

S. A. Morse.

Work-Holder for Milling Machine.

N^o 63,929.

Patented Apr. 16, 1867.

Fig. 1.

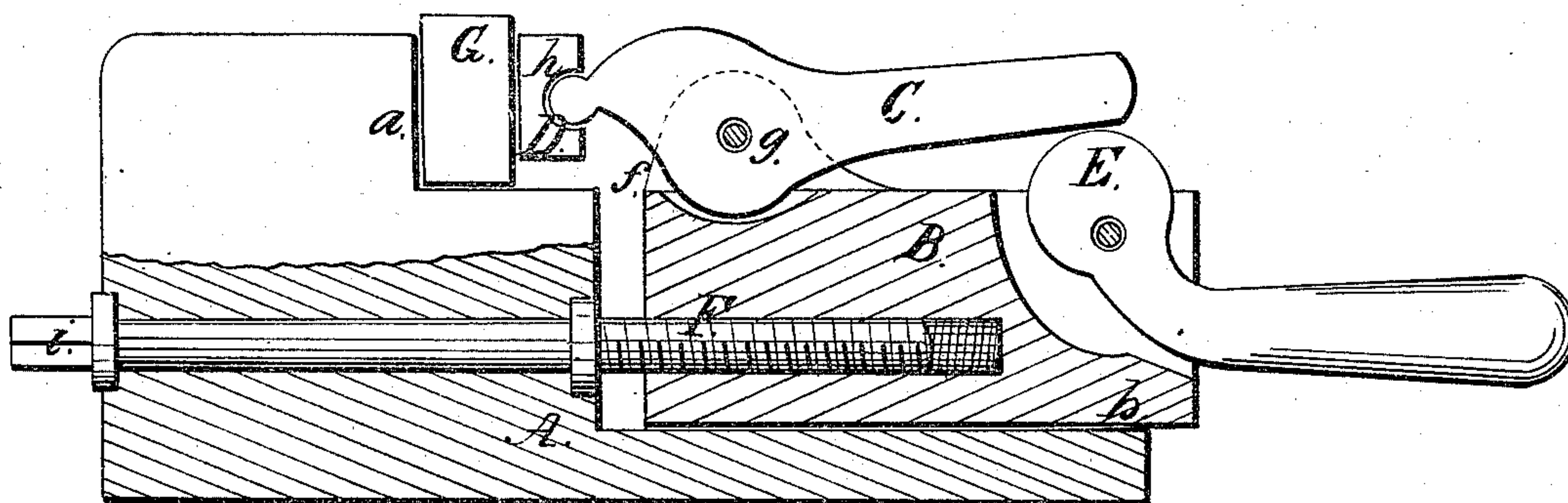


Fig. 2.

