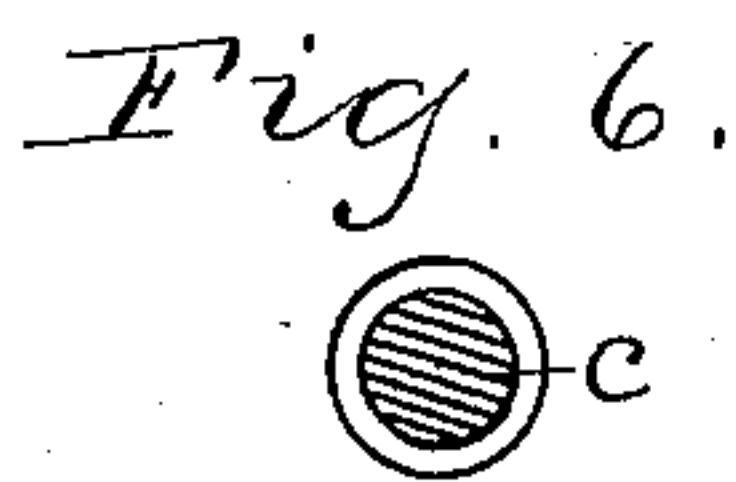
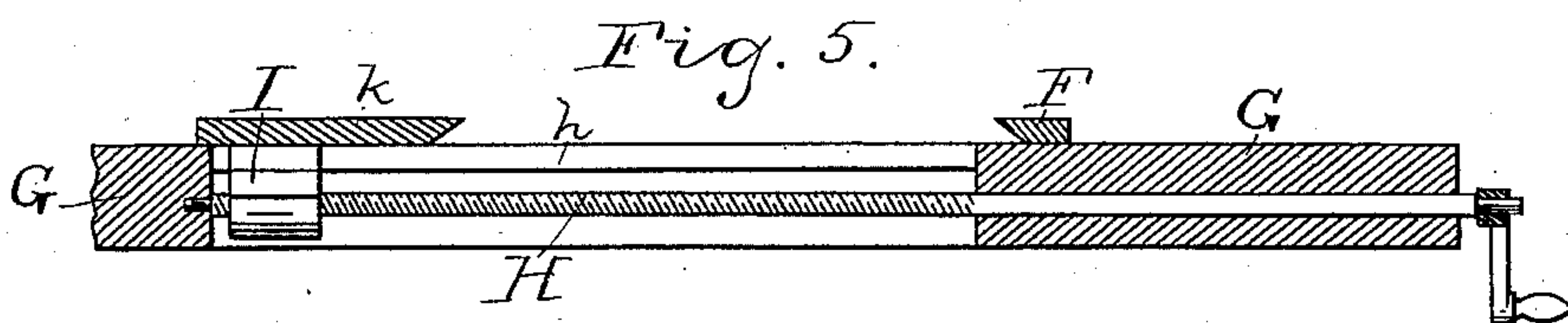
