

(No Model.)

2 Sheets—Sheet 1.

M. McMASTER.
BENDING MACHINE.

No. 505,475.

Patented Sept. 26, 1893.

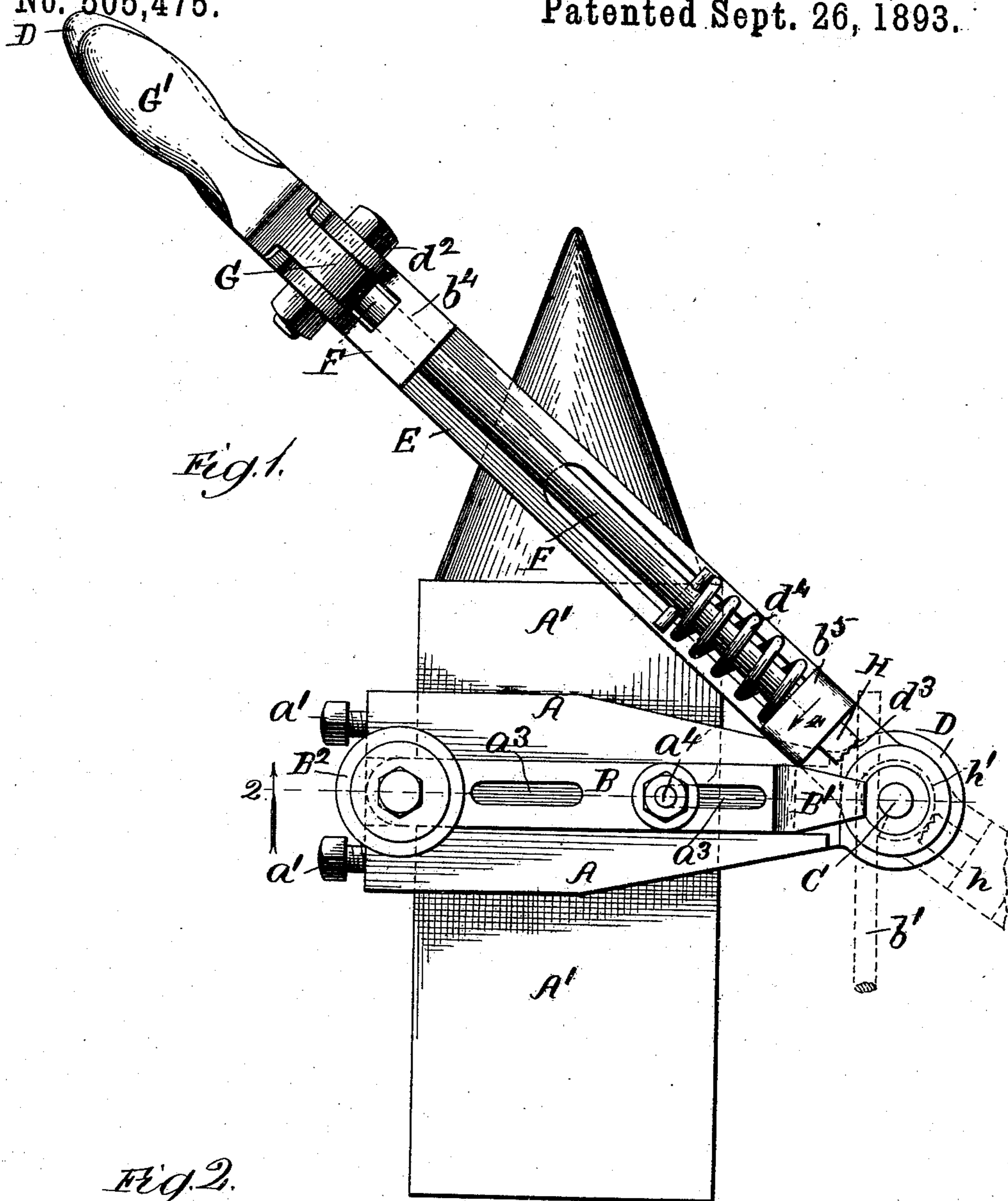
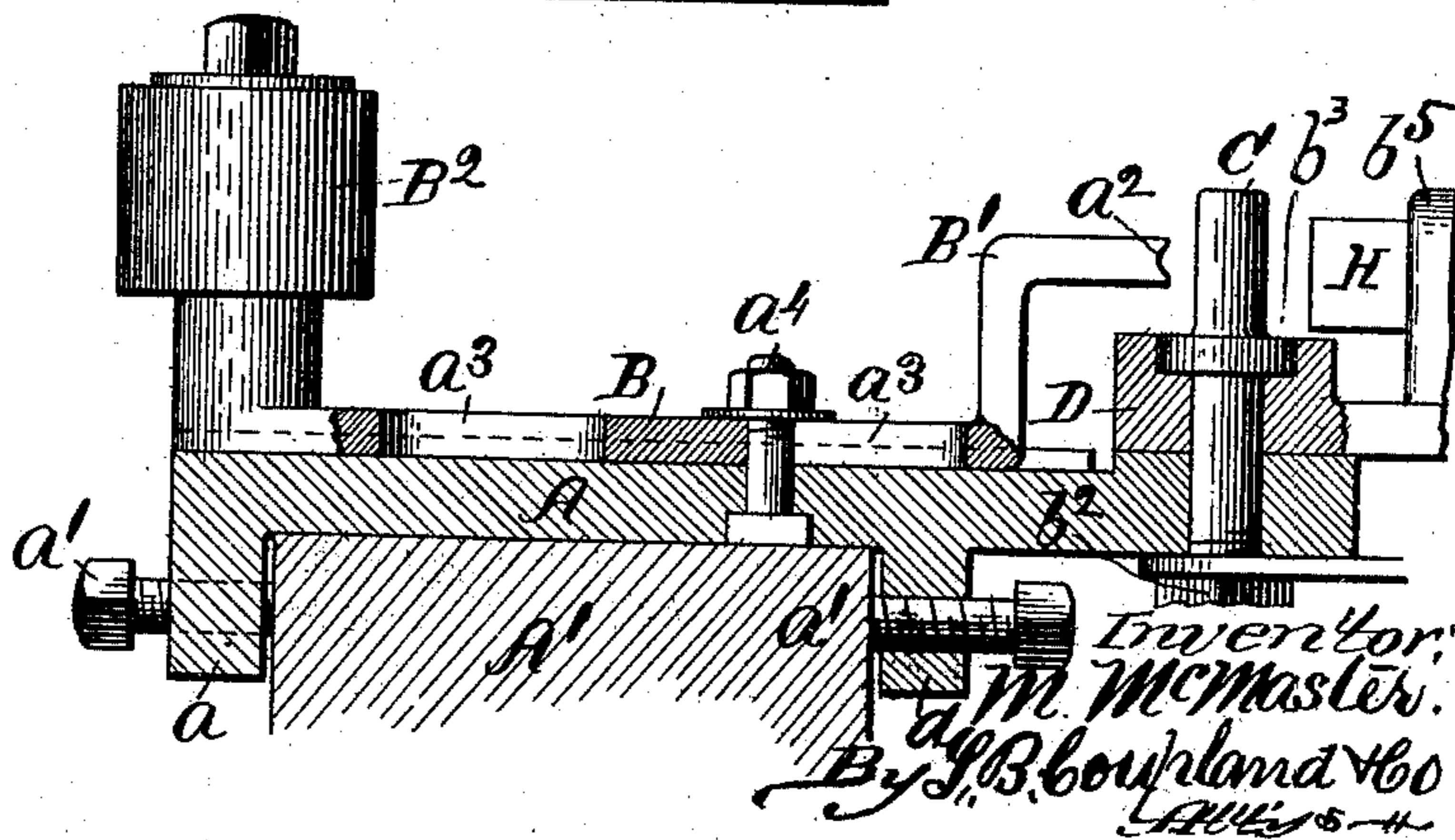


Fig. 2.



