No. 885,949. PATENTED APR. 28, 1908.

J. R. PEIRCE.

CLAMP.

APPLICATION FILED OCT. 17, 1906.

FIG. 2.

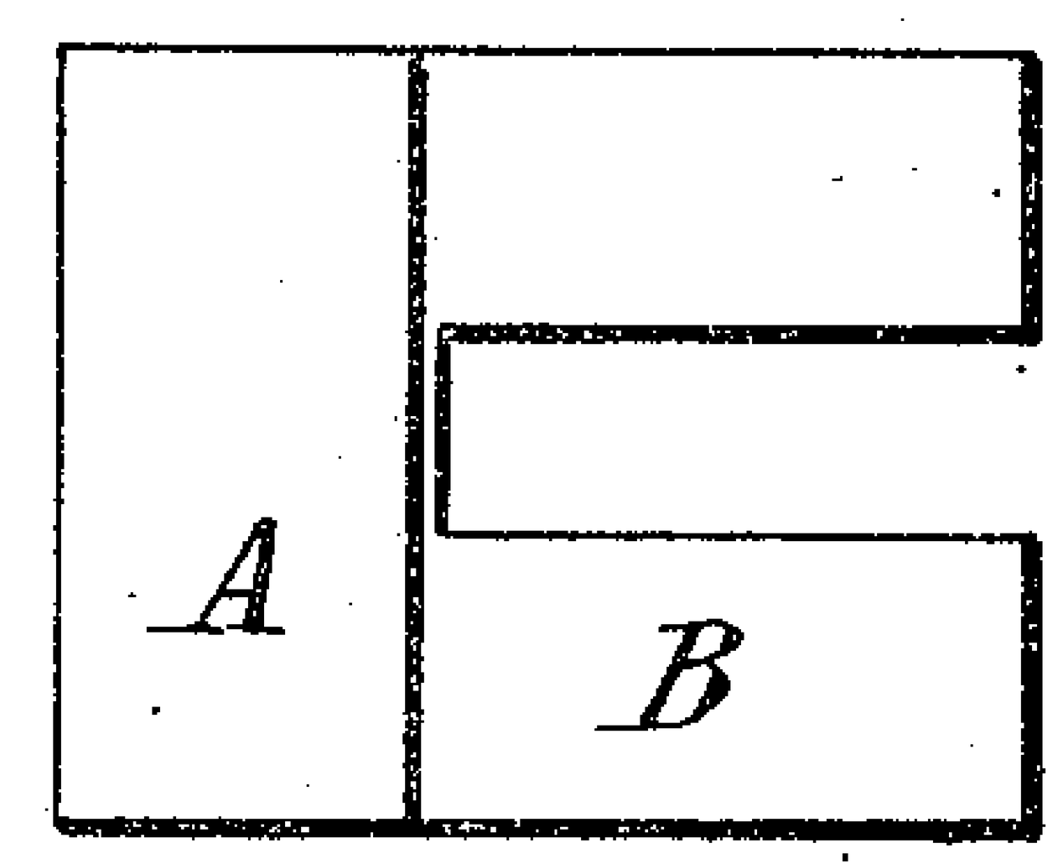


FIG. 1.