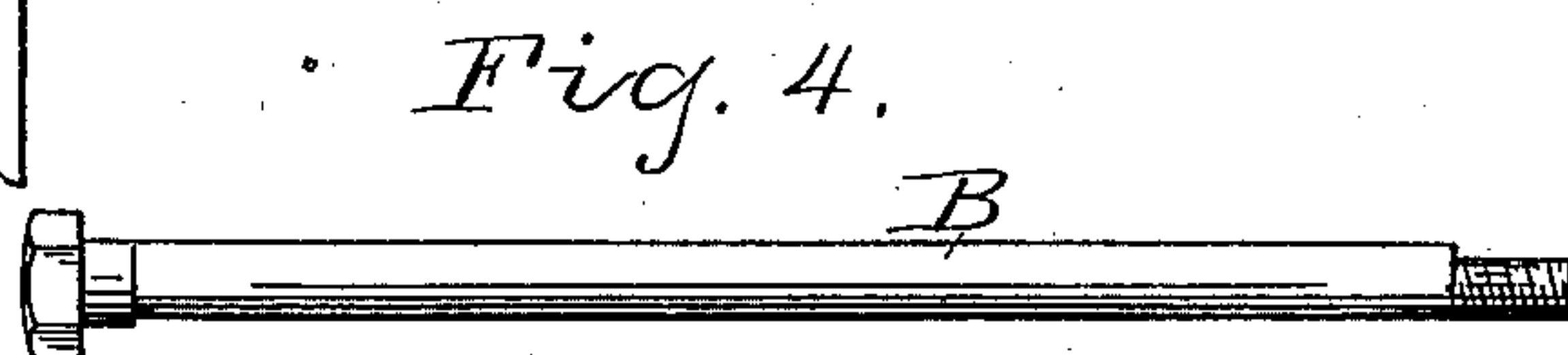
