

No. 671,733.

Patented Apr. 9, 1901.

J. F. SIPPLE.  
CLAMP AND BENCH DOG.

(Application filed June 7, 1899.)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.

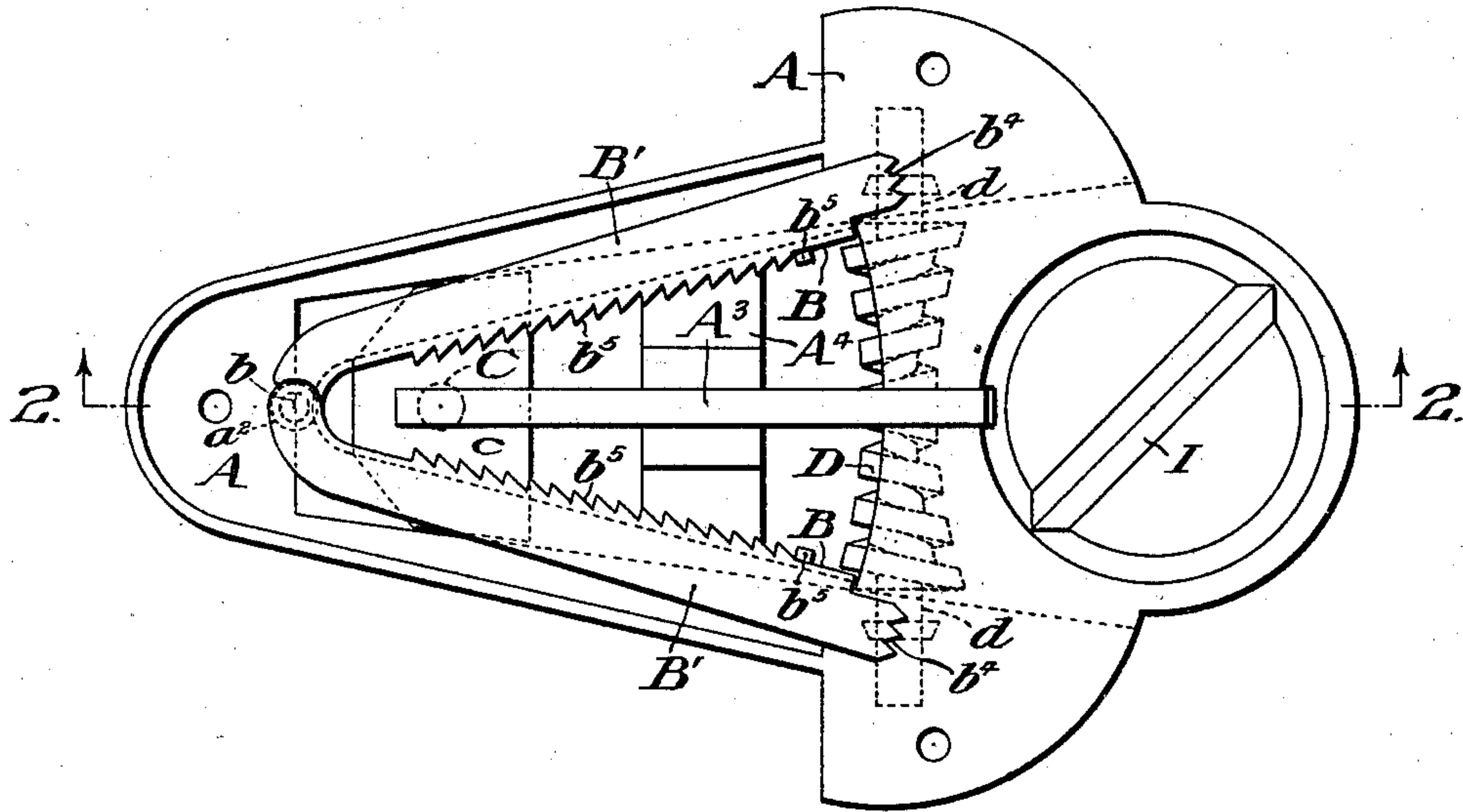
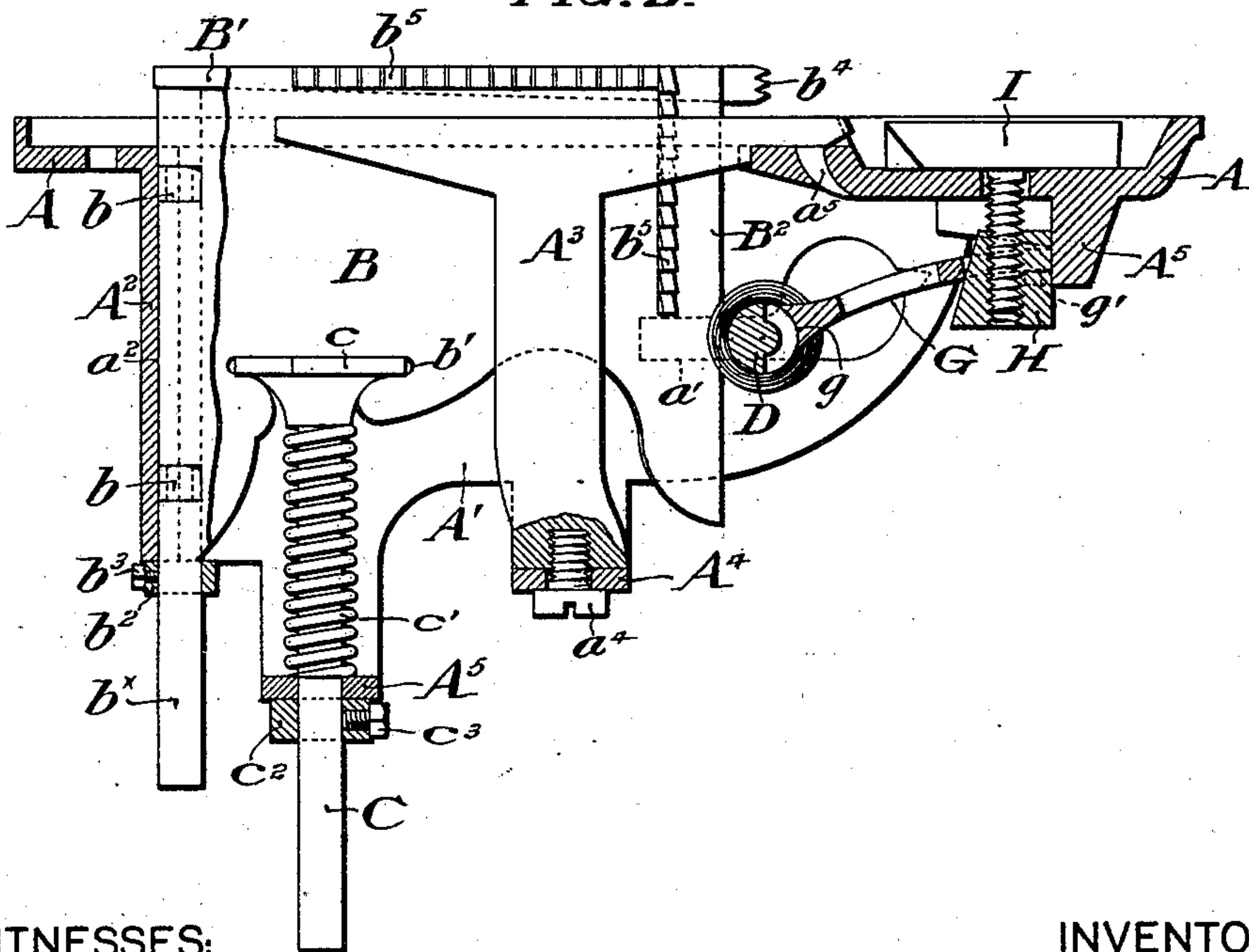


FIG. 2.



