

March 10, 1931.

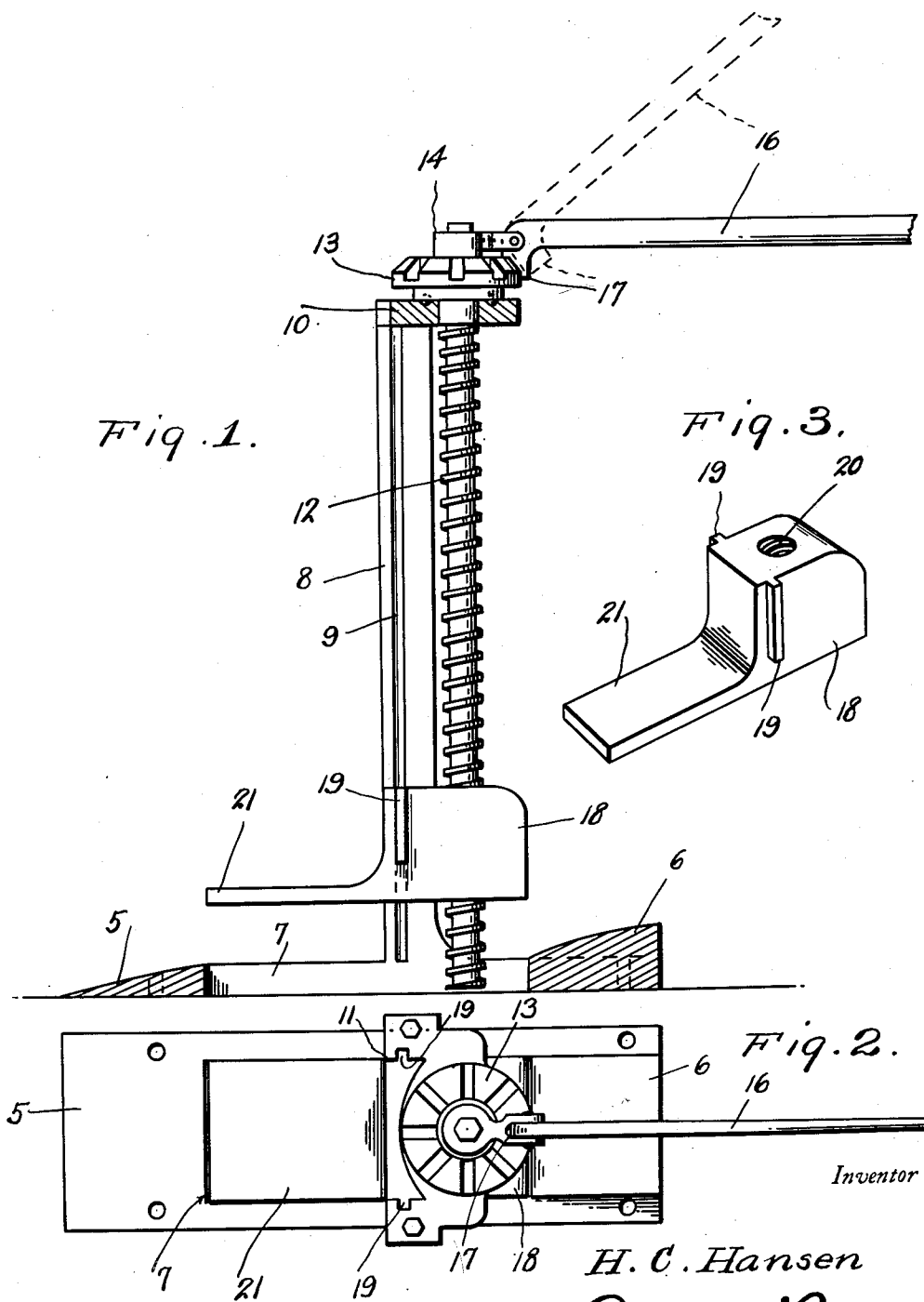
H. C. HANSEN

1,795,391

UNIVERSAL JACK

Filed March 17, 1928

3 Sheets-Sheet 1



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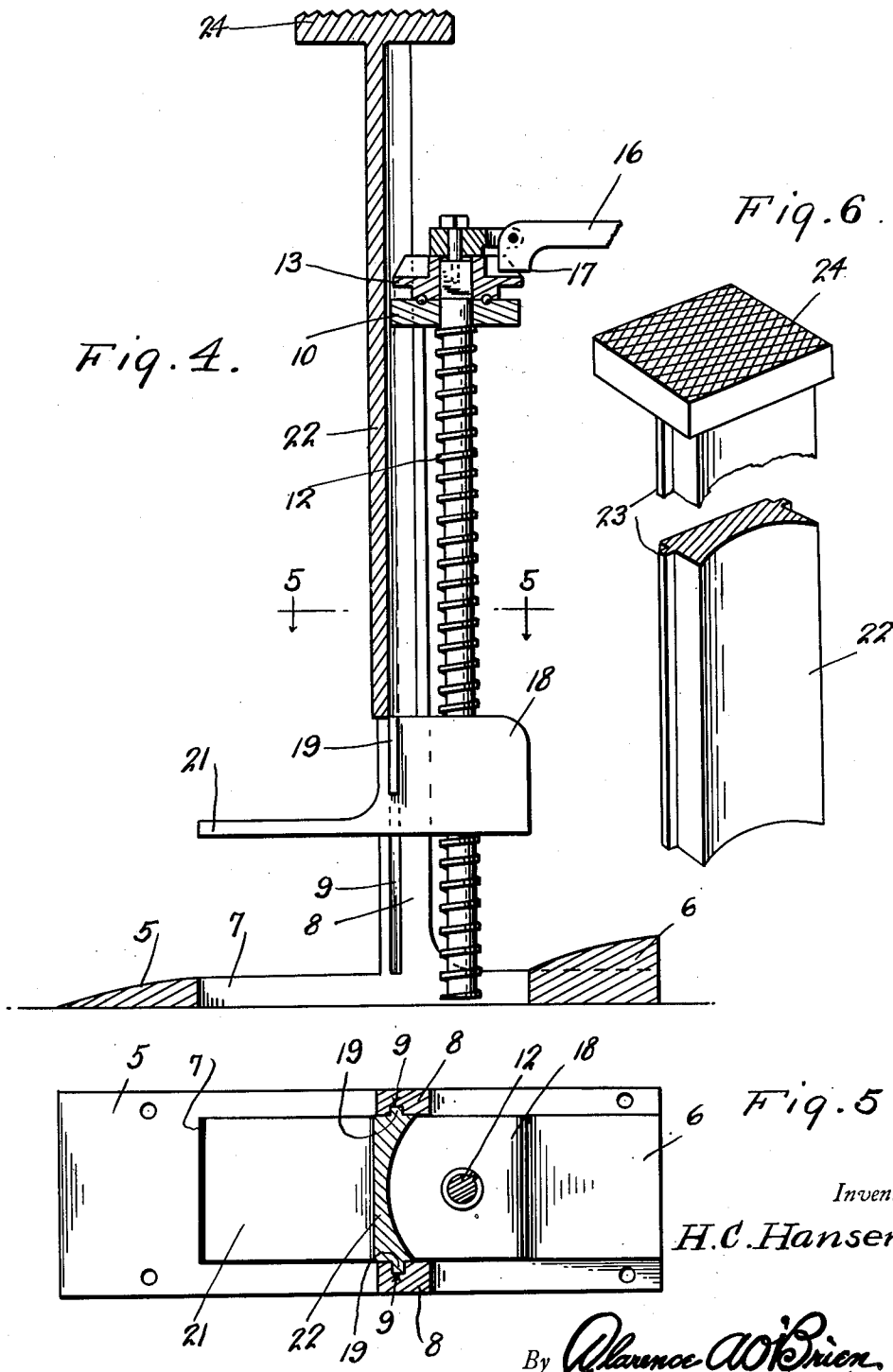