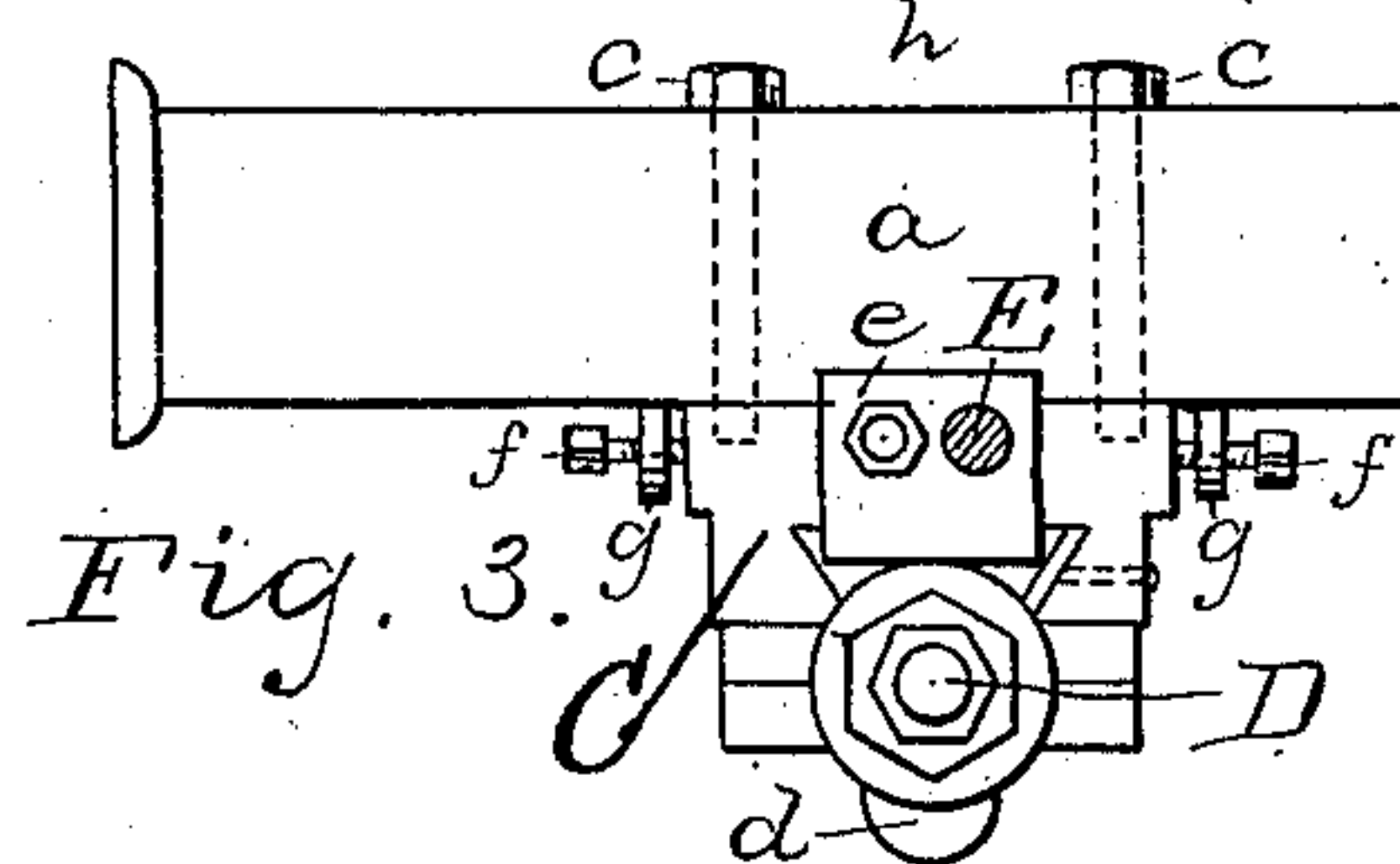
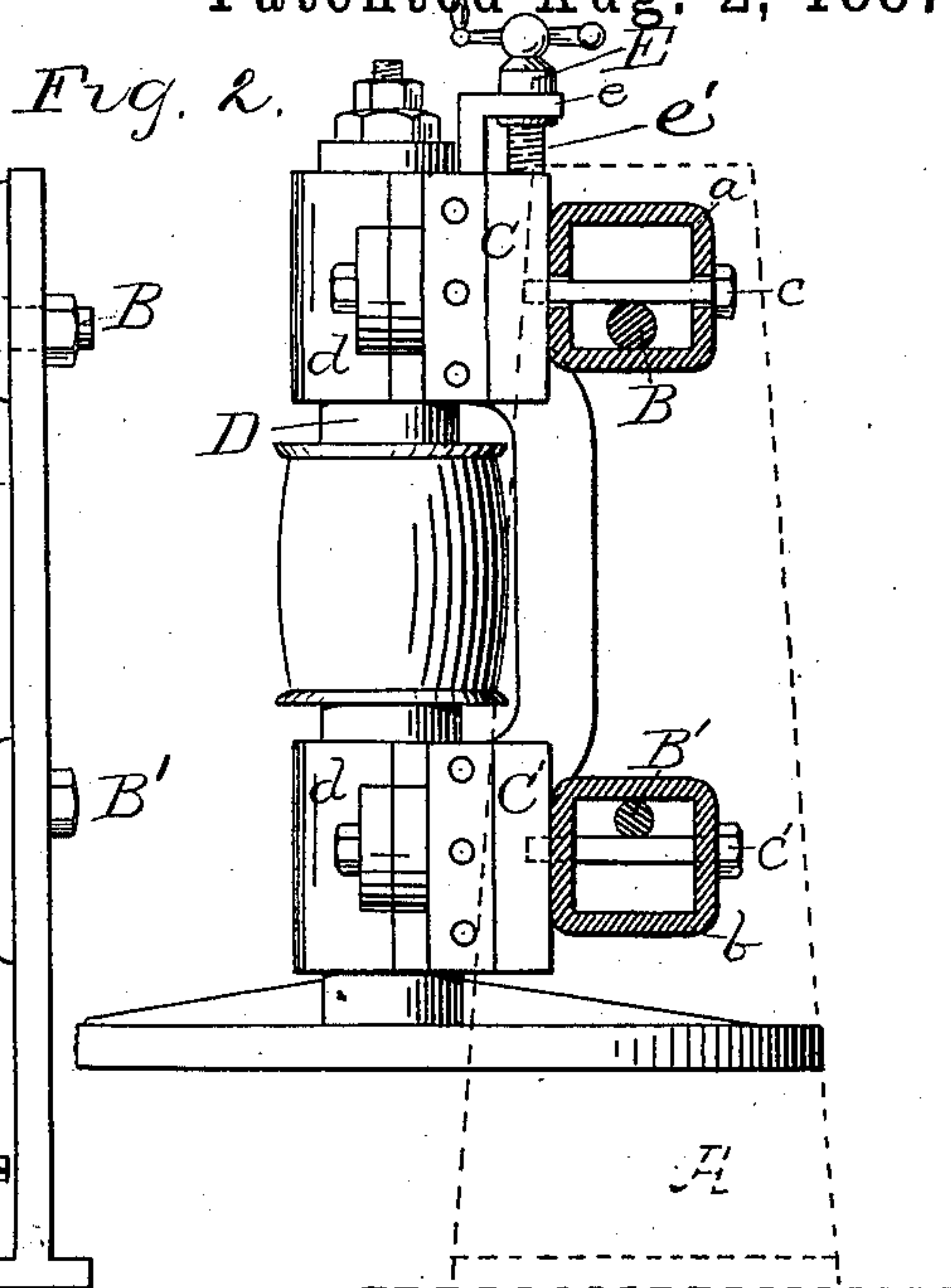