WITNESSES:

Clifton C. Hallowell  
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INVENTOR:

JAMES F. SIPPLE  
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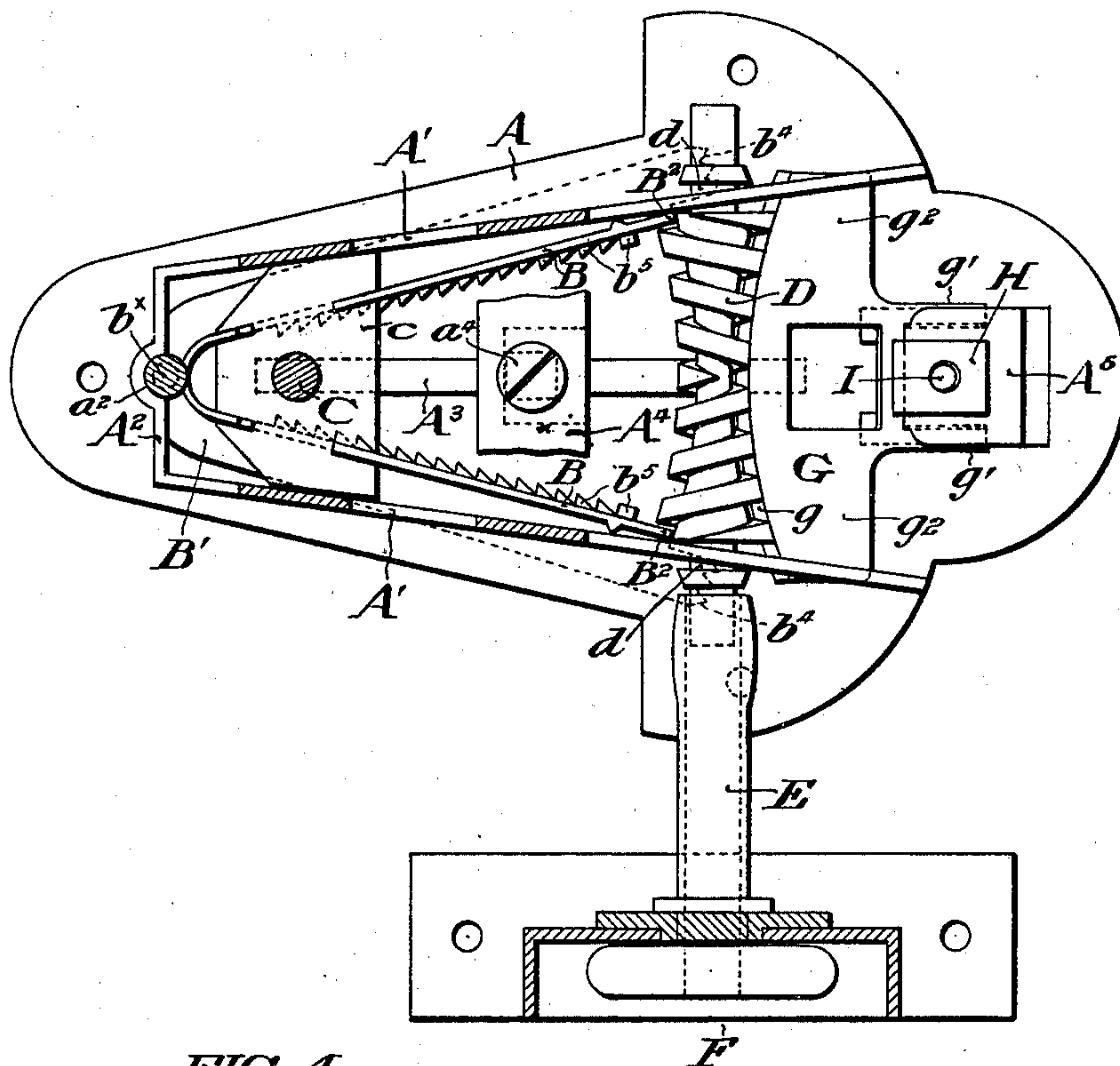
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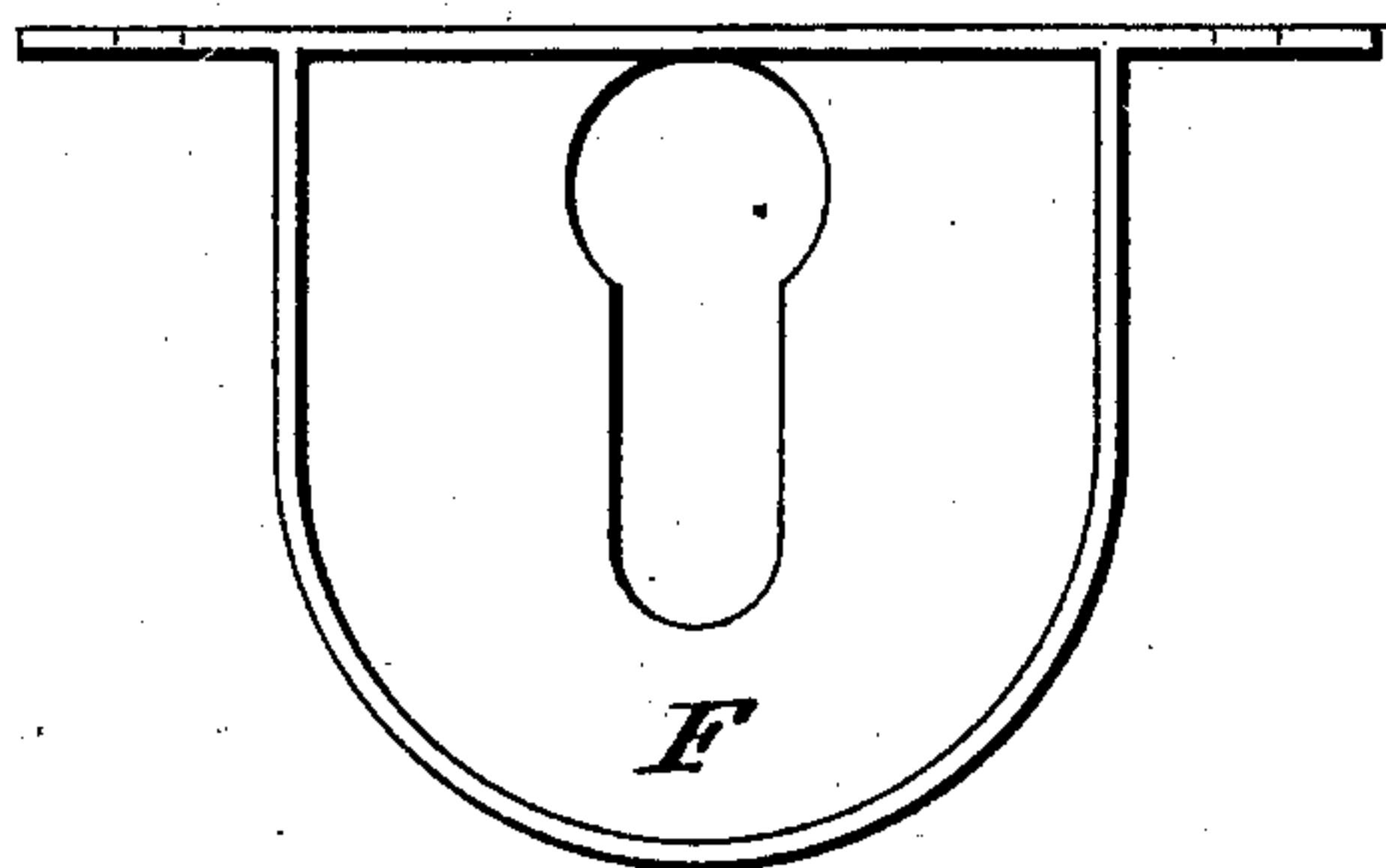
(No Model.)

