

J. W. JONES.
Hoop-Bending Machine.

No. 225,222.

Patented Mar. 9, 1880.

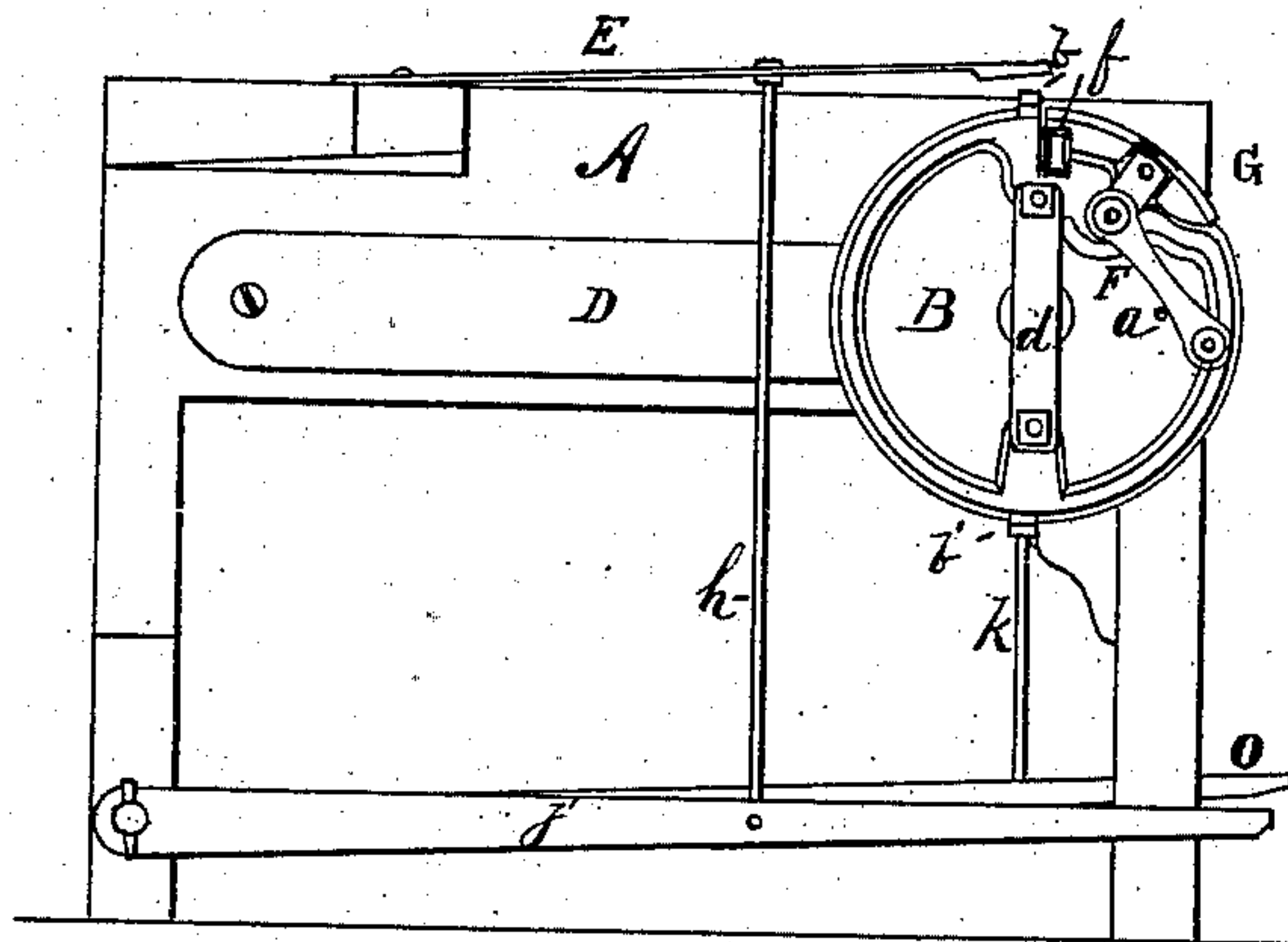


FIG. 1.