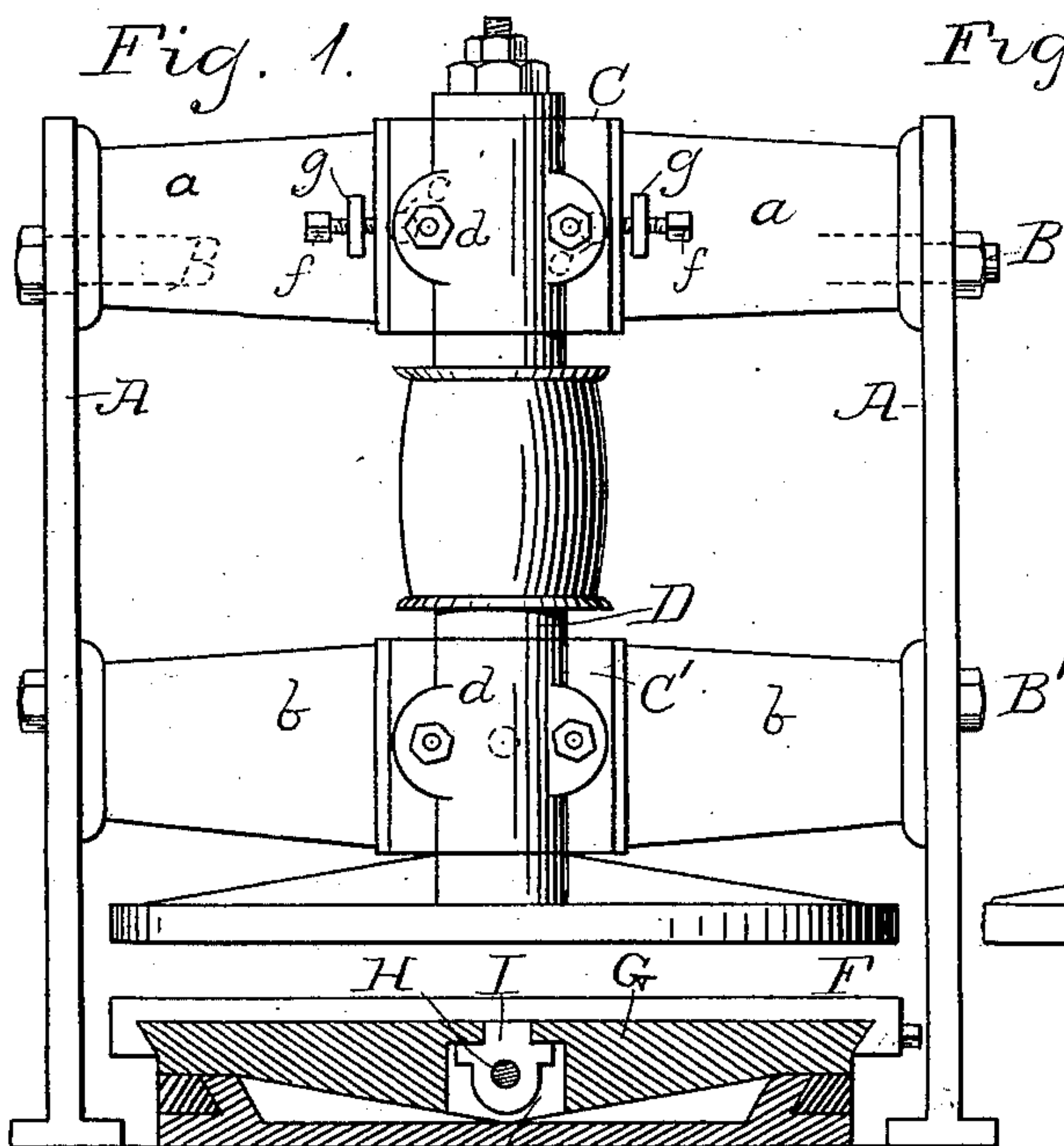