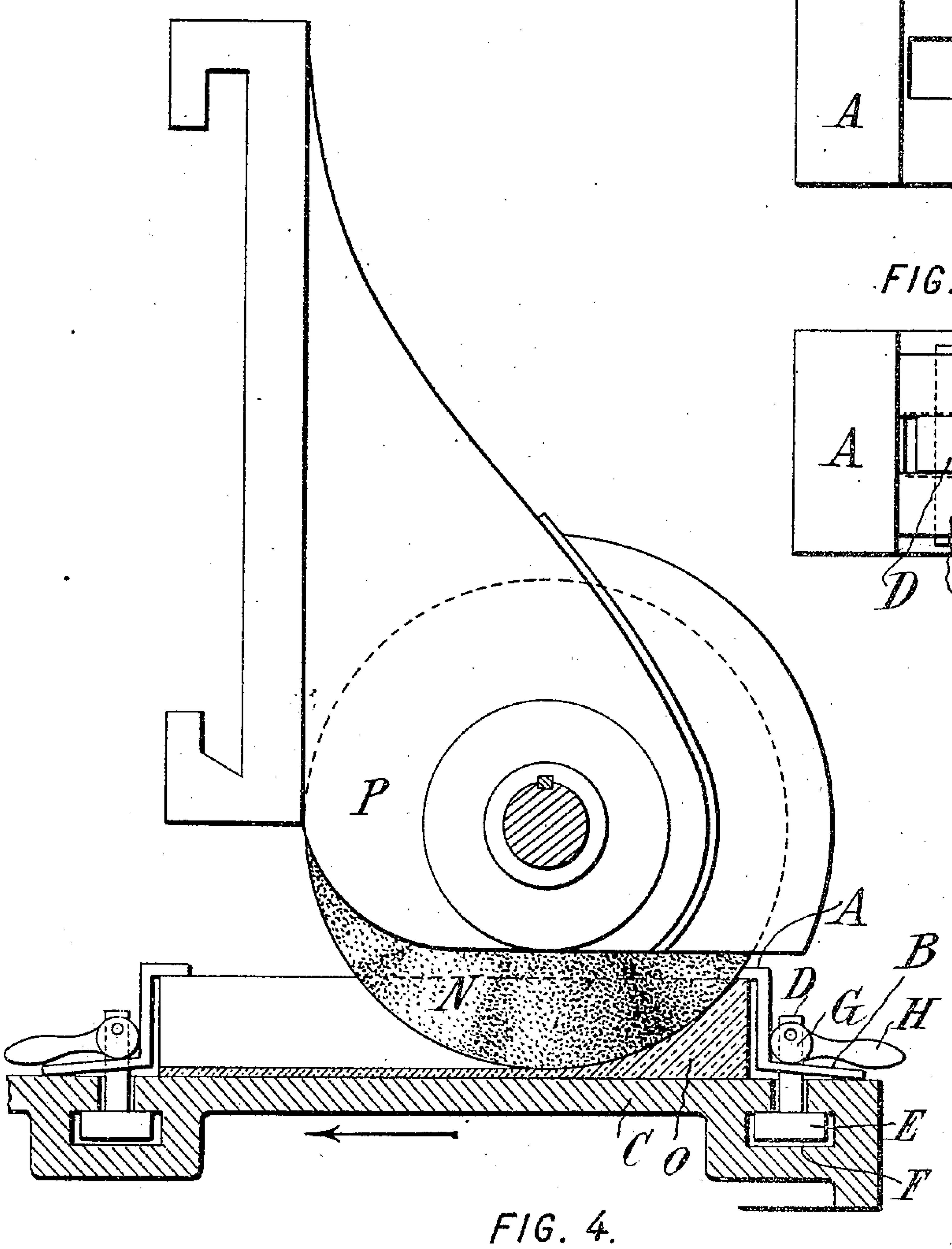


FIG. 3.