**2 Sheets—Sheet 2.**

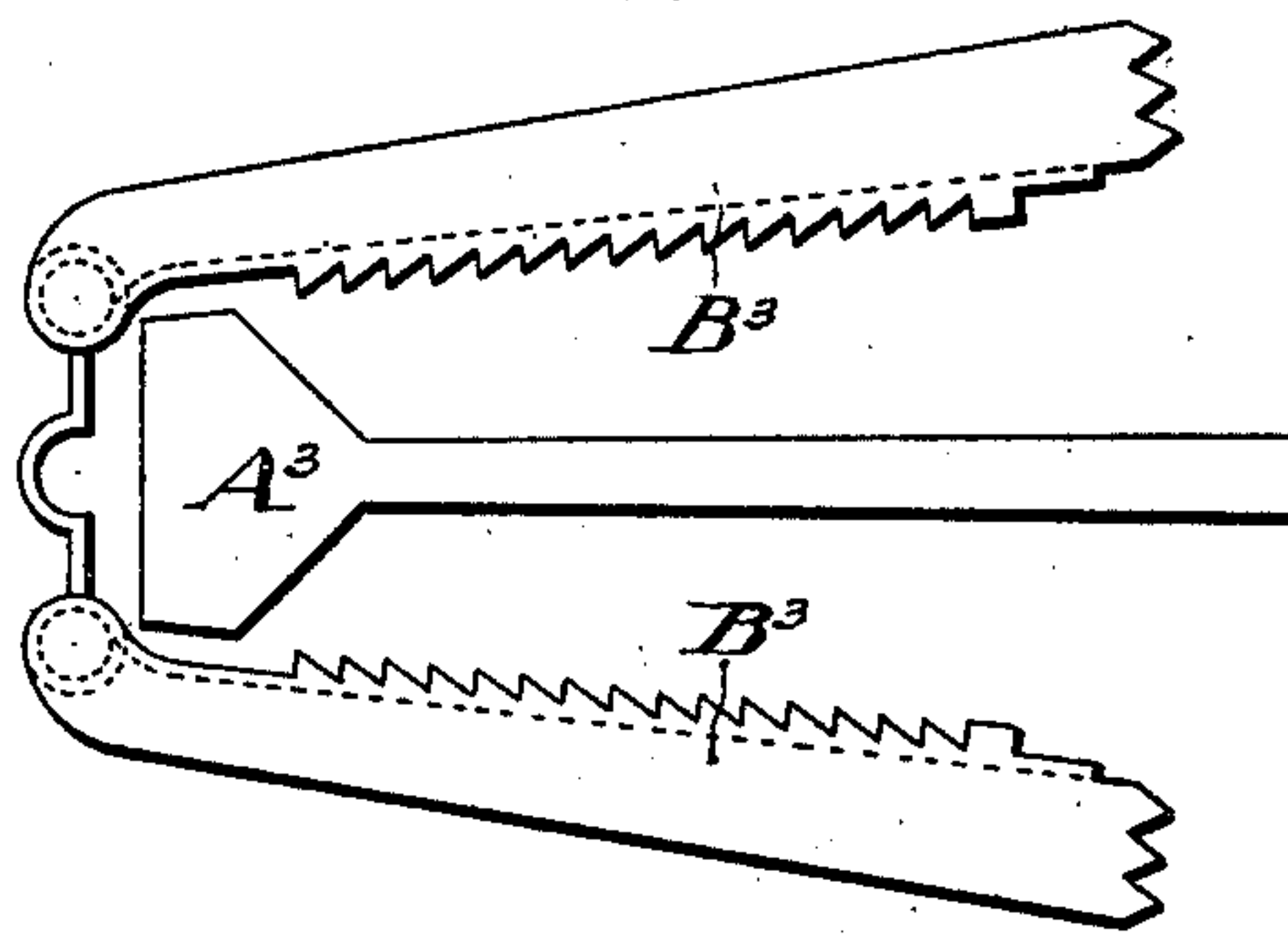
*FIG. 3.*



**FIG. 4.**



**FIG. 5.**



**FIG. 6.**



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# UNITED STATES PATENT OFFICE.

JAMES F. SIPPLE, OF FREDERICA, DELAWARE.

