G. G. HUNT.

QUICK ACTING CLAMP.

APPLICATION FILED JULY 16, 1913.

1,106,096. Patented Aug. 4, 1914.

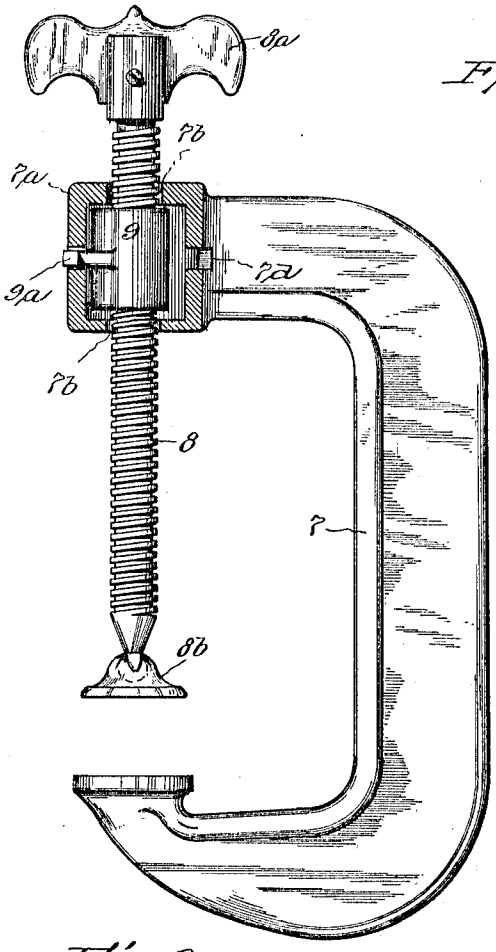


Fig. 1.

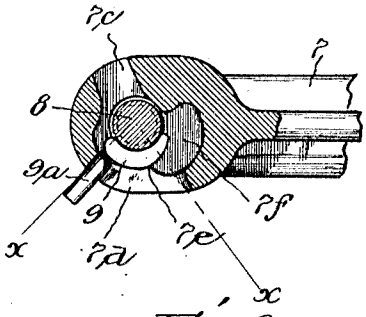


Fig. 3.

Fig. 6.



Fig. 2.

Fig. 4.

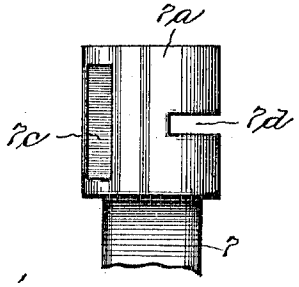
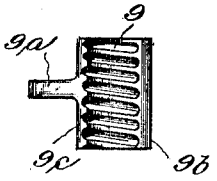
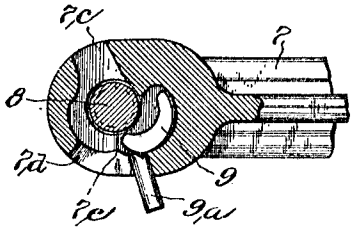


Fig. 5.





Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE G. HUNT, OF PLANO, ILLINOIS, ASSIGNOR TO RICHARDS-WILCOX MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

QUICK-ACTING CLAMP.

1,106,096. Specification of Letters Patent. **Patented Aug. 4, 1914.**

Application filed July 16, 1913. Serial No. 779,243.

To all whom it may concern:

Be it known that I, GEORGE G. HUNT, citizen of the United States, residing at Plano, in the county of Kendall and State of Illinois, have invented certain new and useful Improvements in Quick-Acting Clamps, of which the following is a specification.

My present invention has relation to a quick-acting clamp, provided with means whereby the nut is pressed into operative engagement with a considerable number and area of the threads of the screw, and thereby effects a better engagement therewith than heretofore, and also with means whereby the wear on the parts is taken up thus prolonging the life of the device.

Another advantage of my improvements is that it is not necessary to weaken the jaw of the clamp by cutting away such a large portion as heretofore, in order to insert the nut; and still another advantage is that the form of nut employed is considerably cheaper to make than the annular nuts now in use, as it can be cast with the threads in it, while the annular nuts have to be internally threaded, which is a difficult operation, where the bore of the nut is in part eccentric.