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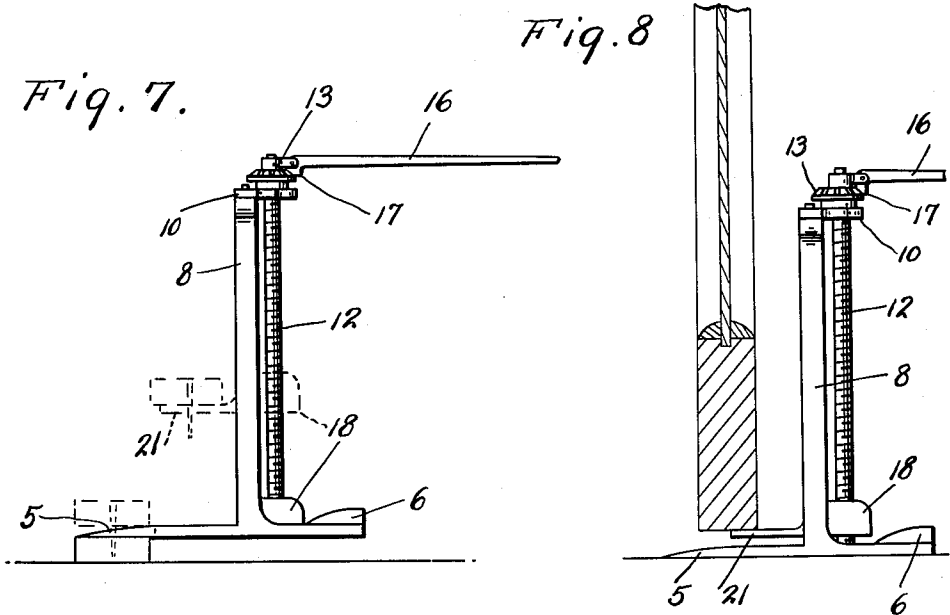
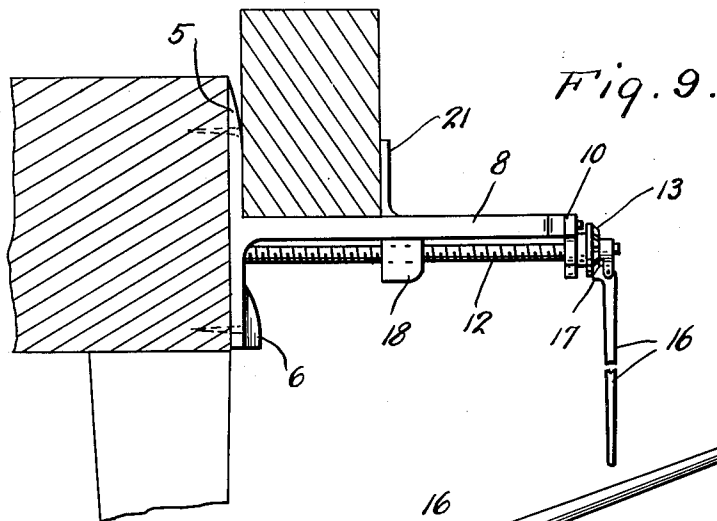
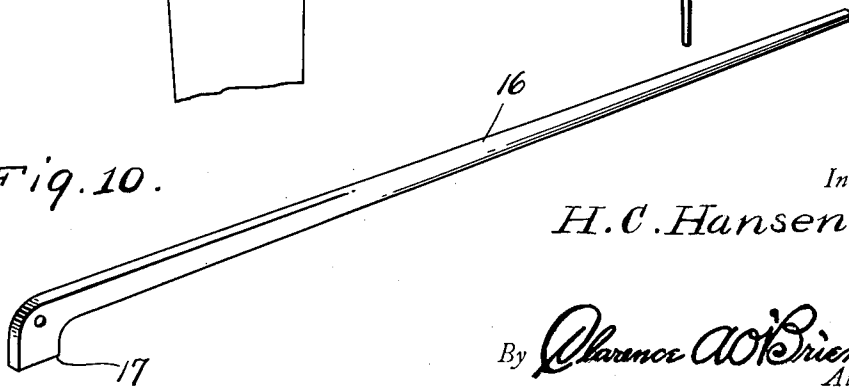


