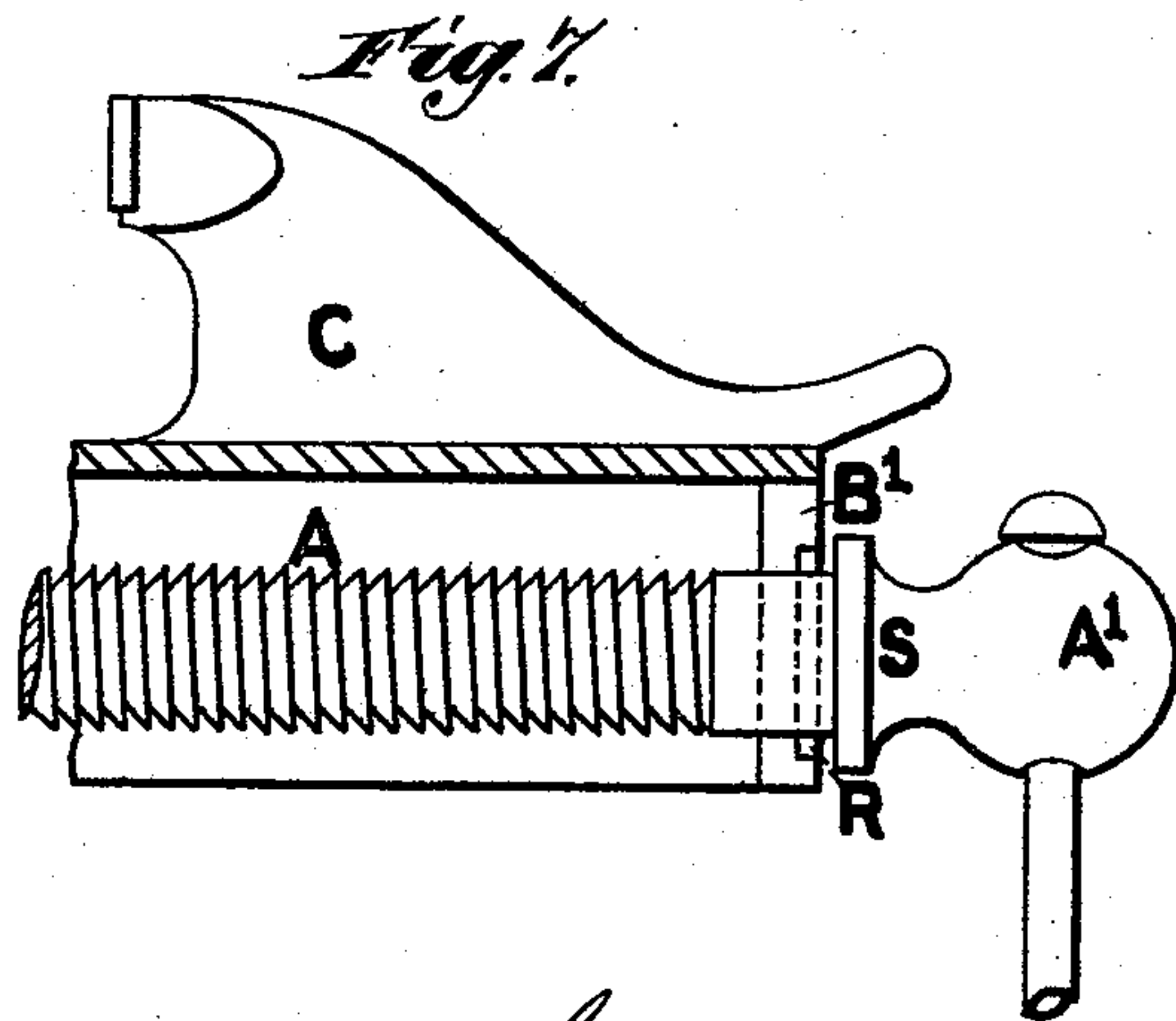