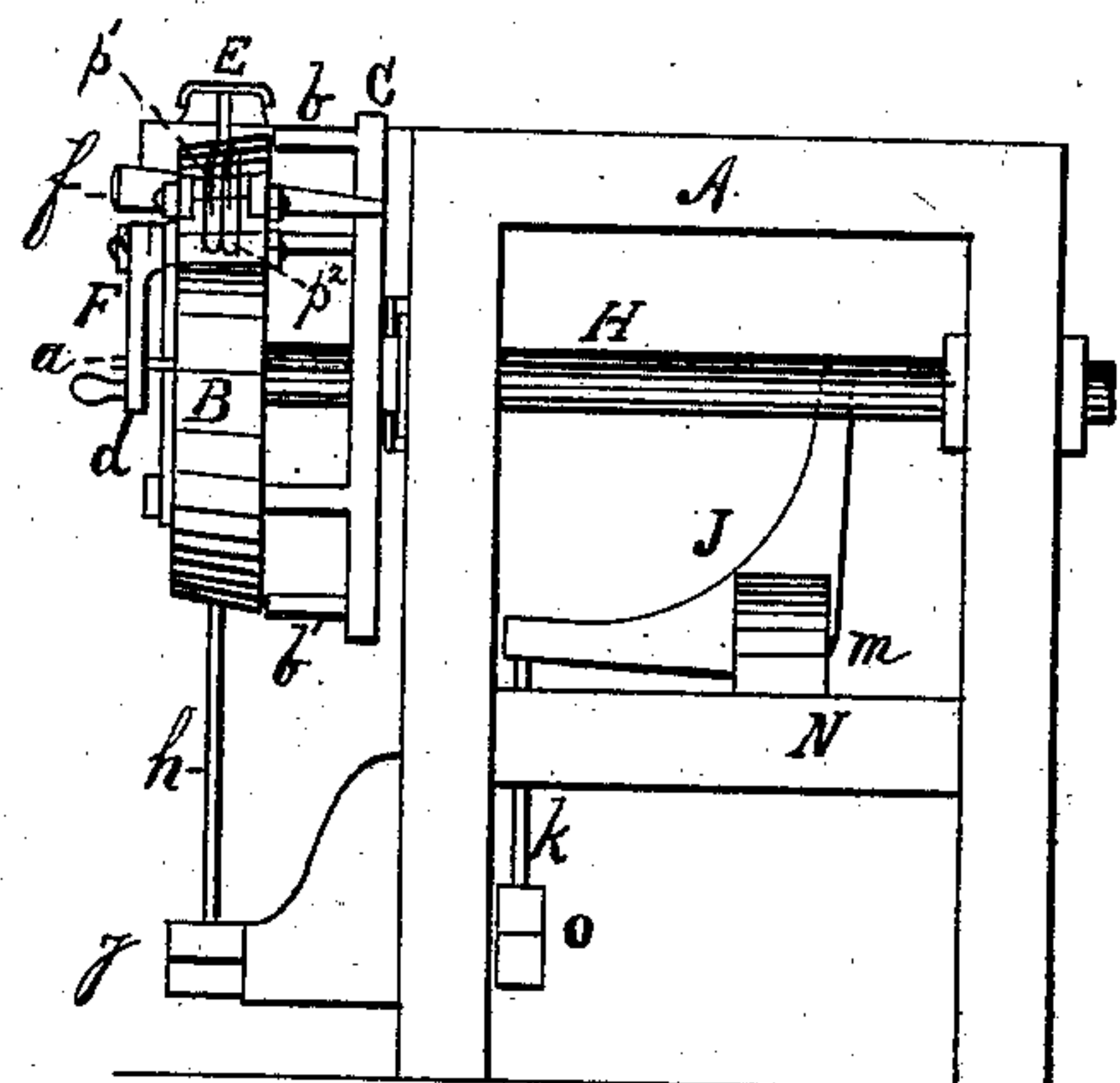


FIG. 2.

FIG. 3.