Fig. 10.



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UNITED STATES PATENT OFFICE

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UNIVERSAL JACK

Application filed March 17, 1928. Serial No. 262,400.

This invention relates to new and useful improvements in what is generally known as jacks and aims to provide a device of this character that is constructed for relatively universal use such as the jacking of automobiles, the supporting of doors while mortising the same for locks, the separation of joined timbers, as well as for use as a bench clamp and for many other purposes not necessarily mentioned herein.

The most outstanding object of the present invention resides in the provision of a tool of this character that is of unusually simple construction and inexpensive of manufacture the same consisting of but few parts and these so correlated as to reduce the possibility of disarrangement to a minimum. Furthermore the invention is small and compact in construction enabling the same to be readily carried about in an automobile or in the tool kit of a workman.

With the foregoing and other objects in view as the nature of the invention will be better understood, the same comprises the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a detail vertical section through my universal jack,

Figure 2 is a top plan view thereof,

Figure 3 is a perspective of the movable jaw of the device,

Figure 4 is a view similar to Figure 1 disclosing the device as equipped with a sliding attachment so as to facilitate the use of the same in the jacking of automobiles and other vehicles,

Figure 5 is a detail horizontal section taken substantially upon the line 5—5 of Figure 4,

Figure 6 is a fragmentary perspective of the said sliding attachment,

Figure 7 is a side elevation of the device being disclosed as being used for the separation of a pair of joined timbers,

Figure 8 is a similar view disclosing the device as being employed in the supporting of

a door while the same is being mortised for the reception of a lock,

Figure 9 is a similar view disclosing the device as being used as a bench clamp, and

Figure 10 is a perspective of the operating handle of the jack.

Now having particular reference to the drawings my novel device consists of a somewhat elongated but narrow base member which will hereinafter be referred to as the stationary jaw of the device one end of this jaw 5 being beveled to provide a wedge end so that this jaw may be driven between a pair of tightly connected timbers as disclosed in Figure 7. The opposite end of said jaw 5 is of thickened formation so as to provide a relatively wide impact receiving end 6 for said wedge.