Witnesses:
C. E. Gaylord,
Clifford White.

Inventor:
M. McMaster.
By J. B. Boulton & Co
ATTORNEYS.

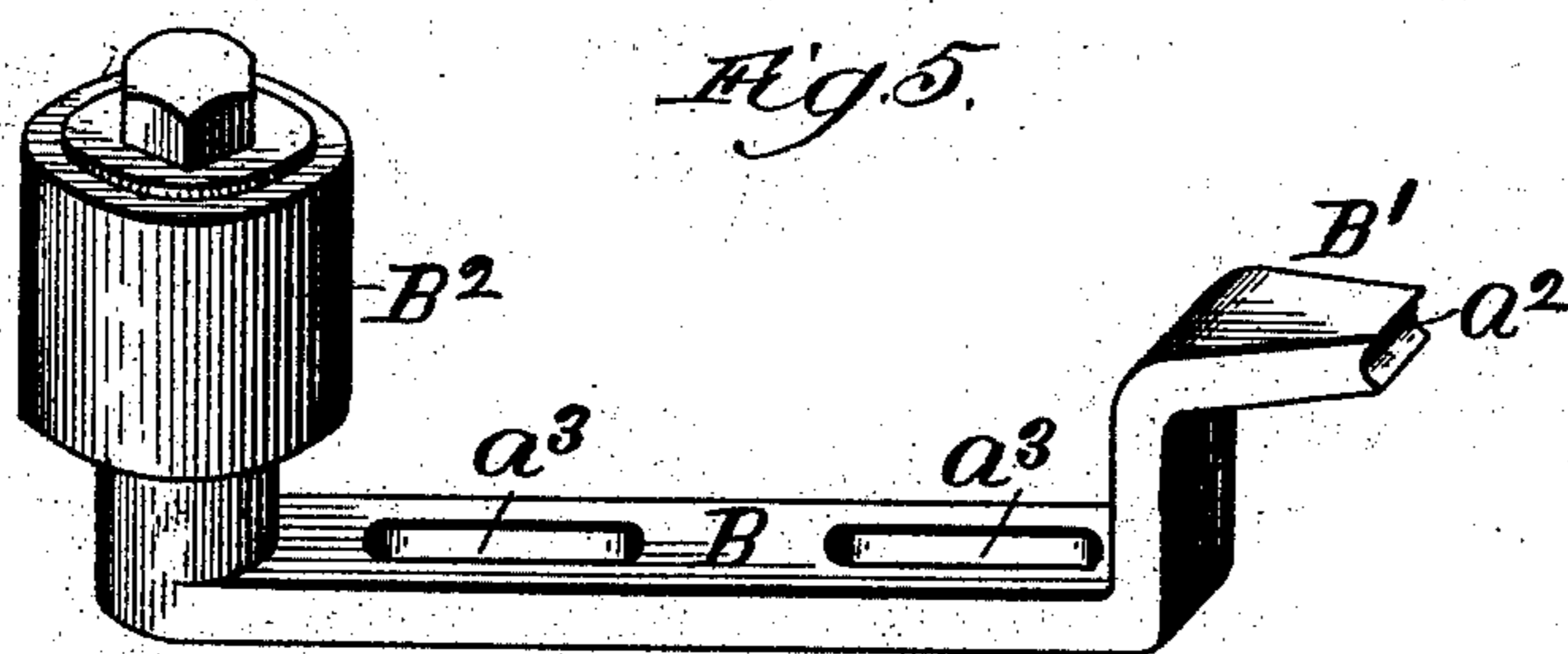
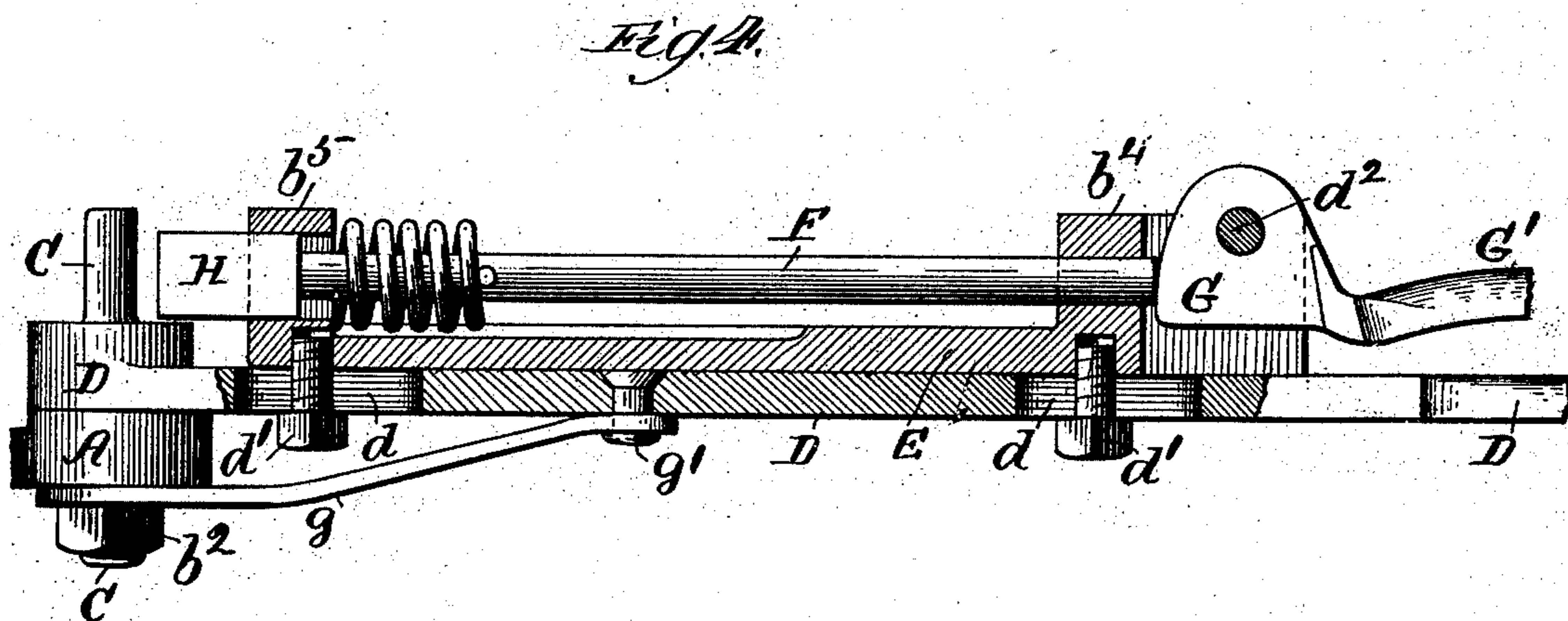
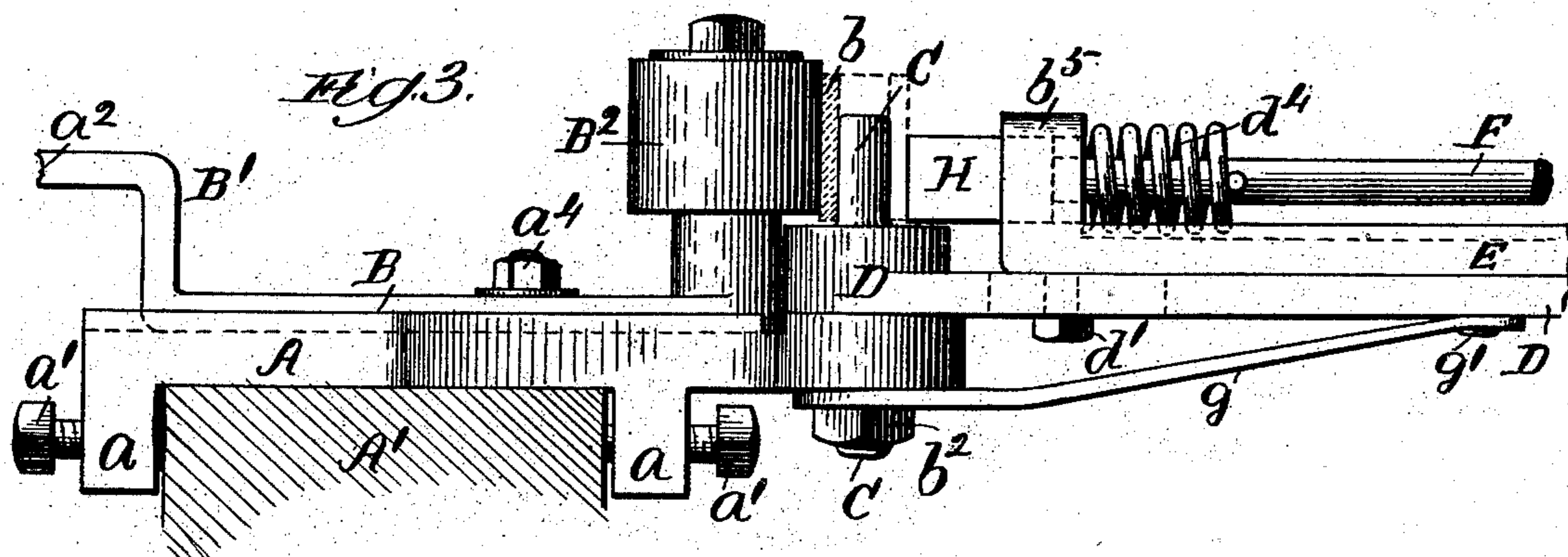
(No Model.)