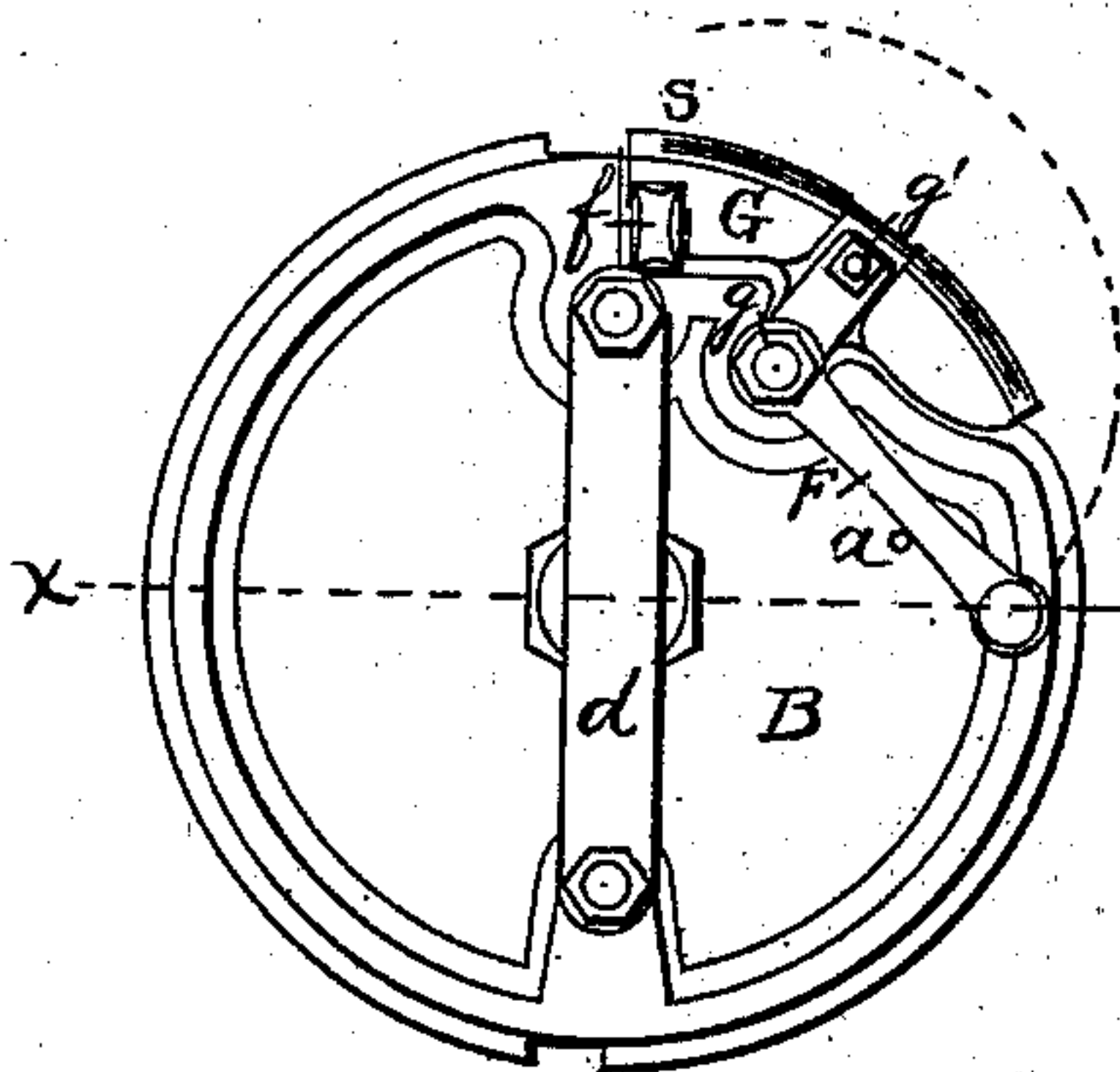