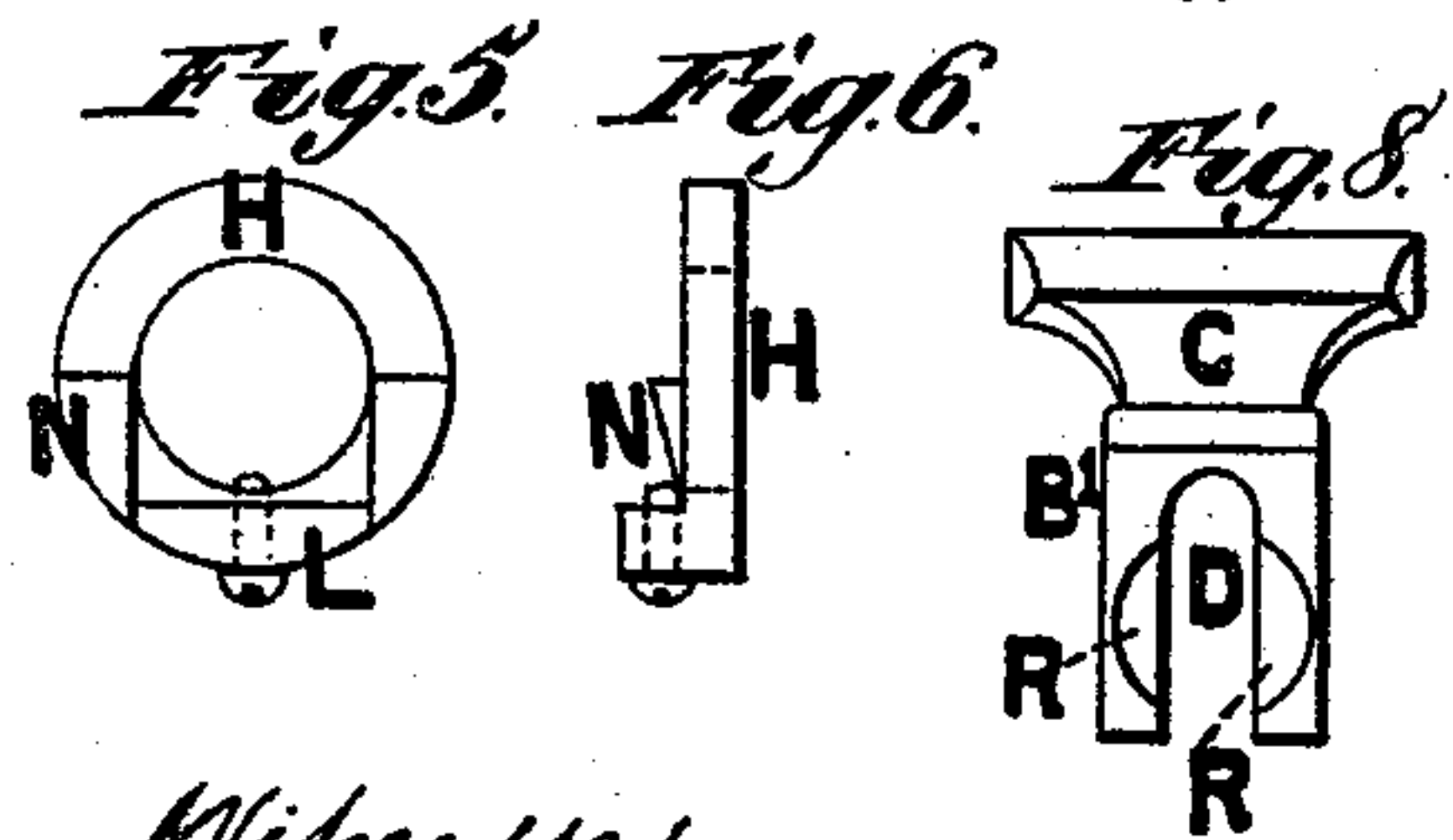
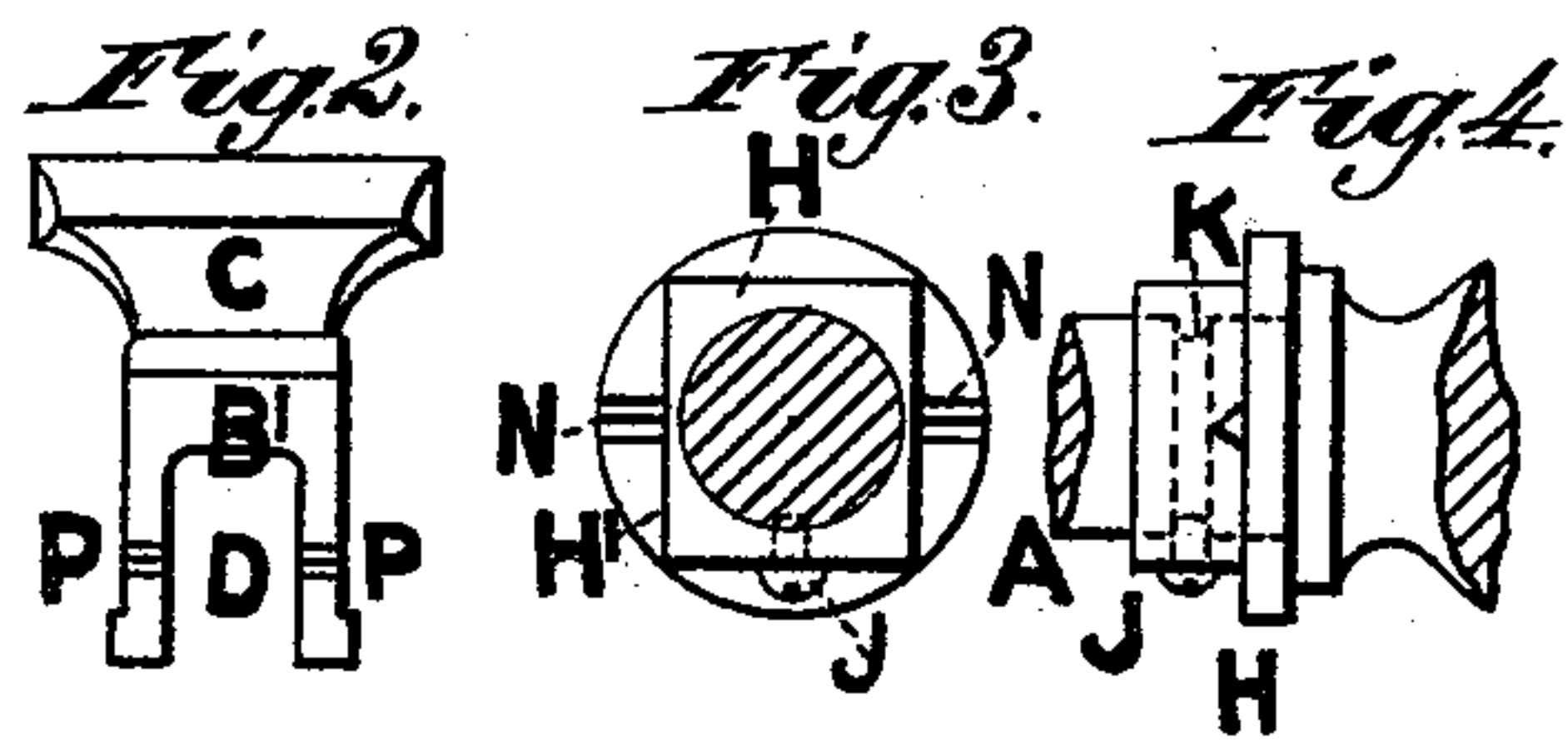
