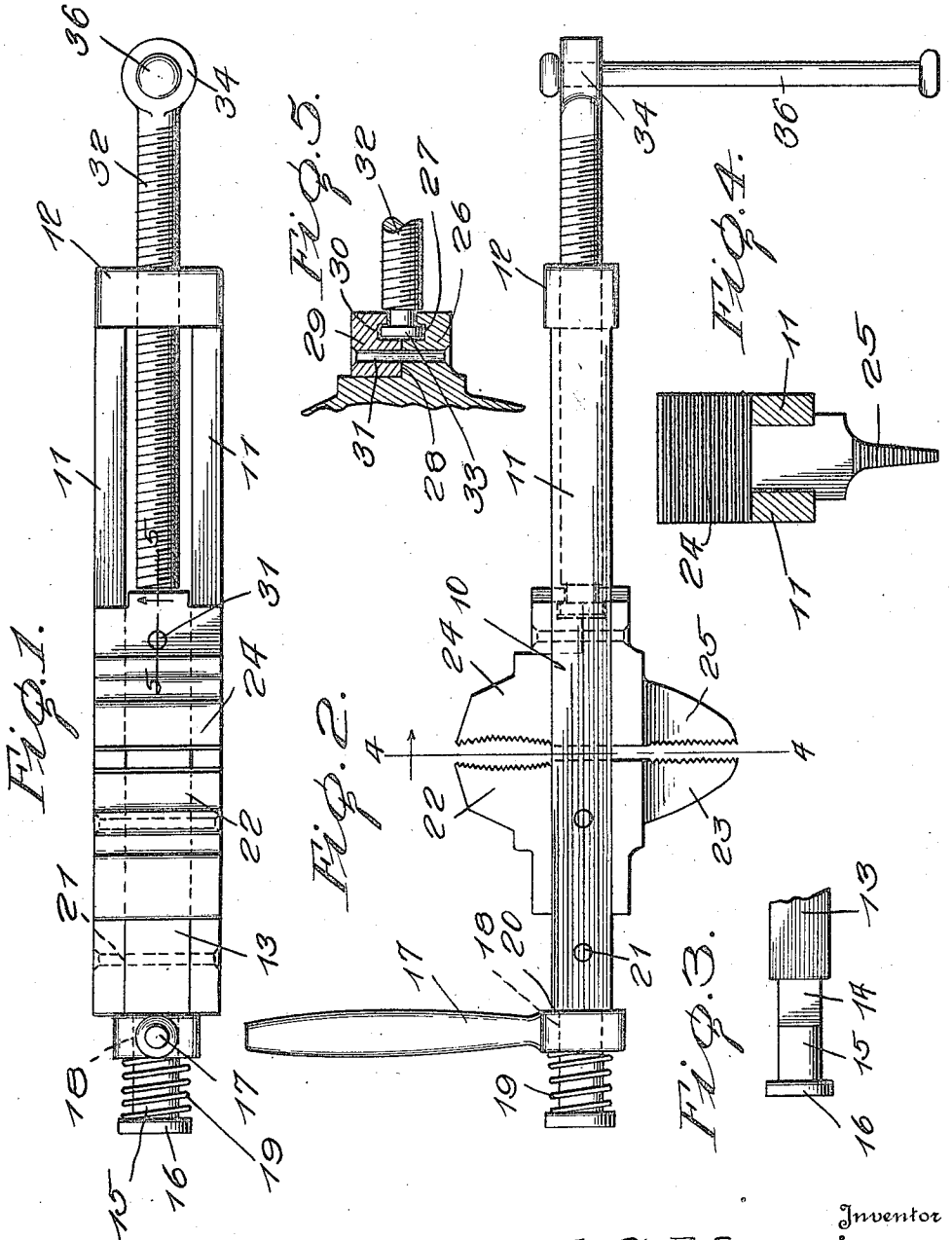
Dec. 25, 1923. 1,478,651

A. G. HARRIS

COMBINATION HOLDER, WRENCH, AND CLAMP

Filed April 14, 1923



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Patented Dec. 25, 1923. 1,478,651

UNITED STATES PATENT OFFICE.

