May 16, 1944. J. H. FRASER 2,349,087

WORK CLAMP

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Fig. 1.

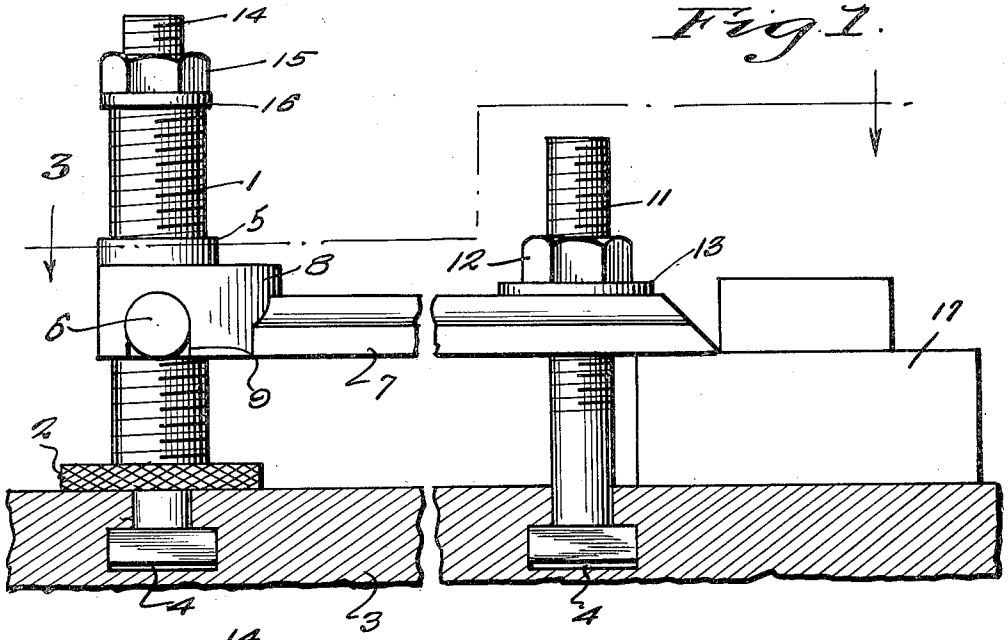
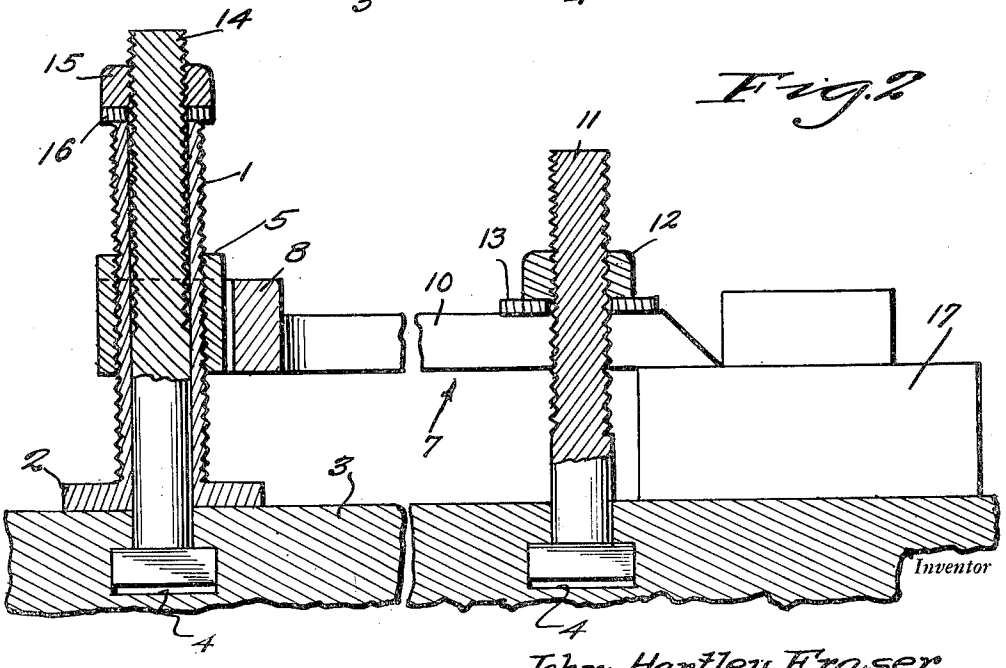


Fig. 2



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Fig. 3.

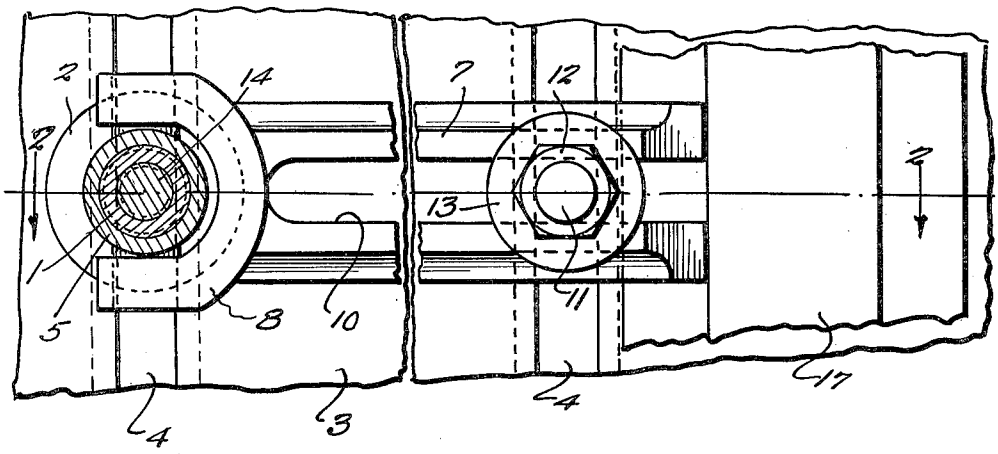


Fig. 4.

