Oct. 18, 1938. P. GELINSKI 2,133,892

C-CLAMP TYPE HAND TOOL

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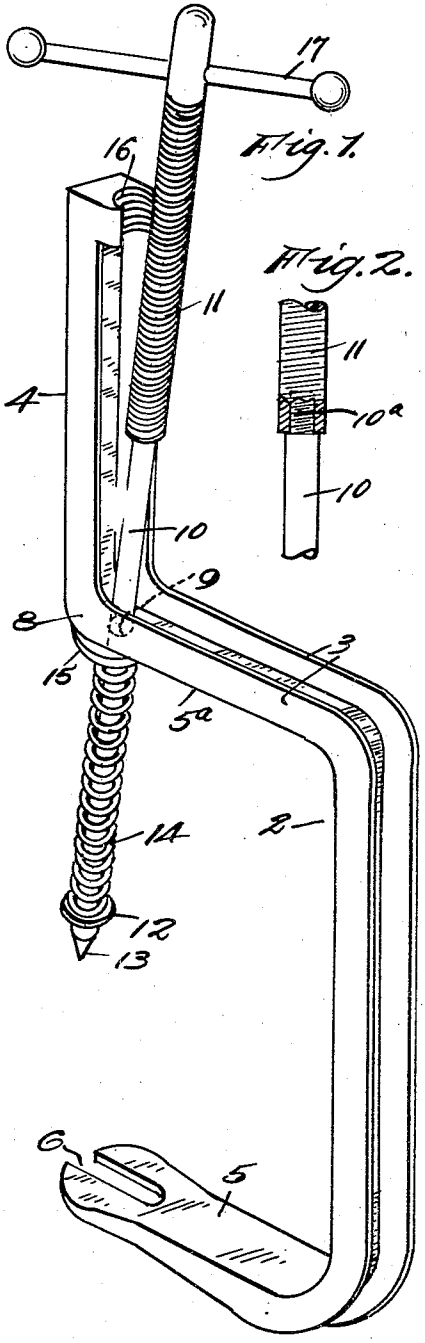


Fig. 1.

Fig. 2.

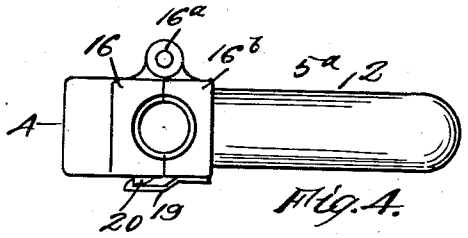


Fig. 4.

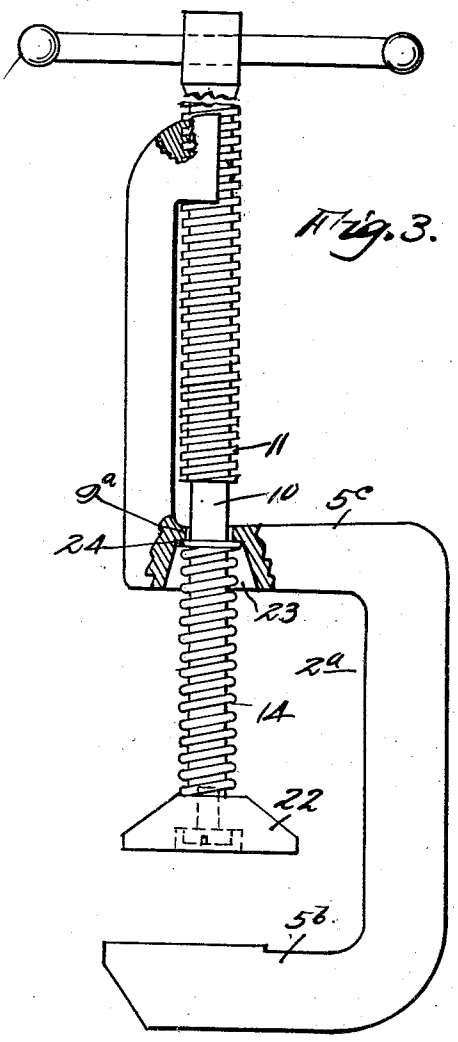


Fig. 3.

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C-CLAMP TYPE HAND TOOL

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4 Claims. (Cl. 144—305)

This invention is a C-type frame hand tool having a quick-adjustment stem and screw part, with means yieldingly pressing the stem in one direction.