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COMBINATION HOLDER, WRENCH, AND CLAMP.

Application filed April 14, 1923. Serial No. 632,079.

To all whom it may concern:

Be it known that I, ALBERT G. HARRIS, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Combination Holders, Wrenches, and Clamps, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to implements for holding or clamping nuts, bolts, pipe lengths, etc., and particularly to a combination bolt holder, pipe wrench and clamp.

The general object of this invention is to provide a very convenient implement of the character stated which may be readily applied, which will secure considerable leverage, which may be used in a large variety of situations, and which is very simple.

A further object is to provide a device of this character having two sets of clamping jaws, either set of which may be used when desired.

A still further object is to provide a device of this character having a handle mounted for rotation around the longitudinal axis of the tool and adapted to be set in any one of a plurality of adjusted positions to permit the ready manipulation of the tool.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a top plan view of a combination tool;

Figure 2 is a side elevation of the tool illustrated in Figure 1;

Figure 3 is a detail elevation of the rear end of the member 13;

Figure 4 is a section on the line 4—4 of Figure 2, looking in the direction of the arrows;

Figure 5 is a fragmentary vertical section on the line 5—5 of Figure 1.

Referring to these drawings, 10 designates the body of the tool, which is composed of two longitudinally extending, parallel members 11 which are connected at one end by an integral cross piece 12 and are held spaced apart by this cross piece. These members 11 constitute guides and at the opposite end from the cross piece 12 there is interposed between the members a spacing member 13 having an axially extending square shank 14 and beyond this square portion a rounded portion 15 having a head 16. This head may be in the form of a nut adapted to have screw-threaded engagement with this portion 15.

Mounted on the shank 14 for longitudinal movement off the square portion thereof onto the circular portion thereof is a radially extending handle 17, the inner end of which is formed with a square eye 18 fitting the square shank 14. When this eye is shifted out toward the nut 16, however, the handle may be readily rotated. A spring 19 acts to force the handle against the shoulder 20 formed at the junction of the shank with the spacing member 13. Rivets 21 pass through the sides 11 and through the spacing member 13 and hold these parts in adjusted position. The spacing member 13 may be formed integral with upwardly and downwardly extending jaws 22 and 23, these jaws having a width equal to the extreme width of the body. One of the rivets passes through the portion of the spacing member 13 from which the jaws extend. The jaw 22 has a slightly concave face which is toothed from one extremity to the other. The jaw 23 has a relatively straight face which is toothed. This jaw 23, as shown in Figure 4, is narrower at its base and extends down to what is practically a point

Mounted upon the body 11 for longitudinal movement between the side pieces thereof are the integral upper and lower jaws 24 and 25, the jaw 24 having a width equal to the jaw 22 and thus having a width equal to the full width of the body 10. The two jaws 24 and 25 are integral, as before remarked, and at their rear ends there is a rearward extension 26 formed with a recess 27. Just forward of this recess 27 this rearward extension 26 is cut away to form a seat 28. Coacting with this seat is a block 29 which rests upon the seat and which is also cut away, as at 30, immediately opposite the recess 27. The block 29 is riveted by a rivet 31 to the extension 26. Having screw-threaded engagement with the screw-threaded aperture in the cross piece 12 is a screw 32, the forward end of which is provided

with a head 33 having swiveled engagement with the members 26 and 29, as illustrated in Figure 5.

It will thus be obvious that a rotation of the screw 32 in one direction will cause the jaws 24 and 25 to advance toward the jaws 22 and 23 and that a rotation of the screw will cause the retraction of these jaws 24 and 25. The rear end of the screw 32 is formed with an eye 34, and passing loosely through this eye is the handle bar 36 having heads at its opposite ends so that it cannot drop through the eye, but the handle bar 36 may be shifted longitudinally through the eye to any extent desired in the manner of a handle or vise. The jaw 24 is concavely curved to correspond to the confronting face of the jaw 22, while the jaw 25 has a straight face corresponding to the straight face of the jaw 23 and has this face toothed.