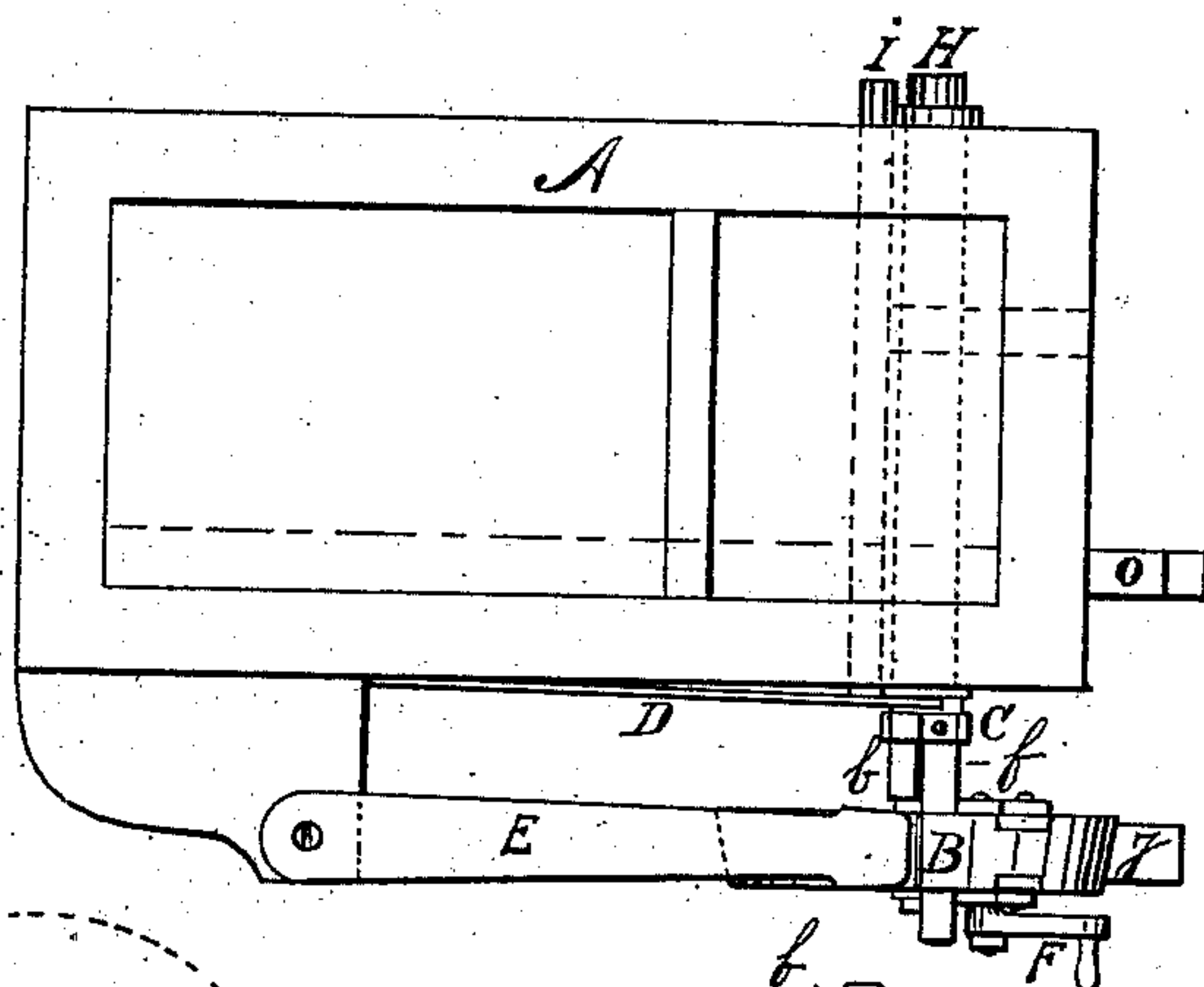