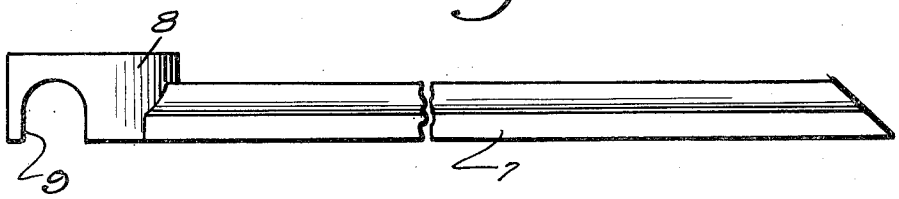


Fig. 5.

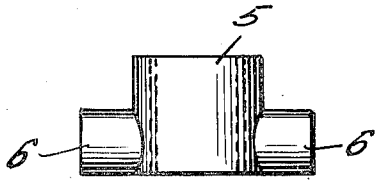
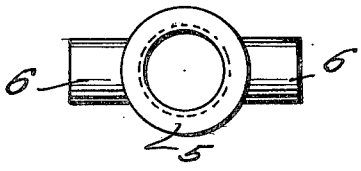


Fig. 6.



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UNITED STATES PATENT OFFICE

2,349,087

WORK CLAMP

John Hartley Fraser, Hamilton, Ontario, Canada

Application November 17, 1942, Serial No. 465,878

2 Claims. (Cl. 90—59)

The present invention relates to new and useful improvements in work clamps, particularly for shapers, drill presses and other metal working machines comprising tables having T grooves therein.

An important object of the invention is to provide, in a manner as hereinafter set forth, a clamp of the aforementioned character which is adapted to be expeditiously and accurately adjusted for firmly securing in position on the table pieces of work of various shapes and sizes.

Another very important object of the invention is to provide a clamp of the character described which embodies novel means for paralleling the work engaging jaw with the table.

Other objects of the invention are to provide a work clamp for metal working machines which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a view in side elevation of a work clamp constructed in accordance with the present invention, showing the device in use with a portion of the machine table in cross section.

Figure 2 is a vertical sectional view, taken substantially on the line 2—2 of Figure 3.

Figure 3 is a view in horizontal section, taken substantially on the line 3—3 of Figure 1.

Figure 4 is a detail view in side elevation of the jaw.

Figure 5 is a detail view in elevation of the adjustable jaw supporting nut.

Figure 6 is a plan view of the jaw supporting nut.

Referring now to the drawing in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a tubular, externally threaded metallic post 1 of suitable dimensions. The tubular post 1 includes, on its lower end portion, an integral, circular, peripherally knurled base 2 which is adapted to rest on the usual table 3 of a metal working machine. The table 3 has formed therein a pair of spaced, parallel T grooves 4.

Threadedly mounted for vertical adjustment on the tubular post 1 is a circular nut 5. Pins or lugs 6 project in opposite directions from the nut 5. Mounted for swinging adjustment on the nut 5 is a removable jaw 7.

The jaw 7 comprises, on one end, an integral yoke 8 which straddles the nut 5 and which is journaled on the pins 6, the legs of said yoke having notches or recesses 9 extending upwardly thereinto for the reception of said pins.

Extending longitudinally into the jaw 7 from the other end thereof is a slot 10. The slot 10 adjustably accommodates a square headed adjusting bolt 11 which is mounted in one of the T grooves 4. A nut 12 is threaded on the bolt 11 for tightening the jaw 7. A washer 13 is interposed between the nut 12 and the jaw 7.

In the embodiment shown, the tubular post 1 is mounted on a bolt 14 which is engaged in the other T groove 4 in the table 3. The bolt 14 projects above the upper end of the post 1 and has threaded thereon a securing nut 15. It will thus be seen that the post 1 may be firmly secured in position on the table 3. A washer 16 is provided between the nut 15 and the post 1.

It is thought that the operation of the clamp will be readily apparent from a consideration of the foregoing. Briefly, the work, as at 17, is positioned on the table 3 and the free end portion of the jaw 7 is engaged therewith. The tubular post 1 is then rotated through the medium of the knurled circular base 2 for adjusting the nut 5 to the desired elevation for bringing the jaw 7 into parallelism with the table 3 while engaged with the work, after which the nut 12 may be tightened. The construction and arrangement is such that the jaw 7 is capable of substantially universal adjustment to meet various conditions. When it is not necessary to secure the tubular post 1 to the table 3, the elements 14, 15 and 16 may be dispensed with.

It is believed that the many advantages of a work clamp constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A clamp for securing pieces of work in position on a metal working machine table, said clamp including a threaded post adapted to be mounted on the table, a nut threaded for adjustment on said post, pins projecting from the nut, a jaw engageable at one end with the work, a yoke on the other end of the jaw straddling

the nut and journaled on the pins, and a clamping bolt adapted to be mounted on the table and operatively connected to the jaw for tightening same on the work.

2. A clamp for a metal working machine table having T grooves therein, said clamp comprising a bolt adapted to be mounted in one of the grooves, a tubular, externally threaded post mounted on said bolt and adapted to rest on the table, a securing nut for the post threaded on the bolt, a nut threaded for vertical adjustment on the post, a jaw mounted for swinging adjustment on said nut, and a bolt adapted to be mounted in the other groove and operatively connected to the jaw for clamping said jaw on a piece of work on the table.

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