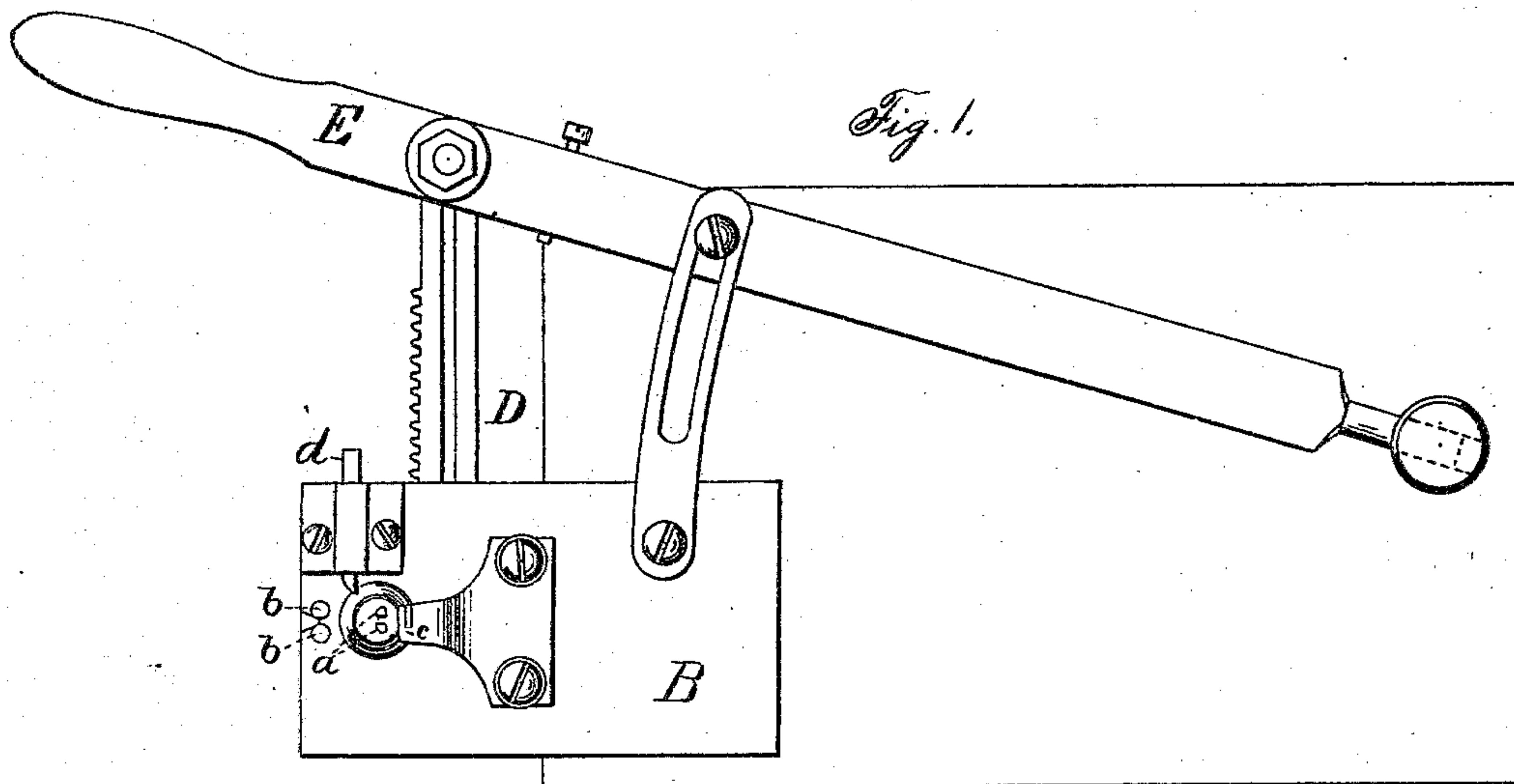
(No Model.)

F. J. BRAND.

MACHINE FOR FORMING WIRE WORK.

No. 274,557.

Patented Mar. 27, 1883.



Witnesses:
John Edwards Jr.
H. F. Walker

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att'y.

UNITED STATES PATENT OFFICE.

FREDERICK J. BRAND, OF MILLDALE, CONNECTICUT.