FIG. 4.

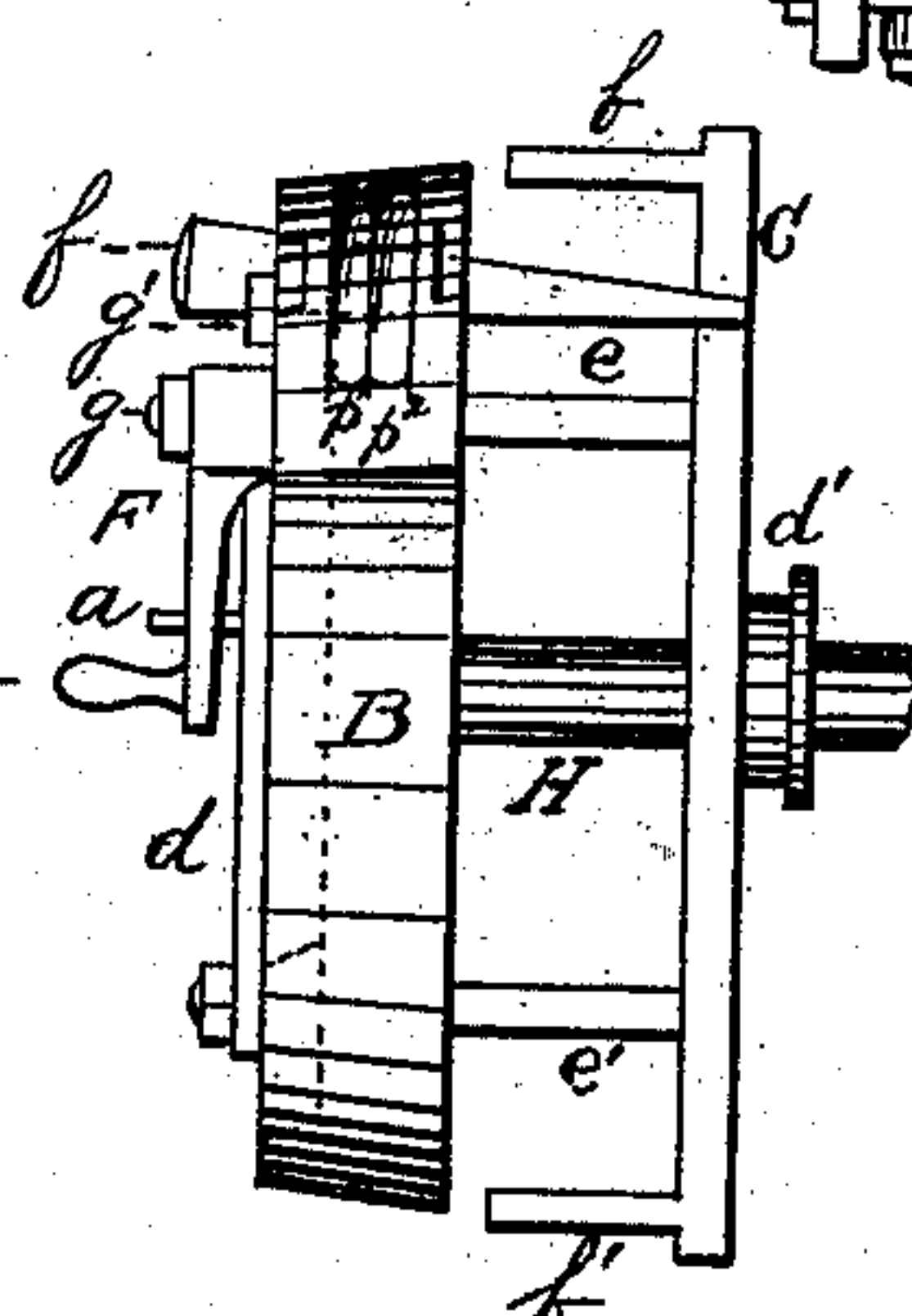


FIG. 5.