(No Model.)

G. E. LLOYD.
WOOD PLANING MACHINE.

No. 367,417.

Patented Aug. 2, 1887.



WITNESSES:

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GEORGE E. LLOYD, OF CHICAGO, ILLINOIS.

WOOD-PLANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 367,417, dated August 2, 1887.

Application filed December 24, 1886. Serial No. 222,510. (No model.)

To all whom it may concern:

Be it known that I, GEORGE E. LLOYD, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Wood-Planing 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.

The object of my invention is to provide
15 means for adjusting the revolving cutter-carrying heads, and for clamping the wood on the bed of stereotypers' and electrotypers' wood-planing machines, or, as it is better known to the trade "Daniel's Plainer," substantially as described, and as illustrated in the draw-
20 ings, in which—

Figure 1 is a front elevation of my invention, showing the bed in transverse section. Fig. 2 is a side elevation thereof, showing the cross-bars in section and the standards in dotted
25 lines. Fig. 3 is a plan view, and Figs. 4, 5, and 6 are detail views.

Reference being had to the drawings, A represents the standards resting on and secured to the table-frame of the machine. Connecting
30 these standards by means of bolts traveling longitudinally through them are the upper and lower cross-bars, *a* and *b*, respectively.

The bolt B, connecting the cross-bar *a* to the standards A, is eccentric—that is, the portion
35 of its barrel located within the bar *a* is of one diameter, whereas the diameter of that part nearest to the head and which rests within the adjacent standard is greater and has its center set a little below the center of the barrel
40 of said bolt, which lies within said bar *a*. The end of the bolt resting within the right-hand standard is less in diameter than the part of the bolt within bar *a*, and its center is in alignment with the eccentric portion of the
45 bolt contiguous to its head. The reason the eccentric end of this bolt B is less in diameter than the rest of its length is so that it may be set in position from left to right, which, considering its eccentricity, could not be easily
50 accomplished were it otherwise. The eccentric end of this bolt is screw-threaded and a

nut placed thereon to secure it in position. By oscillating this eccentric bolt cross-bar *a* can be moved forward or backward a distance corresponding to the eccentricity of the ends
55 of said bolt. The bolt B', connecting the lower cross-bar, *b*, to the standards, is straight.

Secured by means of screws to the front surface of bars *a* and *b*, about their centers of length, are the bosses C and C'. Boss C is secured to bar *a* by means of two screws, *c c*,
60 which pass through holes in bar *a*, the diameter of which is greater than theirs, as shown in Figs. 2 and 6. Boss C' is secured in like manner to cross-bar *b* by one screw, *c'*, located
65 about the center of said boss and bar. These bosses C and C' are provided with vertical central dovetail mortises in their outer faces, in which corresponding tenons from the contiguous surfaces of the pillows of bearings *d d* enter,
70 and can be moved vertically, as will be hereinafter more fully explained.

Bearings *d d* are connected by a vertical bar and journal the vertical spindle D, which is provided with a nut and lock-nut on its upper
75 end to retain it in position, a pulley between its bearings, through the medium of which it is actuated, and the cutter-carrying head on its lower end. In order to give the spindle a vertical adjustment, I extend from the upper
80 bearing, *d*, an angle-arm, *e*, the horizontal part of which projects over the top of boss C. Passing vertically downward through this arm *e* is a set-screw, *e'*, which simply limits the adjustment by bearing on the top of boss C;
85 and there is a screw, E, with a balance-handle, which, by means of the boss or enlarged diameter above said arm *e* and collar immediately below, carries said arm, bearing, and spindle up or down, according as it is screwed
90 in or out of the boss C.

Projecting laterally from the upper cross-bar, *a*, at either side of boss C, are lugs *g g*. These lugs are tapped laterally for the reception of set-screws *f f*, the ends of which bear
95 against the vertical sides of said boss C. When it is desired to adjust said cutter-carrying head laterally, I slightly loosen screws *c c* and then adjust screws *f f*. The spindle is thereby oscillated laterally within the limits of the enlarged holes in the cross-bar *a*, through which
100 said screws *c* pass. Screw *c'*, securing the

lower boss, C', to cross-bar *b*, serves as the point of oscillation when the spindle, &c., are oscillated laterally.

When it is desired to oscillate or adjust the cutter-carrying head in a longitudinal direction—that is, lengthwise with the bed—the bolt B is oscillated in its bearings in the standards, thus, by reason of said bolt within bar *a* being offset from or eccentric to the center of oscillation of its journals, moving said bar *a* forward or backward, as desired, and oscillating the spindle, &c., upon bolt B', which passes longitudinally through bar *b*.