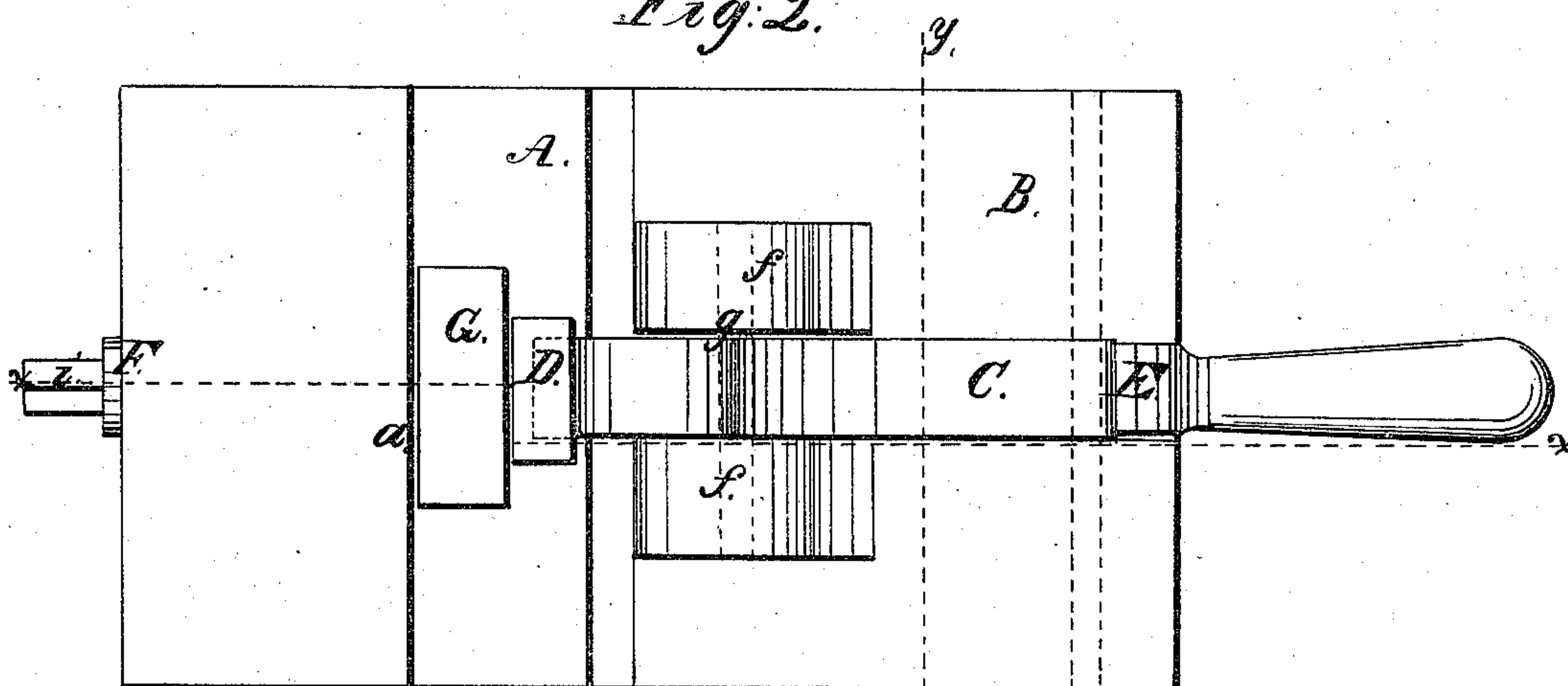
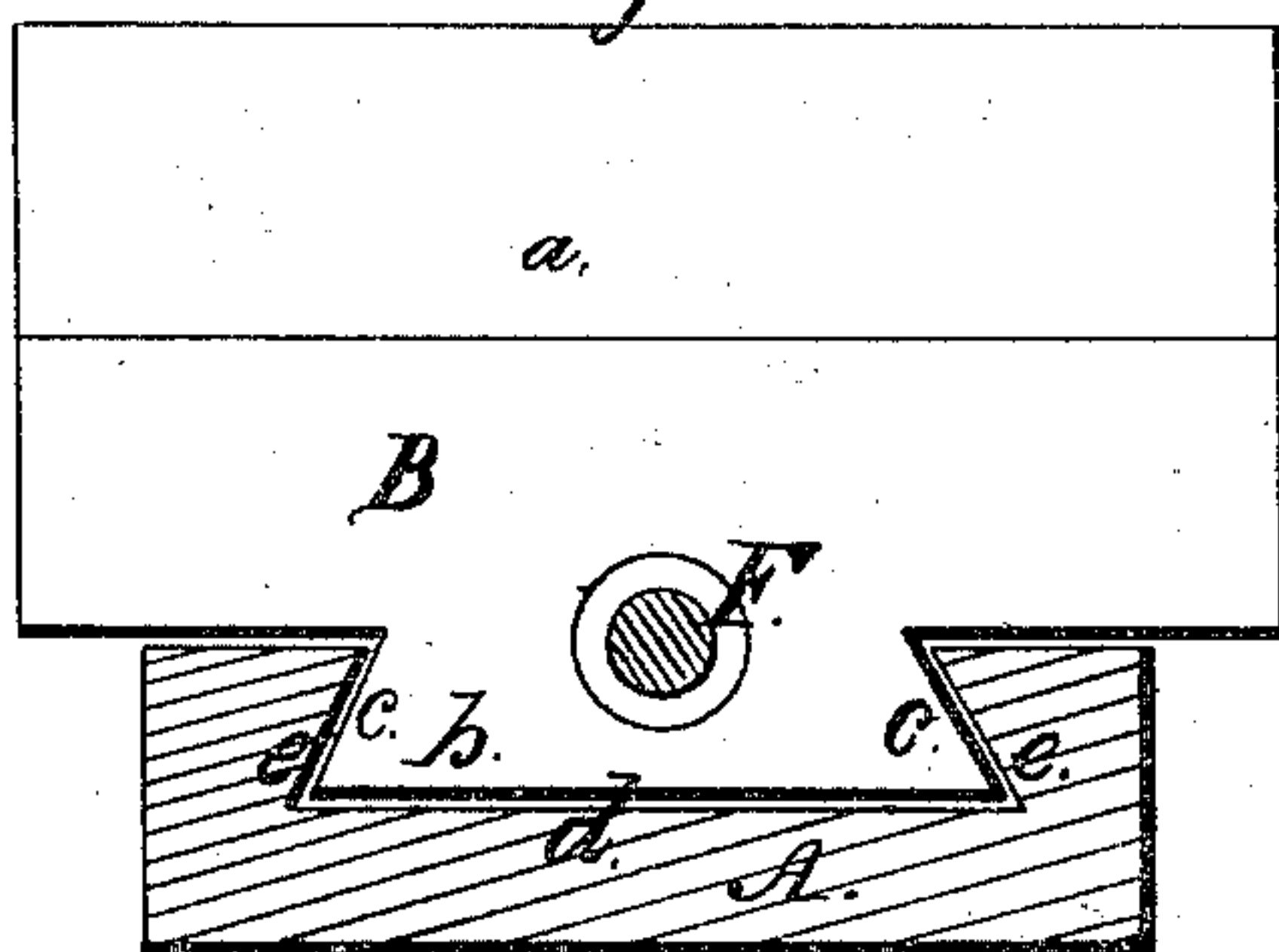


Fig. 3.