In view of these advantages, and others that will be apparent to those skilled in the art, and need not be specifically set forth herein, I have provided the device shown in the drawing, in which:—

Figure 1 is an elevation of a clamp embodying a preferred form of my invention, the upper jaw of which is broken away on the lines x—x of Fig. 3, to more clearly show the construction and arrangement of parts; Fig. 2 is an elevation of the upper jaw of the clamp taken at right angles to the position shown in Fig. 1; Fig. 3 is a horizontal section through the upper jaw, showing the nut in mesh with the screw; Fig. 4 is a view similar to Fig. 3, with the nut shown disengaged from the screw; Fig. 5 is an elevation of the semi-circular nut employed, looking into the threads thereof, and Fig. 6 is a transverse section through said nut.

Referring to the details of the drawing, the reference character 7 designates a clamp of well known general design, having a substantially cylindrical hollow upper jaw 7^a, provided with holes 7^b in its top and bottom walls, through which loosely slides a vertically disposed screw 8. In the side wall of said jaw, is a vertical slot 7^c, through which is inserted into the interior chamber 7^f, of said jaw, a nut 9, which is provided with the radial lug 9^a, which extends through a horizontal slot 7^d, in the side wall of the jaw 7 opposite the slot 7^c. Said nut is substantially semi-circular in cross-section, but its threads are slightly eccentric, being of full depth at the edge 9^c, and decrease gradually until flush with the surface at the edge 9^b, as clearly shown in Fig. 6.

The side walls of the chamber 7^f, or recess in which the nut 9 is seated, as shown in Figs. 3 and 4, are doubly eccentric to the screw 8, and where these eccentric surfaces meet, a shoulder 7^e is formed, which projects inwardly and serves to press the threads of the nut into engagement with the screw when the nut is on one side of the shoulder as shown in Fig. 3.

When the nut is moved to the right it passes over the shoulder 7^e, the deeper threads of the nut permitting it to thus pass, with slight friction, when all strain on the screw is released. When the nut is past the shoulder, and in the position shown in Fig. 4, it is held against accidental reëngagement with the screw, by said shoulder 7^e, so that the screw may be freely slid through its bearings in the jaw 7. It will thus be seen that the shoulder 7^e serves as a detent in the passage of the nut from operative to inoperative position, and also causes the nut to hug the screw closely, when in operative position, thus rendering the use of springs unnecessary in accomplishing such results. The relative proportions of the nut and opening 7^c, are such, that by withdrawing the screw 8 from the jaw 7, the nut may be removed through said opening, and a new nut inserted in lieu thereof. The withdrawal of the screw from the jaw is readily effected by disconnecting its head 8^a or its foot 8^b.

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

1. A clamp comprising a jaw having bearings therein, a screw mounted to slide freely in said bearings, a chamber in said jaw having in its walls two connecting recesses of different radii, a threaded semi-cylindrical nut arranged in said chamber and adapted to operatively engage said screw when seated in one of said recesses, and to be disengaged

from said screw when seated in the other recess, and means for manually operating said nut.

2. A clamp comprising a jaw having bearings therein, a screw mounted to slide freely in said bearings, a chamber in said jaw having recesses of different radii in its side walls and a shoulder at the junction of said recesses, a threaded semi-cylindrical nut arranged in said chamber and adapted to operatively engage said screw when seated in one of said recesses, and to be disengaged from said screw when seated in the other recess, and means manually operating said nut.

3. A clamp comprising opposed fixed jaws, one of said jaws having a vertical slot in one side wall and a horizontal slot in the opposite wall, also having bearings therein, a screw mounted to slide freely in said bearings, a chamber in said slotted jaw, said chamber having two recesses in its side walls, a threaded semi-cylindrical nut adapted to pass through the vertical slot in said jaw and having a lug projecting through said horizontal slot, said nut adapted to operatively engage said screw when seated in one of said recesses, and to be disengaged therefrom when seated in the other recess.

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

GEORGE G. HUNT.

Witnesses:
R. W. SIBLEY,
M. B. CRIMMIRT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."