## CLAMP AND BENCH-DOG.

SPECIFICATION forming part of Letters Patent No. 671,733, dated April 9, 1901.

Application filed January 7, 1899. Serial No. 719,670. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES F. SIPPLE, of Frederica, Delaware, have invented certain new and useful Improvements in Clamps and Bench-Dogs, whereof the following is a specification, reference being had to the accompanying drawings.

My invention relates to devices used by carpenters and joiners in connection with a work-bench to secure material to be manipulated upon the latter; and it is the object of my invention to provide such a device with opposed jaws which may be opened and closed with respect to the material operated upon and may also be adjustably raised and lowered with respect to the bench upon which the device is fixed.

In the accompanying drawings, Figure 1 is a plan view of a device conveniently embodying my invention. Fig. 2 is a sectional view of said device, taken on the line 2 2 in Fig. 1. Fig. 3 is an inverted sectional plan view of said device. Fig. 4 is a side elevation of the escutcheon-plate shown in section in Fig. 3. Fig. 5 shows a modified arrangement of the clamping-jaws. Fig. 6 shows an adjusting-screw adapted for the form of my invention shown in Fig. 5.

In said figures, A is the top plate of the exterior casing, which may be fixed in the work-bench flush with the top thereof. The downwardly-depending vertical side walls A' and end wall A<sup>2</sup> of said casing inclose a pair of clamping-jaws B, which are hingedly connected at b and arranged to slide vertically in the casing, with their hinged ends seated in the depression a<sup>2</sup> in the casing-wall A<sup>2</sup>. Between said jaws is the central web A<sup>3</sup> of the casing, which serves to support the material clamped by said jaws, said web being secured to the casing cross-bar A<sup>4</sup> by the screw a<sup>4</sup> and to the top of the casing by the tang a<sup>5</sup>. Said jaws B may be adjusted vertically to any predetermined height by means of the plunger C, whose head c engages the recesses b' in said jaws. Said plunger is mounted for vertical reciprocation in the bottom cross-bar A<sup>5</sup> of the casing and is provided with the spring c', adapted to thrust the jaws upwardly when released. The collar c<sup>2</sup> may be set by the screw c<sup>3</sup> at any desired position upon said plunger C to limit

the vertical movement of the jaws B. I also find it convenient to limit the movement of said jaws B by providing one of them with a downwardly-depending stem b<sup>x</sup>, upon which the collar b<sup>2</sup> may be adjustably secured by means of the set-screw b<sup>3</sup>.

The jaws B comprise outwardly-flared flanges B', which may be used to overhang and clamp material down upon the bench. Said flanges are serrated at b<sup>4</sup> to secure material abutted against the jaws, and the serrated ridges b<sup>5</sup> upon the inner faces of the jaws serve to engage the material clamped thereby. The free edges B<sup>2</sup> of said jaws B are in every position of their vertical adjustment in respective engagement with the oppositely-threaded extremities of the screw D, so that rotation of said screw in one direction or the other serves to oscillate said jaws toward or away from each other to clamp or release material placed between them. Said screw D, being mounted for rotation in the side walls A' of the casing, with its journals d bearing upon the edges of the slots a' in said walls, may be conveniently rotated in either direction by means of the key E, which is entered through the escutcheon-plate F, secured in the side of the work-bench in the relation shown in Fig. 3. The jaws B are secured in adjusted position and the accidental rotation of the screw D prevented by means of the clutch-plate G, whose curved face g rests against said screw opposite to said jaws. Said clutch-plate is upheld in the position shown in Fig. 2 by the engagement of its prongs g' in recesses in the boss A<sup>5</sup> of the casing, the wings g<sup>2</sup> of said plate being also loosely seated in the side walls A'. Said plate may be forced tightly against the screw D by means of the wedge-block H, which is mounted for vertical reciprocation in the boss A<sup>5</sup> and may be vertically adjusted by means of the screw I.