Witnesses:

F. A. Jackson

Wm. Trevin

Inventor:

S. A. Morse

By Munn & Co.

Attorneys.

United States Patent Office.

S. A. MORSE, OF NEW BEDFORD, MASSACHUSETTS.

Letters Patent No. 63,929, dated April 16, 1867.

IMPROVED CLAMP.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. A. MORSE, of New Bedford, in the county of Bristol, and State of Massachusetts, have invented a new and improved Clamp for holding articles while being planed or milled; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, fig. 2.

Figure 2, a plan or top view of the same.

Figure 3, a transverse vertical section of the stock and slide of the same, taken in the line *y y*, fig. 2.

Similar letters of reference indicate like parts.

This invention relates to a new and improved clamp for securing articles firmly in position while being planed or milled. The object of the invention is to obtain a device, for the purpose specified, which will admit of the articles being not only clamped with facility or very expeditiously, but also in proper position relatively with the cutting tool in every instance.

A represents what may be termed the stock of the device, the same being composed of a rectangular block having an upright ledge, *a*, extending entirely across it at right angles. B represents a sliding plate, which is fitted on the stock A, the lower or under side of B being provided with a longitudinal cleat, *b*, having dove-tail sides, *c*, said cleat being fitted within a longitudinal groove, *d*, in A, having inclined or dove-tail sides, *e*, as shown clearly in fig. 3. By this arrangement the plate B is allowed to slide freely forward and backward on the stock A without being permitted to rise or move casually upward. On the upper surface of the sliding plate B there are two vertical ears or lugs *f f*, between which a lever, C, is fitted, and works on a fulcrum pin, *g*, and the front end of this lever is rounded or made in cylindrical form to fit into a socket, *h*, of corresponding shape, made in a square plate, D, as shown clearly in fig. 1. The lever C is operated or adjusted by means of a cam, E, fitted in the outer end of the plate B, as shown in figs. 1 and 2. The sliding plate B is adjusted by a screw, F, which is fitted longitudinally in the stock A, and works in an internal screw-thread in the plate B, as shown in fig. 1, the screw F having a square, *i*, on its outer end to receive a key by which the screw is turned.

The operation is as follows: The stock A is secured in the bed of a planing or other machine used to operate upon the work, and the article G to be planed is fitted on the stock A and against the ledge *a*, between it and the plate D on the inner or front end of the lever C, which end is in an elevated state, it having been raised by adjusting the cam E so as to admit of G being inserted in the place specified. The outer end of the lever C is then forced upward by actuating the cam E, and the front end of the lever C thereby forced down, which causes the plate D to firmly clamp the article G or bind it against the ledge *a*. The upper side of G is then planed or milled, and after that is performed the cam E is actuated so as to let down the outer end of C, and G is turned between *a* and B so that another side of it will be uppermost, the outer end of C being again forced upward, and G thereby clamped in position and the succeeding side planed or milled. The plate B is adjusted to suit different-sized articles G which are to be operated upon, said plate being adjusted so as to leave a requisite space between D and *a* to admit of G being inserted between them when D is raised, and at the same time admit of D when forced down pressing firmly against G. The plate D, it will be seen, in consequence of being attached to lever C, as shown, is rendered self-adjusting, and always presses against G parallel with the surface with which it is in contact. Thus it will be seen that by this extremely simple device articles may be firmly and expeditiously clamped in position for the purpose of being planed or milled, and the article, by the process of clamping, will be brought in a proper relative position with the cutting-tool, for the pressure of the plate D against G, when the outer end of lever C is forced upward, is brought forward towards the ledge *a* and downward towards the upper surface of the stock A, hence G will be brought firmly against *a* and down upon A.

I do not confine myself to the use of a cam, E, for operating or adjusting the lever C, as other devices may be used for that purpose and answer equally as well. It will of course be understood that the centre of the plate D is above the fulcrum-pin *g* of the lever C, in order to admit of said plate and lever operating as described.

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

The stock A, provided with an upright ledge or bearing surface, *a*, in combination with the sliding plate B, provided with the lever C having the self-adjusting plate D attached, and operated by the cam E, or its equivalent, substantially as and for the purpose herein set forth.

S. A. MORSE.

Witnesses:

WM. L. KELLEY,

GEORGE POLLARD.