MACHINE FOR FORMING WIRE-WORK.

SPECIFICATION forming part of Letters Patent No. 274,557, dated March 27, 1883.

Application filed September 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK J. BRAND, of Milldale, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Machines for Forming Wire-Work, of which the following is a specification.

My invention relates to improvements in machines for forming wire-work for parts of piano-actions and other work; in which machine suitably-shaped pins are secured upon a small revolving table, in combination with guides and a gage and rack and pinion for revolving the table, and either with or without a horizontally-moving slide by the side of said table; and the objects of my improvements are to bend the wires more economically than heretofore, and also to so bend them that they shall all be alike. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of my machine. Fig. 2 is a plan view of a portion thereof, represented on a larger scale. Fig. 3 is a vertical section of said portion, partly in elevation, on line *x x* of Fig. 2. Figs. 4 and 5 are front and side elevations, respectively, of the wire-work as bent by my machine; and Fig. 6 is a front elevation of a portion of my machine—viz, the bed B, the horizontally-moving slide *d*, and the spring *q*, which returns said slide.

A designates a revolving table, fitted in a suitable bearing or bearings in the bed B, and provided with a driving-pinion, C, Fig. 3. By the side of the pinion C there is a sliding rack, D, which engages said pinion for driving it, and whose motion in one direction is sufficient to carry the table A one full revolution. As shown in the drawings, this rack is reciprocated by means of a hand-lever, E; but, if desired, it may be driven by a mechanism similar to an ordinary power-press, so arranged that when the treadle is depressed to start the machine it will continue until it has imparted one full forward and backward movement to the rack, and then stop, unless the treadle is held down.

In the table A, I affix two forming-pins, *a a*, of the form shown. In front of the table are two guide-pins, *b b*, and just over the rear

edge of the table the stop-gage *c*. By the side of the table there is a horizontally-moving slide, *d*. This slide is forced forward—that is, toward the table—by contact with the lever E during the last part of its throw. In case the rack should be driven by other means than the lever E, a wing or projection on the rack could be made to engage the slide *d* and move it, the same as does the lever.

The wires are first pointed and threaded in any proper manner. I then place the wires, one at a time, between the guide-pins *b b* and forming-pins *a a*, and with one end resting on the gage *c*, as shown in Fig. 3, in which view it will be observed that the wire slants upward. The wire is thus placed in the machine when the rack is drawn to one side, as shown in Fig. 1. The rack is then forced forward and back, bending the wire into the form illustrated in Figs. 4 and 5. The gage *c* prevents the end of the wire from falling down, and so soon as the wire begins to wind around the forming-pins it has a tendency to draw down upon the table, so as to raise the opposite end of the wire, thereby forming the eye *h* substantially flat, and in the same plane with the shank *k* or body of the wire, as shown, while the end *g* is inclined. Just as the table is about to complete a full revolution the lever E acts upon the slide *d* to force it forward, when its end strikes the wire and forms the bend *n*, Fig. 4. A spring, *q*, Fig. 6, (not shown in the other figures of the drawings, because it is of ordinary construction, and because it is under the tail of the slide,) causes the slide to return to its normal position so soon as the lever retreats. At the end of the forward movement of the rack the wire is taken off from the pins, after which the rack is returned to its normal position.

I contemplate the use of an automatic picker or take-off to remove the wire immediately after it is formed and before the table has moved in its return or reversed direction enough to bend the wire.

I have herein shown but one set of guides, forming-pins, and gage for forming only one form of wire-work; but it is evident that when other forms of analogous wire-work is desired it may be made upon the same machine by

merely changing the forming-pins, &c., to correspond to the change in the form of the work desired.

I claim as my invention—

5 1. The combination of the revolving table, bearing forming-pins, and the bed bearing the guide and gage, substantially as described, and for the purpose specified.

10 2. The combination of the revolving table, bearing forming-pins, the bed having guide and gage, and the rack and pinion for revolving

ing the table, substantially as described, and for the purpose specified.

3. The combination of the revolving table, having forming-pins, the bed having guide 15 and gage, the slide *d*, and mechanism for operating the table and slide, substantially as described, and for the purpose specified.

FREDERICK J. BRAND.

Witnesses:

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JOHN EDWARDS, Jr.