The operation of my device is as follows: The parts having been freed for adjustment by loosening the screw I, the jaws B may be vertically adjusted to any desired position by manipulation of the plunger C and the jaws being oscillated by rotation of the screw D to effect the desired clamping action. The screw I is rotated in such direction as to raise the wedge-block H, thereby forcing the clutch-



plate G against the screw D and thrusting the latter against the free edges B<sup>2</sup> of the jaws B until the parts are rigidly secured in the adjusted position.

- 5 In the form of my invention shown in Figs. 1, 2, and 3, the jaws B being arranged to oscillate upon a common center, the outline of the screw D corresponds with the curved path which is common to both of said jaws.  
 10 However, for some classes of work I find it convenient to mount the clamping-jaws B<sup>3</sup> upon separate axes of oscillation, as indicated in Fig. 5, and for this form of my invention I provide the adjusting-screw D', (shown in  
 15 Fig. 6,) the outline of the oppositely-threaded extremities of said screw being separately curved in correspondence with the respective curved paths of the jaws B<sup>3</sup>. In the latter form of my invention I find it convenient to  
 20 broaden the web A<sup>3</sup>, as indicated in Fig. 5.

I do not desire to limit myself to the precise construction and arrangement of my invention which I have herein set forth, as it is obvious that various modifications may be  
 25 made therein without departing from the essential features of my invention.

I claim—

1. The combination with a frame and pivoted jaws mounted therein, of a bar or support disposed between the jaws and secured to the frame and a tooth projecting from one end of said bar or support and engaging the frame.  
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2. The combination with a frame and jaws disposed therein pivoted together at one end, of a rod or bar mounted in the frame and having a head loosely connected with the lower end of said jaws.  
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3. The combination with a frame and jaws disposed therein pivoted together at one end, of a rod or bar mounted in the frame and having a head loosely connected with the lower end of said jaws and a spring encircling said rod or bar and bearing at its respective ends  
 40 against the head thereon and the frame.  
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4. The combination with a frame, jaws mounted therein and pivoted together at one end and a screw engaged by said jaws for moving them, of a clutch adapted to engage said  
 50 screw, a socketed enlargement on the frame, a beveled block mounted in said socketed enlargement and adapted to engage the clutch and a screw for moving said beveled block to operate the clutch.

5. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed oscillatory jaws, mounted in said casing, means to raise and lower said  
 55 jaws with respect to said casing, means to oscillate said jaws, and means to secure said  
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jaws in adjusted position, substantially as set forth.

6. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed jaws, mounted to swing horizontally upon bearings vertically disposed in said casing, means to shift said jaws vertically with respect to said casing, means to oscillate said jaws, horizontally within said casing, and independent means to secure said  
 65 jaws in predetermined vertical and horizontal relation with said casing, substantially as set forth.  
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7. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of jaws mounted in said casing, to oscillate upon vertical bearings, at one end thereof, and a member extending between the free ends of said jaws in fixed relation with said casing, adapted to support the material engaged by said jaws, substantially as set forth.  
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8. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed oscillatory jaws, mounted in said casing, means to raise and lower said  
 85 jaws with respect to said casing, comprising a spring adapted to uplift said jaws, and means to predetermine the extent of thrust of said spring, substantially as set forth.

9. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed oscillatory jaws, mounted in said casing, means to simultaneously oscillate said jaws, comprising a screw reversely threaded for engagement with the respective  
 90 jaws, and means to secure said jaws, in adjusted position, substantially as set forth.  
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10. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed oscillatory jaws, mounted to reciprocate vertically in said casing, means to simultaneously oscillate said jaws, comprising a screw reversely threaded for engagement with the respective jaws, and means to secure said jaws, in adjusted position, substantially as set forth.  
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11. In a clamp and bench-dog, the combination with a stationary exterior casing, of a pair of opposed oscillatory jaws, mounted in said casing, means to simultaneously oscillate said jaws, comprising a screw reversely threaded for engagement with the respective  
 110 jaws, and a member adapted to bear upon said screw, and prevent the rotation thereof, substantially as set forth.

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Witnesses:

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 JOSEPH F. O'NEILL.