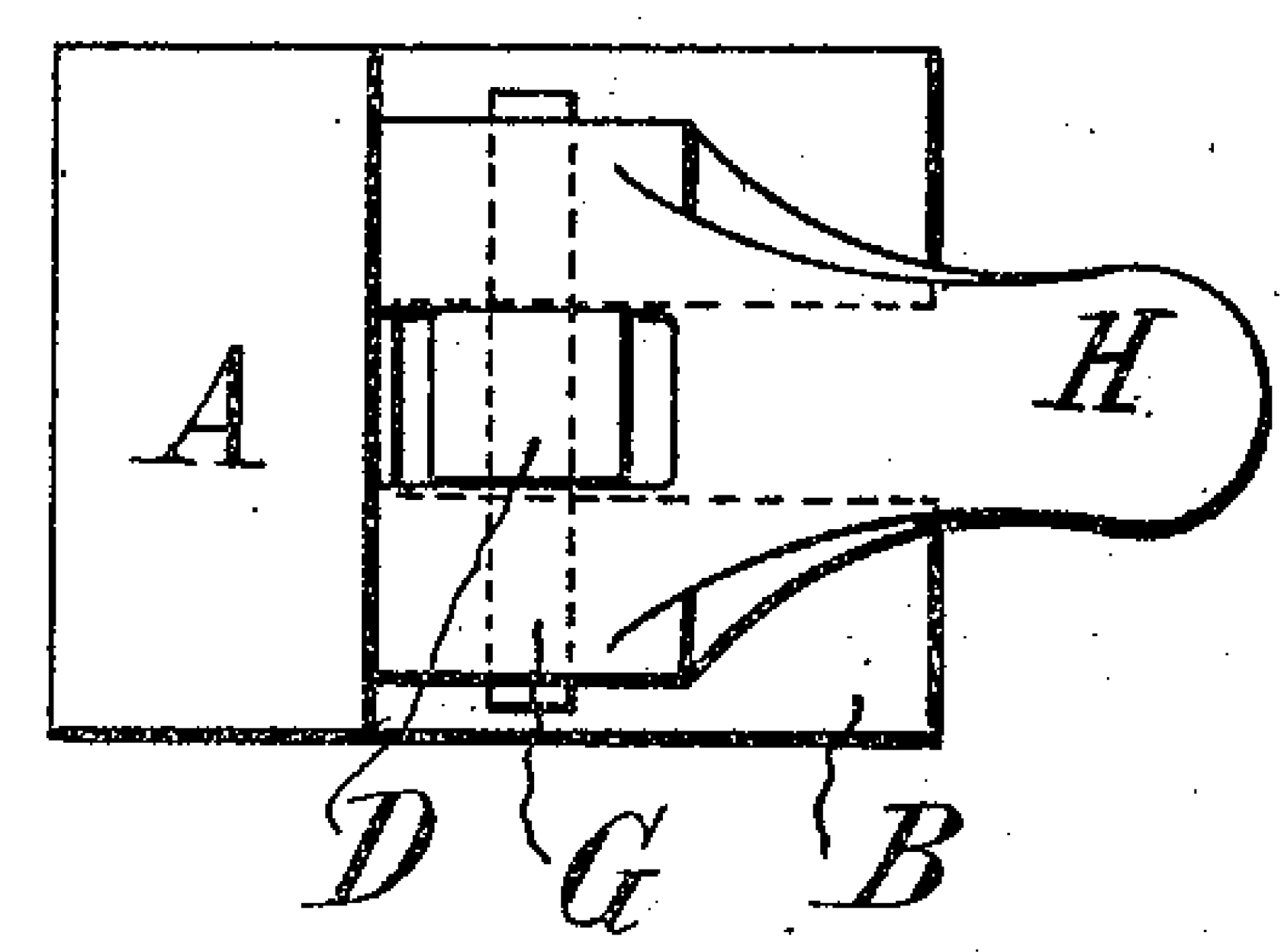