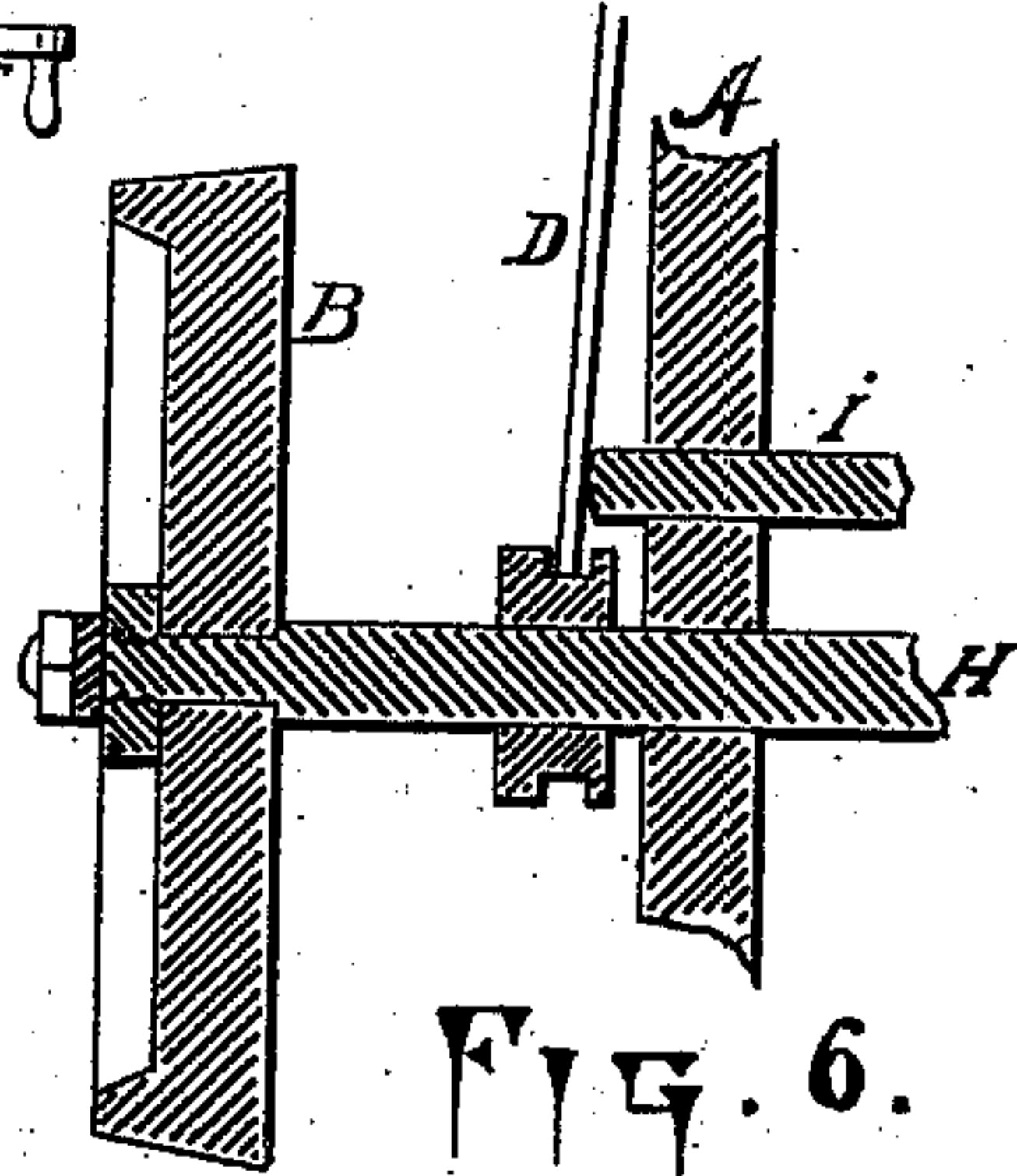


FIG. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

JOEL W. JONES, OF BELLAIRE, OHIO.

HOOP-BENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 225,222, dated March 9, 1880.

Application filed July 31, 1879.

To all whom it may concern:

Be it known that I, JOEL W. JONES, of Bellaire, in the county of Belmont and State of Ohio, have invented certain new and useful
5 Improvements in Hoop-Bending Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the
10 same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation of my improved machine. Fig. 2 is an end elevation of the
15 same. Fig. 3 is a plan view, and Figs. 4, 5, and 6 are enlarged detail views.

My invention relates specially to a machine for forming barrel and keg hoops, commonly called a "hoop-bender," by means of
20 which I am enabled to bend and tack the hoops together at the ends preparatory to their being permanently attached to the stave-cylinder in a perfect and expeditious manner.

To this end my invention consists, first, of
25 a circular metal former or wheel, around which the hoops are bent and tacked together at the ends, having a segmental pivoted clamping-jaw, forming part of the rim, in combination with a wedge-shaped or tapering draw-bar
30 working in a corresponding tapering slot or groove through the former under the end of the jaw, and mechanism to operate the same, by means of which the end of the hoop is held while bending it around the former.

It consists, secondly, of a sliding cross-frame
35 journaled on the axle of the former and moving to and from the former by means of independently-operating mechanism, to the arms of which is attached the tapering draw-bar for
40 operating the clamping-jaw on the former and two or more studs or pins, by the aid of which the finished hoop is pushed off the former.

It consists, thirdly, of a spring-arm and
45 treadle to press down the hoop and hold the loose end while being tacked, all of which will be hereinafter more fully explained in detail, reference being had to the drawings, in which like letters of reference refer to like parts.