It is an object of the invention to provide a simple, practical, substantial C-frame type of tool with means to facilitate its adjustment to given work for the ready functioning of the tool.

The invention consists in certain advancements in this art as set forth in the ensuing disclosure and having, with the above, additional objects, features and advantages as hereinafter developed, and whose construction, combination and details of means, the method of making, and the manner of operation will be made manifest in the description of the annexed, illustrated apparatus; it being understood that modifications, variations and adaptations may be resorted to within the scope, spirit and principle of the invention as it is more directly claimed hereinbelow.

Figure 1 is a perspective of the invention as it is incorporated in a C-frame, valve lifting tool, and Figure 2 is a detail of the stem make-up thereof.

Figure 3 is a side elevation of a work clamping form of the tool; partly in section.

Figure 4 is a top-end plan of a part of a frame provided with a self-latching form of split-nut, screw holding head.

In its several forms the invention includes a C-shaped frame 2 which is shown in Fig. 1 as made of channel-iron having its flanges 3 turned outward around the bow and having one end provided with an upwardly extending shank 4 with its axis substantially normal to the arm 5 of the frame 2 and opposite to a slot 6 in the end of the arm.

The slotted end of the arm 5 is adapted to be passed under a collar of a valve rod in the usual manner.

At the elbow 8 of the frame there is provided in the web of the channel-iron a hole 9 of suitable size to receive slidably and tiltably the smooth stem 10 extending from the lower end of a stiff screw 11 which is too large to pass through the hole 9. The lower end of the stem 10 is provided with a bead 12 above its conical tip 13 to form a seat for an expansion spring 14 the upper end of which seats on a supporting part which is here shown as comprising a common metal washer 15 fixed to the frame web coaxially with the eye or hole 9 in the frame web; the bore of the washer providing for sliding and tilting of the introduced stem 10. The function of the spring 14 is to normally press the stem with its screw downward.

At the top end of the frame shank 4 there is provided a half-nut 16 which matches the screw 11 and has its open side disposed inwardly over the upper arm 5^a of the C-frame, and its axis substantially alining with the axis of the stem guiding washer or part 15.

The screw 11 has a suitable cross-handle 17 whereby its rotation may be easily effected.

In use of the valve lifter its arm 5 is adjusted in the usual manner under the valve stem collar and the tip 13 is set on a convenient support, The screw 11 is now tilted over into mesh with the threads of the half-nut 16 where it may be easily retained by a finger of the mechanic while the screw is rotated to effect an upward movement of the valve lifting arm 5.

To facilitate assembly of the stem-screw 10—11 in the eye of the frame, the stem is shown in Fig. 2 as having a screw end 10^a to screw into the near, lower end of the removable screw or body 11.

A somewhat more expensive form of the tool incorporates a full nut, Fig. 4, including the frame-carried half-nut 16 one side of which has a hinge 16^a by which there is connected a swinging nut-part 16^b. The closed parts 16—16^b are automatically secured by a suitable form of snap-latch 19 on one nut part engaging a keeper lug 20 on the other part. This device obviates holding the inserted screw 11 by the mechanic.

In Fig. 3 the invention is incorporated in a C-frame 2^a the lower arm 5^b of which is opposed to a work jaw 22 swivelled on the lower end of the smooth stem 10 of the top screw part 11. The arm 5^c of the frame 2^a is provided with a deep recess 23 coaxial with a stem guiding eye 9^a. In this case the spring 14 is confined between the jaw 22 and the shoulder 24 at the top of the arm recess 23.

What is claimed is:

1. A hand tool including a C-shaped frame from the outer end of the top arm of which extends a handle shank whose axis is normal to the top arm of the frame, the top arm having an eye near the shank, and a stem having a smooth body slidable and tiltable in the eye and having a screw threaded section above the arm and tiltable toward the adjacent face of the said shank, and a half-nut on the upper end of the shank and into which the said screw body meshes, and a spring normally urging the stem toward the lower arm of the frame.

2. A tool as set forth in claim 1, and in which

the handle shank is of channel iron with the flanges extending toward the screw and forming a channel therefor.

3. A tool as set forth in claim 1, and in which the smooth body and the screw threaded section of the stem are formed of separably connected parts; the said body being limited in its downward movement by the frame eye rim and having a bead for supporting one end of the spring while its opposite end is supported by the top arm.

4. A tool as set forth in claim 1, and in which the top arm is provided with an affixed washer alining with the frame eye and forming a seat for the spring at one end and a guide for the sliding stem.

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