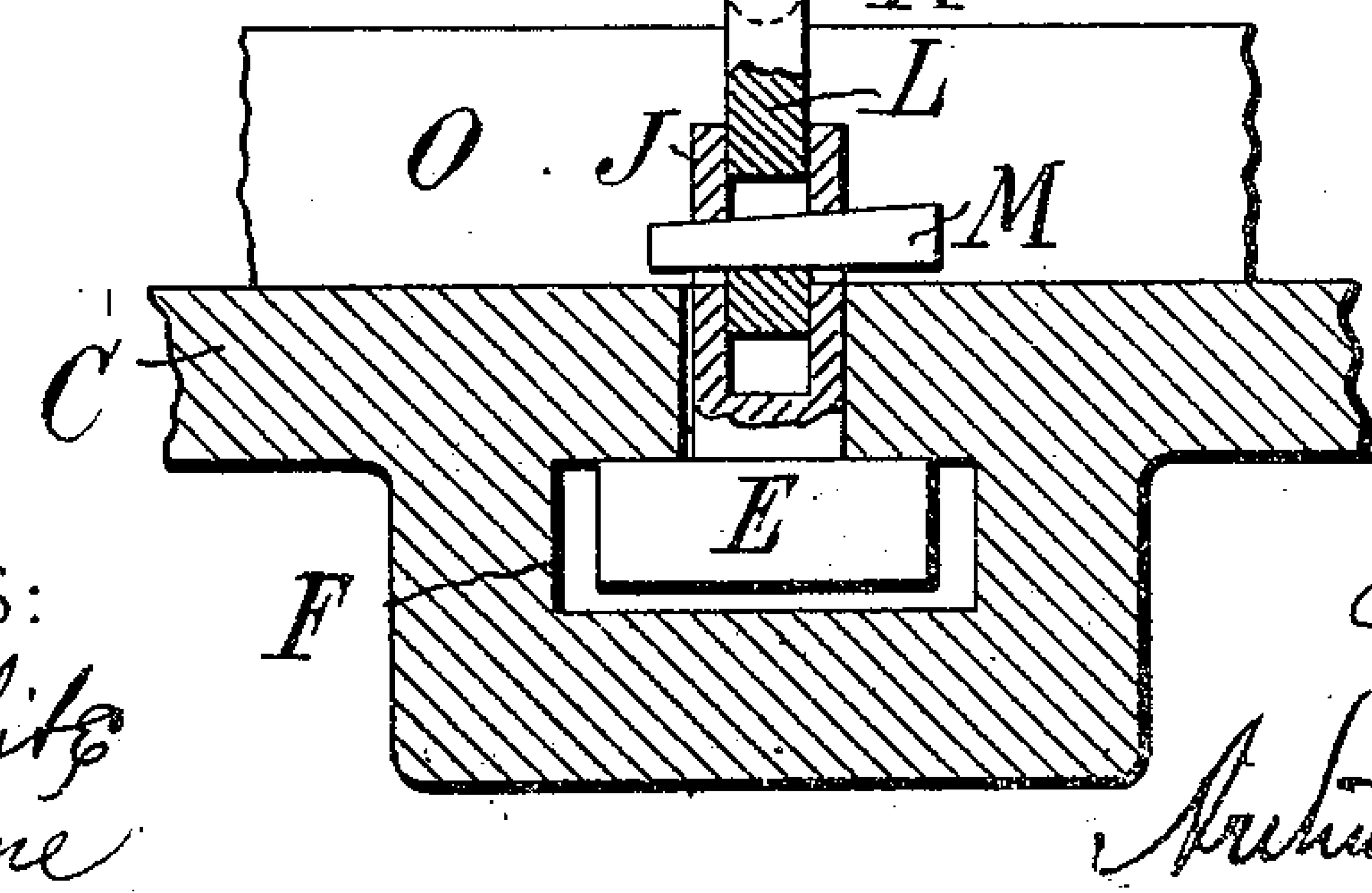