It will be obvious that with this construction the two jaws may be forced toward each other and clamped upon a nut, a bolt head, or any other object. The two jaws 22 and 24 together form a very effective pipe wrench or clamp, while the jaws 23 and 25 form an effective clamp for flat objects. By means of the handles 17 and 36, the object may be readily turned as, for instance, in unscrewing pipe, or the object may be turned around its own longitudinal axis by means of the handle 17, if it be desired to so manipulate the tool. After the tool has been turned through a certain number of degrees and the handle is brought to an inconvenient position, the handle may be shifted back against the spring 19 and rotated to a new position, then allowed to slip back upon the square portion 14 of the shank, and again used for rotating the tool axially. Of course, it is obvious that no axial rotation of the tool can be secured by means of the handle 36, as this would tend to retract the screw 32 and as a consequence retract the jaws. The handle permits holding of the tool while it is being adjusted to anything that needs to be held.

The tool is adapted for holding any sized bolts, either round headed, hexagonal, square or of any other ordinary form. It may be also used as a pipe wrench or a clamp, and is particularly convenient in shop, garage and blacksmith work and by farmers, as the tool is adapted for a great many different purposes. The jaws 23 and 25, it will be noted from Figure 4, are gradually reduced in width and practically rounded and the purpose of this is to permit these jaws to be driven into wood on each side of a bolt head, for instance, or bolts that are sunk in timber. The handle 17 is to hold the tool in any desired position and this handle is set in the right position on whatever is to be held and then the lever 36 is operated to adjust the screw 34.

While I have illustrated a construction which I believe to be particularly effective, I do not wish to be limited thereto, as it is obvious that many changes might be made in the details of construction without departing from the spirit of the invention.

I claim:—

1. A tool of the character described comprising an elongated body having a fixed jaw, a movable jaw guided upon said body and movable toward and from the fixed jaw, a screw passing through one end of the body and having swiveled engagement with the movable jaw, the screw having a handle, and a handle at the opposite end of the body adjustable into a plurality of radial positions relative to the body.

2. A tool of the character described comprising an elongated body having a fixed jaw, a movable jaw guided upon said body and movable toward and from the fixed jaw, a screw passing through one end of the body and having swiveled engagement with the movable jaw, the screw having a handle, the body at the opposite end being formed with a reduced shank, that portion of the shank adjacent the body being many-sided and that portion of the shank remote from the body being round, a nut on this end of the body, a handle having an eye formed to fit the many-sided portion of the shank, the handle being shiftable toward the nut to disengage it from the many-sided portion of the shank, and a spring urging it toward the many-sided portion of the shank.

3. A tool of the character described comprising an elongated body, a pair of jaws fixed upon the body at one point and projecting in opposite directions beyond the body, a handle on this end of the body, the body from said jaws to the end of the body remote from the handle being formed to provide two parallel guides, integral oppositely directed jaws adapted to confront the first named jaws and formed to engage and slide upon said guides, and a screw passing through the end of the body between said guides and having operative swiveled engagement with the jaws.

4. An implement of the character described comprising a body formed to provide a longitudinally extending slot extending nearly the entire length of the body, the slot being defined by longitudinally extending walls constituting guides, jaws disposed adjacent one end of the slot and rigidly held between said guides, said jaws projecting in opposite directions beyond said guides, one end of the body beyond the slot being reduced to form a many-sided shank and beyond this shank being circular in cross section, a handle mounted upon the shank and movable toward the jaws and away from the jaws and having an eye adapted to engage the many-sided shank, a spring

urging the handle toward the many-sided shank, movable jaws disposed between said guides and confronting the first named jaws, the movable jaws at their rear ends remote from the handle being recessed, a member mounted upon the movable jaws and confronting that portion having a recess, and a screw passing through the end of the body remote from the handle and having swiveled engagement in said recess, the screw being formed at its outer end with an eye, and a handle extending loosely through said eye and headed at its outer end.

In testimony whereof I hereunto affix my signature.

ALBERT G. HARRIS.