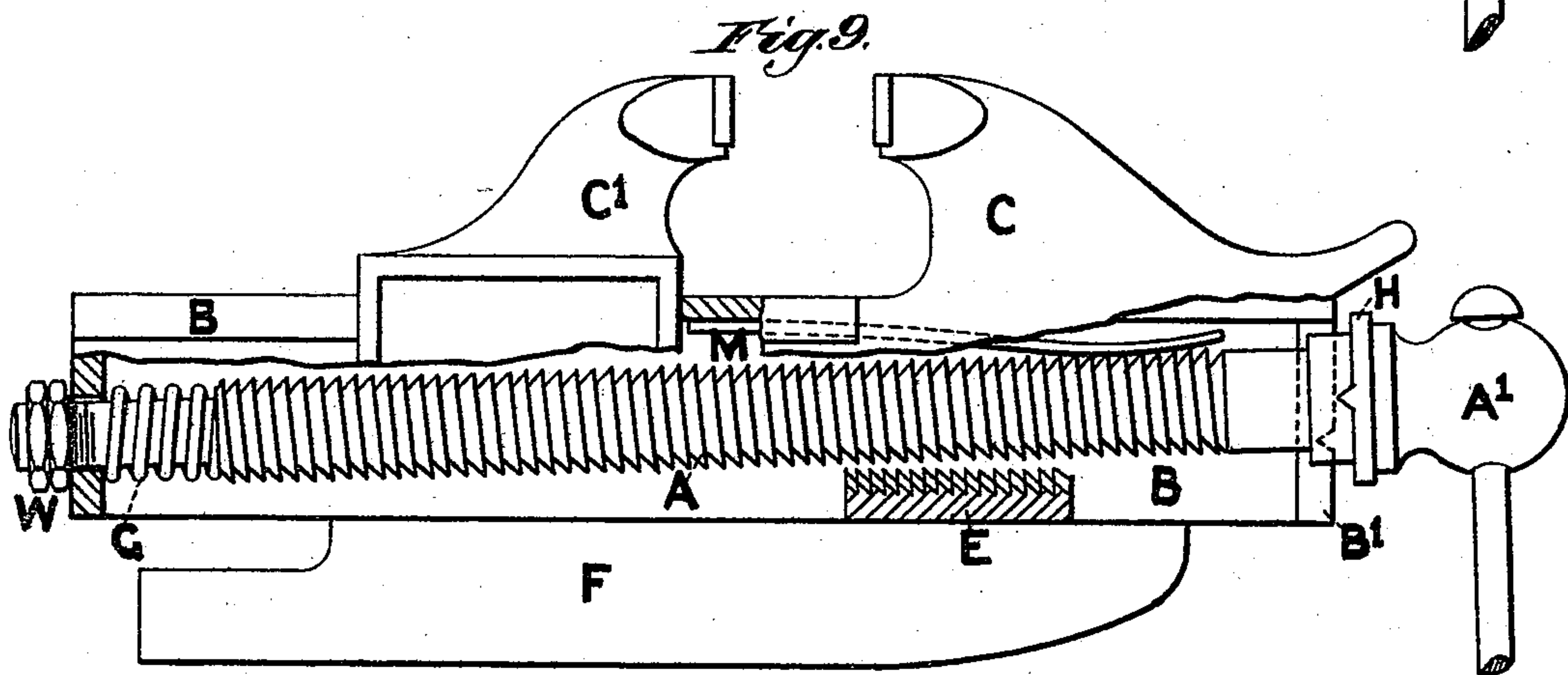