The letter A designates a bench or table;
50 B, a metal wheel or former journaled through the frame of the table at H, having its periph-

ery slightly inclined outward, and provided with corrugations $p' p''$ for clinching the nails.

G is a pivoted clamping-jaw, constructed with a tapering slot at the end s , at which point
55 it is made heaviest for the purpose of raising the clamping end for the reception of the end of the hoop. C is a sliding cross-frame operating on the shaft H, and with frame-rods $e e'$ sliding through openings through the former,
60 secured to cross-piece d . $b b'$ are posts attached to the ends of the cross-frame at the proper distance from the center to pass the rim of the former for the purpose of pushing off the finished hoop. f is a tapering draw-
65 bar attached to the cross-frame C and working in the tapering slot through the clamping-jaw G at s . D is a spring attached to the side of the table A at one end, and operating in the groove d against the collar on the cross-
70 frame C. F is a crank to turn the former. a is a stop-pin; I, a driving-rod; J, a crank-arm attached to the driving-rod I and frame m of the bench; o , a treadle; k , an attaching-rod; E, a spring-arm to hold the hoop down while
75 being tacked. j is a treadle; h , connecting-rod.

The mode of operation is as follows: Pressure is applied to the treadle o , which forces the cross-frame C toward the former B, thus
80 relieving the pressure of the tapering draw-bar upon the jaw G, and permitting it to fall sufficiently to raise the forward end for the reception of the end of the hoop. After plac-
85 ing the end of the hoop under the end of the jaw, pressure is removed from the treadle o , and the spring D pushes back the frame C, which draws the tapering draw-bar under the end of the jaw G, thus causing the clamping
90 end to bind on the end of the hoop, holding it secure during the operation of bending. The former B is then turned entirely around by means of the crank F, resting against the draw-
bar f , the hoop encircling the rim until the end of the hoop has passed the starting-point
95 sufficiently for the lap, when the spring-arm E is brought down upon the hoop by means of the treadle j , thus holding the hoop while being tacked, after which operation the crank F is turned back within the circumference of
100 the wheel B, resting on the stop-pin a . Pressure is applied to the treadle o , forcing out the frame

C, which loosens the tapering draw-bar *f*, removing pressure of the clamping-jaw G, and at the same time drives off the finished hoop by means of the posts *b b'*, thus completing
5 the bending and tacking operation required to make the hoop.

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

1. In a machine for forming hoops, the combination, with a circular former having a segmental pivoted clamping-jaw, of a tapering
10 draw-bar extending through the former under the end of the clamping-jaw, and mechanism to operate the same, substantially as herein shown, and for the purposes set forth.
15

2. In a machine for forming hoops, the combination of a circular former having a segmental clamping-jaw to hold the end of the hoop, a tapering draw-bar extending through
20 the former under the end of the clamping-jaw to operate the jaw, and one or more studs or pins to push the finished hoop off the former, the draw-bar and pins being attached to a movable tool-conveying frame on the axle of
25 the former, and suitable mechanism to operate the same, substantially as herein shown, and for the purposes set forth.

3. In a hoop-bending machine, the table A,

former B, having pivoted clamping-jaw G, crank F, in combination with the sliding cross-
30 frame C, with tapering draw-bar *f*, and the spring D, driving-rod I, crank-arm J, rod *k*, and treadle *o*, substantially as herein shown, and for the purposes set forth.

4. In a hoop-bending machine, the table A, 35
former B, clamping-jaw G, and crank F, in combination with the sliding frame C, posts *bb'*, and tapering draw-bar *f*, and the spring D, driving-rod I, crank-arm J, rod *k*, and treadle
40 *o*, substantially as herein shown, and for the purposes set forth.

5. In a hoop-bending machine, the table A, former B, pivoted jaw G, crank F, stop-pin *a*,
sliding frame C, tapering draw-bar *f*, posts *b b'*, spring D, driving-rod I, crank-arm J, rod 45
k, treadle *o* of the spring-arm E, rod *h*, and treadle *j*, substantially as herein shown, and for the purposes set forth.

In testimony that I claim the foregoing as my own I hereunto affix my signature in pres- 50
ence of two witnesses.

JOEL W. JONES.

Witnesses:

W. A. BLOOMFIELD,
E. B. HOWARD.