I do not wish to be understood as claiming as new the spindle, the means for vertically adjusting the same, nor the construction of the bearings thereof, for these are old in the construction of Daniel planers.

In order to keep the wood or block upon the bed as it reciprocates longitudinally under the rapidly-rotating cutter-carrying head, I provide a gage, F, which consists of a bar of metal one side of which is inversely beveled, so as to leave the projecting edge sharp, which reaches across the bed transversely and has downwardly-projecting ends. The inner surfaces of these downturned ends are inversely beveled, so as to correspond to the edges of the bed, as shown, and one end has a set-screw passing longitudinally through it, which impinges against the edge of the bed and holds the gage in position, as desired.

In the bed G is a longitudinal central slot, *h*, through which passes a longitudinal screw, H, one end of which projects beyond the end of the bed G, and is fitted with a handle, by which it is actuated. On this screw H, within slot *h*, is a nut, I, as shown in Figs. 1 and 5. This nut projects up through slot *h* to the plane of the upper surface of the bed G, and has attached to it the gage-plate *k*. The side of plate *k* adjacent to gage F is inversely beveled to provide a sharp edge, and both it and the contiguous sharp edge of gage F may be serrated, if desired.

By adjusting gage F on the bed and turning screw H so as to bring gage-plate *k* nearer or remove it farther from the gage F, I can accommodate and hold securely upon the bed all sizes of blocks it is practicable to plane on the machine.

What I claim as new is—

1. In a wood-planing machine, the combination, with the spindle, cutter-carrying head, and bearings of said spindle, of the bosses C and C', and cross-bars *a* and *b*, and set-screws *f f*, passing laterally through lugs *g g*, projecting from cross-bar *a* on either side of boss C, said boss C being secured to bar *a* by screws *c c*, which pass through holes in bar *a* of a greater diameter, as described, and boss C' being secured to bar *b* by a screw, *c'*, as and for the purpose set forth.

2. In a wood-planing machine, the combination, with the cutter-carrying head, spindle, and bearings thereof, of cross-bars *a* and *b*, supporting said bearings, standards A, eccentric bolt B, as described, connecting bar *a* to the standards, and bolt B', connecting bar *b* to said standards, as set forth.

3. In a wood-planing machine, the combination, with the cutter-carrying head, spindle and bearings thereof, of the bosses C and C', supporting said bearings, cross-bars *a* and *b*, screws *c c*, connecting boss C to bar *a* and screw *c'*, connecting boss C' to bar *b*, standards A, eccentric bolt B, as described, connecting bar *a* to the standards, and bolt B', connecting bar *b* to the same, and means, as set forth, for adjusting said spindle vertically.

4. In a wood-planing machine, the combination, with cutter-carrying head and means for revolving the same, of bed G, having the longitudinal slot *h* therein, screw H, nut I thereon within said slot, gage-plate *k*, the gage F, consisting of a bar crossing said bed, having downturned ends, and a screw passing laterally through one of these ends and impinging against the edge of the bed, as and for the purpose set forth.

5. The combination, with the cutter-carrying head, spindle D, and bearings *d d*, connected by a vertical bar and adjustable vertically by means of an arm projecting from the upper bearing, *d*, and a set-screw passing down through said arm and supported by cross-bar *a*, of standards A, cross-bars *a* and *b*, eccentric bolt B, passing longitudinally through bar *a*, and pivotal bolt B', passing longitudinally through bar *b*, as and for the purpose set forth.

6. The combination, with a cutter-carrying head, spindle D, and bearings *d d*, connected and vertically adjustable, of standards A, bars *a* and *b*, to which said bearings are connected, said bar *a* having a slight movement longitudinally (or coincident with the length of the bed) and bar *b* a slight oscillation in the same direction, and means consisting of lugs *g g*, projecting from bar *a* on either side of the upper bearing, *d*, and set-screws *f f*, for giving said bearing a limited lateral movement, (that is, lengthwise of bar *a*,) thereby oscillating spindle D laterally, which lateral movement is permitted by securing the upper bearing to bar *a* by bolts which pass through holes in said bar, of a diameter exceeding theirs, and securing the lower bearings, *d*, to bar *b* by a pivotal bolt, as set forth.

GEORGE E. LLOYD.

Witnesses:

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HIRAM ZEH,
E. C. WILLIAMS.