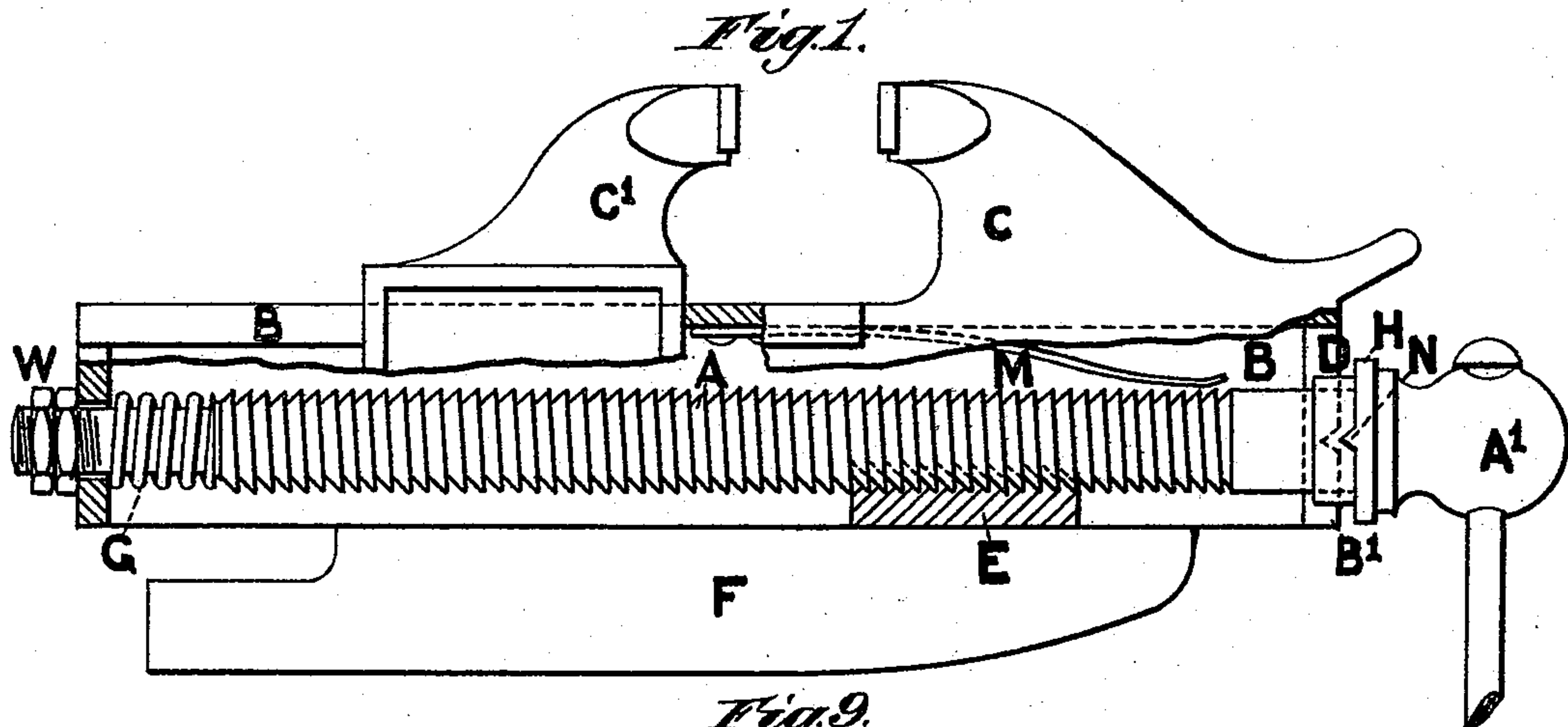