2 Sheets—Sheet 2.

M. McMASTER.
BENDING MACHINE.

No. 505,475.

Patented Sept. 26, 1893.



Witnesses:
Chas. E. Gaylord,
Clifford V. White.

Inventor:
M. McMaster.
By L. B. Coupland,
Att'y.

UNITED STATES PATENT OFFICE.

MERRITT McMASTER, OF BATAVIA, ILLINOIS.

BENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 505,475, dated September 26, 1893.

Application filed April 12, 1893. Serial No. 470,017. (No model.)

To all whom it may concern:

Be it known that I, MERRITT McMASTER, a citizen of the United States, residing at Batavia, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Bending-Machines, of which the following is a full, clear, and exact description, that will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention relates more especially to a hand bending-machine for forming the head-end of eye-bolts, and has for its object to provide a simple and convenient device of this character, whereby the work may be performed with facility.

In the drawings—Figure 1 is a plan of a machine embodying my improved features; Fig. 2, a part elevation and part section on line 2, Fig. 1, looking in the direction indicated by the arrow; Fig. 3, a broken-away side elevation; the anvil being shown in section; Fig. 4, a broken-away longitudinal section of the handle part, on line 4, Fig. 1; and Fig. 5, a detached detail.

A is the supporting-bed of the device, and is provided with downwardly projecting lugs a a through which are inserted fastening-screws a' a' , for clamping the device to the anvil-block A' , or other suitable object for holding the same in position for use. The adjustable die-plate B is seated on top of the supporting-bed, and is provided on one end with a flat die B' , having a recess a^2 formed in the bearing-end thereof, as shown in Figs. 2, 3, and 5. This die-plate is provided with slotted apertures a^3 a^3 , through which is inserted the clamping-bolt a^4 , adjustably securing this plate to the bed support. This feature provides for a longitudinal movement or adjustment of the die-plate in accordance with the thickness or diameter of the work, and also provides for the turning of the die-plate end for end for the purpose of bringing the roller-die B^2 in position for work. This cylindrical die is mounted on the opposite end of the plate B and is intended for use on flat pieces of metal, as shown at b , Fig. 3. The die-end B' is for round rods, as indicated in dotted lines at b' , Fig. 1. The die-post C projects up through the end of the bed A and