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN ROYDEN PEIRCE, OF NEW YORK, N. Y., ASSIGNOR TO ROYDEN MARBLE MACHINERY COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

CLAMP.

No. 885,949. Specification of Letters Patent. Patented April 28, 1908.

Original application filed March 17, 1906, Serial No. 306,558. Divided and this application filed October 17, 1906. Serial No. 339,358.

To all whom it may concern:

Be it known that I, JOHN ROYDEN PEIRCE, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

This invention aims to provide certain improvements in clamps such as are commonly used on stone working and similar machines for clamping a slab down upon a bed while the slab is cut or otherwise worked, this application being a division of my previous application No. 306,558, filed March 17, 1906. In order to facilitate the movement of the slab backward and forward under the tools in various positions, the clamping device is designed to avoid projecting substantially above the top of the slab when in the fastened position.

Certain other advantages are referred to in detail hereinafter.

The accompanying drawings illustrate embodiments of the invention.

Figure 1 is a more or less diagrammatic view of part of a machine for coping marble, with a slab of marble held upon the bed by a clamping device of the improved type shown in side elevation; Fig. 2 is a plan of a portion of the clamping device; Fig. 3 is a plan of the complete device; Fig. 4 is a vertical view partly in section of another embodiment of the invention.

The complete device is composed of a part which I term a clip which engages the edge of the slab and a fastening device lying, when in the fastened position, below or at least not substantially above the top of the clip. The device is designed, and in its preferred form is especially useful for working slabs of marble or similar stones where large quantities of work are of the same thickness so that a large quantity of work may be done with a clip of one size.

Referring to the drawings, and especially to the clamp shown in Figs. 1, 2 and 3, a clip A is provided having a portion overhanging the edge of the marble and projecting above the face of the marble only by the thickness of the sheet-metal usually employed. The clip A has a base portion B adapted to rest approximately on the bed C of the machine when the upper part of the clip engages the marble. The base B of the clip is forked, and there projects upward through the fork a fastening device comprising a pin D having means for holding itself down, such as a head E engaged within the undercut groove F of the bed, and means above the bed for pressing the clip into clamping engagement with the work, such as a pair of eccentrics G, pivoted one on each side of the pin D, the eccentrics being provided with a handle H. The position of the eccentrics is such that when they are in the fastening position, pressing down upon the base B of the clip, the handle H is in its downward position. Preferably the eccentric swings a little past its center in the fastening position, so as to be locked there.

It will be seen from an inspection of Fig. 1 that the entire clamp does not project above the top of the clip. In order to release the clamp the handle H is thrown upward. Clips of different heights are provided for widely varying thicknesses of work, but in marble work, as there are only a few standard thicknesses to be considered, this is not a serious matter. The pins D with the eccentrics mounted thereon are always of the same length, the only variation necessary being in the clips. The eccentrics are substantially permanently fastened on the pin D, and the slot between the prongs of the base B is open at its outer end to permit the ready withdrawal of one clip and the substitution of another on the same pin. Not only is the construction exceedingly simple and cheap, but the operation is very quick and the stone is very firmly clamped. The substitution of one clip for another is also very quickly accomplished.

Another clamp which projects above the slab only by the thickness of the metal overlying the edge of the slab, is shown in Fig. 4, in which a hollow pin J carries a head E engaging in the groove F as usual, and a clip K has a vertical leg L entering the pin J; the means for pressing the clip into clamping engagement with the work being a wedge M passing through registering slots in the pin J and leg L respectively. This clamp has the advantage of being adjustable for a considerable variation in the thickness of the slabs, though not so convenient to operate, the wedge M having to be driven in or out by means of a hammer or the like. For widely varying thicknesses of marble, clips K with

legs L of different lengths may be readily substituted for each other in connection with the same pin J.

The clips are preferably made of springy metal. The clips A are preferably a little less in height than the standard thickness of marble with which they are designed to be used so that the outer ends alone rest upon the bed and the intermediate portion is adapted to yield when the eccentric is brought down. This insures a springy clamping action which is better than a rigid one, and also facilitates the passage of the eccentric past its center to lock it down. The wheel N is a coping wheel arranged to cut substantially or entirely through the slab O and carried in a very low bracket P which is made possible by the slightness of the projection of the clamping device above the slab.

In the particular embodiments of the invention illustrated it is to be observed that the work is clamped by pressing it down on the bed as distinguished from the type of clamps which engage the edge of the work and hold it by a horizontal pressure; and that they may operate upon a work-piece alongside the groove in which they run, as in Fig. 1, or overlying such groove as in Fig. 4.

Although I have described with great particularity of detail certain specific embodiments of the invention, yet it is not to be understood therefrom that the invention is limited to the particular embodiments disclosed.

Various modifications in detail and in the arrangement and combination of the parts may be made by those skilled in the art without departure from the invention.

What I claim is:—

A clamp for holding a slab down on a bed with a flat face and an undercut groove, said clamp comprising a pin with a head fitting the enlarged portion of said groove to hold it down, and adapted to be slid along in said groove, a clip having a slot through which said pin passes, and an eccentric fastened on said pin for pressing said clip down on the flat face of said bed, said eccentric having a handle arranged at such an angle as to lie, when in the fastened position, below the top of the slab, said slot being open at its outer end to permit withdrawal of the clip from the pin.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN ROYDEN PEIRCE

Witnesses:

DOMINGO A. USINA,

FRED WHITE.