(No Model.)

F. T. SCHMIDT.
PARALLEL VISE.

No. 490,603.

Patented Jan. 24, 1893.



Witnesses
J. A. Kucherford.
Robert Edgett.

Inventor
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UNITED STATES PATENT OFFICE.

FREDERICK T. SCHMIDT, OF BRADFORD, ENGLAND, ASSIGNOR TO THE
MUTUAL ENGINEERING COMPANY, LIMITED.

PARALLEL VISE.

SPECIFICATION forming part of Letters Patent No. 490,603, dated January 24, 1893.

Application filed March 22, 1892. Serial No. 426,018. (No model.) Patented in England May 8, 1890, No. 7,171.

To all whom it may concern:

Be it known that I, FREDERICK THOMAS SCHMIDT, a subject of the Queen of Great Britain, residing at Bradford, in the county of York, England, have invented new and useful Improvements in Parallel Vises, (for which I have obtained Letters Patent in Great Britain, No. 7,171, dated May 8, 1890,) of which the following is a specification.

This invention relates to certain improvements in that class of parallel vise in which the loose or movable jaw may be operated rapidly toward or away from the fixed jaw without having to turn the vise screw, and has for its object, the mounting of the vise screw in such a manner that, when the loose jaw is being tightened to grip anything between the jaws, the screw is effectually retained in contact with the threads of the half nut fixed to the bed plate of the fast jaw.