the inner end of the bending-lever D, pivoting these two parts together and leaving the bending-lever free to swing in a circle. The lower end of the die-member C is threaded for the reception of lock nut b^2 . This die-post is also provided with an annular shoulder b^3 , (Figs. 1 and 2,) which seats in a corresponding recess in the handle-lever D. This feature strengthens and stiffens the die at this point. A bracket-bar E is located on the upper side of the bending-lever and is provided at each end with upturned bearing-lugs b^4 and b^5 . The bending-lever is provided in the under side with slots d d , (Fig. 4,) for the insertion of tap-bolts d' d' , which enter the under side of the bracket-bar and secure the same in a stationary position with reference to the bending-lever. The slots d permit of the bracket-bar being adjusted endwise toward or away from the work in accordance with the diameter or thickness thereof. The outer end of a rod F, is loosely inserted through lug b^4 , on the bar E, and bears against the cam-plate G formed on the end of handle G' . A pivot-bolt d^2 is inserted through the cam-plate and the bifurcated part of lug b^4 , which permits of an up and down movement of handle G' . The opposite or inner end of rod F is provided with a clamping-head H, having a bearing in lug b^5 of the bracket-bar E. The bearing-surface of head H, coming in contact with the work, is serrated or roughened as at d^3 , Fig. 1. The spring d^4 coiled on rod F serves to return the rod to its normal or disengaged position when the hand pressure is relaxed on handle G' . One end of a spring-brace g is secured to the under side of the handle-lever, as at g' ; the other end being mounted on the lower end of the die-post.

In operation, the device is first placed in the normal position illustrated in Fig. 1. The work or bar of metal is then inserted between the die-members; the end projecting beyond the end of the clamping-head H, as indicated in dotted lines. The bending-lever is then moved around to the right and the handle G' pressed down, which imparts a longitudinal movement to the rod F by means of the cam-plate coming in contact with the end thereof and bringing the clamping-head, on the opposite end thereof, in contact with the work. The opposite positions of the bending-lever

and clamping-head are indicated by dotted lines, as at *h*; the dotted circular line *h'* indicating the bend forming the eye-bolt.

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

1. In a bending-machine, the combination with a supporting-bed, of a reversible and longitudinally adjustable die-plate, having a flat
10 die on one end and a cylindrical die on the other, substantially as set forth.

2. In a bending-machine the combination with, a bending-lever, a die-post, projecting up through one end thereof, a bracket-bar,
15 adjustably seated on said lever and provided with upturned lugs in the respective ends thereof, a rod, inserted and having an endwise movement in said lugs, said rod being provided on the end adjacent to the die-post
20 with a clamping-head, and a handle, having a pivotal movement and provided on one end with a cam-plate adapted to bear against one end of said rod, whereby a downward pressure on said handle will clamp an object be-
25 tween the clamping-head and die-post, substantially as set forth.

3. In a bending-machine, the combination of a bending-lever, a bracket-bar, having upturned lugs, a clamping-rod, having an endwise movement in said lugs, a handle, provided with a cam-plate and bearing against one end of said rod, and a spring coiled on said rod, whereby the rod is thrown into a clamping position when the handle is pressed down and returned to its normal position
30 when the pressure is relaxed, substantially as set forth.

4. In a bending-machine, the combination of a supporting-bed, a reversible die-plate, adjustably seated thereon, a bending-lever, a
40 die-post, projecting up through the joining-ends of said bed and lever, a bracket-bar, provided with upturned lugs and adjustably seated on said lever, a clamping-rod, having an endwise movement in said lugs, and a handle, provided with a cam-plate, and pivoted in one of said lugs, substantially as set forth.
45

MERRITT McMASTER.

Witnesses:

WALTER NEWTON,
HARRY T. HUNTER.