In the accompanying drawings:—Figure 1 represents a side view of a parallel vise made according to my invention, part of the fast and loose jaws being cut away to show the screw, and other parts of the interior. Fig. 2 is an end view of the loose jaw reduced. Fig. 3 is a detail view of a loose collar placed on the screw which is shown in section. Fig. 4 is a side view of the same. Figs. 5 and 6 are details of a modified loose collar, which may be used in lieu of that shown by Figs. 3 and 4. Fig. 7 is a view of a portion of a loose or sliding jaw partly in section, and with the screw arranged to engage with a recess cut in the loose jaw without the aid of a loose collar. Fig. 8 is an end view of the loose jaw reduced, showing the circular recess for the screw collar. Fig. 9 is a side elevation of my improved parallel vise, showing the vise screw lifted out of contact with the half nut, for the purpose of adjusting the loose jaw.

In all the views similar letters indicate similar parts.

The gripping screw A, is mounted in the box B, of loose jaw C of the vise, by passing through the slot D cut in the front end of the box B, the opposite end of the screw A, being supported by passing through a hole bored in the back end of the said box B, and when the screw A is in its normal position, the lever end at A' is supported by the sectional nut

E, secured to the bed plate F of the fast jaw C' of the vise; the compressed spiral spring G, placed around the unthreaded part of the screw spindle A, forces the screw back until the nuts W are in contact with the end of loose jaw box, and the loose collar H away from the front end of the said box B at B' as shown at Fig. 1. The loose collar H is retained in its position on the screw spindle A, by a small screw J passing through the collar, with the end engaging in a groove K, cut in the spindle, so that by the flat sides H' of the loose collar engaging with the sides of the slot hole D, the screw A may be rotated without rotating the collar; or in lieu of a collar having flat sides as described, a projection L may be formed on one side of a collar as shown at Figs. 5 and 6 which permanently engages with the before mentioned slot D, the collar retaining its position on the screw spindle by a small screw J engaging with a groove K, in the manner as before described.

When the screw spindle A is fitted with either arrangement of loose collar, on raising the screw by the lever end at A' clear of the sectional nut E, (see Fig. 9,) the loose jaw G may be moved toward or away from the fast jaw C', to suit the thickness of the material to be gripped, without rotating the screw, which, on being lowered engages with the sectional nut and is partly held thereon by the spring M pressing on same. On turning the lever at end A', the screw travels some distance in the direction of the arrow, compressing the spiral spring G, and moving the loose collar H until in contact with end of vise box at B', and the projections N thereon engage with the recesses cut in the front end of vise box, by which operation the material is gripped between the jaws, and the screw A retained in connection with the nut E.

According to my modified arrangement of recess shown by Figs. 7 and 8, the end of the screw A, is provided with a spiral spring G, applied in the same manner as is shown by Fig. 1, but there is no loose collar H, on the screw at the opposite end. In this case a circular recess at R, is cut in the end of loose jaw box at B', and on turning the screw A, it travels in the direction of the arrow as before described, until the collar S of screw spin-

dle enters the recess R, when the loose jaw is operated sufficiently to grip the material; the recess R preventing the screw A rising clear of the nut E in the same manner as before described.

What I claim as the invention and desire to secure by Letters Patent is:—

The combination with a sliding box B having a jaw C and provided at its front end with a vertical slot D, and a bed plate F having a stationary jaw C' and a sectional screw nut E, of a lengthwise movable rotary screw A loosely mounted in the rear end of the sliding box and adapted to rise and fall at its front end portion, a collar on the front end portion of the rotary screw which is moved into en-

gagement with the front end of the sliding box by rotating the screw while engaged with the sectional nut, and a spring G acting to move the rotary screw lengthwise when it is lifted from the sectional screw nut for disengaging the collar on the screw from the front end of the sliding box, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK T. SCHMIDT.

Witnesses:

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ABM. REED,
Halifax.