This jaw 5 is formed between its end with a longitudinally extending opening 7 while arising from opposite edges of the opening are spaced parallel standards 8—8 the opposed faces of which are longitudinally channeled as at 9 while arranged upon the upper ends of these standards and extending rearwardly therefrom is a head plate 10 having a longitudinal cutout 11 at its forward edge and having notches at the opposite ends of this cutout for registry with the channels 9 of said standards 8—8. Furthermore, it is preferable that the rear wall of this head plate cutout be of convex formation as disclosed in Figure 2.

Rotatably arranged adjacent its upper end through an opening in the head plate 10 is a depending screw or worm shaft 12 the lower end of which terminates within the opening 7 in said stationary jaw 5 of the device, (see Figure 1). Keyed to the upper end of this shaft above the head plate 10 is a notched annulus or gear 13 while freely rotatable upon the extreme upper end of the shaft is a collar 14 to which is pivotally secured a handle 15 the inner end of which is formed with a depending nose 17 for engagement within the notches or between the gear teeth of said unit 13 so that the movement of the handle in either direction will cause the rotation of the shaft 12 in a similar direction. When the handle has been extended to its limit of move-

ment in one direction the same may be raised upon its pivot for disengaging the nose 17 from the teeth after which the handle is returned to its other position and then dropped at another point of the unit 13 so that the shaft 12 be rotated to the desired extent in either direction.

Slidably arranged between the spaced parallel standards 8—8 is a block 18 the side edges of which are formed adjacent the forward edge with a pair of perpendicular ribs 19—19 for sliding movement within the channel 9 of said standards 8 this block being formed at a point rearwardly of the ribs 19 with a vertical threaded bore 20 within which is interthreadedly arranged the worm or thread shaft 12, see Figure 1.

At its front side said block is formed at its bottom surface with a forwardly extending plate to provide a movable jaw or supporting foot 21. Normally the block as well as its integral plate 21 are normally arranged in an extreme downward position so that this plate 21 will be within the opening 7 of said jaw 5 to enable this jaw to be driven between a pair of joined timbers as disclosed in Figure 7 or to be arranged beneath a door as disclosed in Figure 8. However the turning of the handle 16 in the proper direction will raise the block and the plate for wedging the same against the door or for raising the uppermost timber of a pair of joined timbers as disclosed by the dotted lines in Figure 7.

The said jaw 5 of this device is equipped adjacent its corners with bolt or nail openings so that the device may be secured to the side of a work bench as disclosed in Figure 9 to facilitate the use of the same as a bench clamp.

The invention further consists of an elongated bar 22 for slidable arrangement between the standards 9 of the device the opposite vertical edges thereof being formed with ribs 23 for sliding engagement within the channels 9 of said standards. The back surface of this bar is of concave formation for sliding engagement with the convex surface of the cutout portion 11 of said head plate 10 while the upper end of this bar is equipped or constructed with a milled surface head 24. When this attachment is employed the lower end thereof resting upon the block 18 as in Figure 4 will result in the raising of the bar when the block is raised so that the device can be employed in the jacking of automobiles and other vehicles.

It will thus be seen that I have provided a highly novel, simple and extremely useful universal jack that is well adapted for the purposes heretofore designated and even though I have herein shown and described the invention as consisting of certain detailed structural elements it is nevertheless to be understood that some changes may be made

therein without affecting the spirit and scope of the appended claims.

Having thus described the invention, what I claim as new is:—

1. A device of the character described comprising a stationary jaw having means thereon adapted to secure the device to a bench for clamping purposes, said stationary jaw further formed with an opening, a standard rising from the jaw, a movable jaw slidable on the standard and seatable in said opening, a plate secured to the upper end of the standard, a worm shaft journaled through the plate and depending therefrom in parallel spaced relation to the standard, said shaft threadably engaging with said movable jaw, a handle rotatably mounted on the shaft, and means on the handle for detachably locking the handle to the shaft.

2. A device of the character described, comprising a stationary jaw having means thereon adapted to secure the device to a bench for clamping purposes, said stationary jaw further formed with an opening having contiguous walls thereabout, a standard rising from the jaw, a movable jaw slidable on the standard, a plate secured to the upper end of the standard, a worm shaft journaled through the plate and depending therefrom in parallel spaced relation to the standard, said shaft threadably engaging with said movable jaw, an annular plate having peripheral notches fixed to the free end of the shaft above the said plate, a handle rotatably and pivotally mounted on the shaft, and means on the shaft engageable in said notches for detachably locking the handle to the shaft.

3. A device of the character described, comprising a stationary jaw having means thereon adapted to secure the device to a bench for clamping purposes, said stationary jaw further formed with an opening having contiguous walls thereabout, a standard rising from the jaw, a movable jaw slidable on the standard, a plate secured to the upper end of the standard, a worm shaft journaled through the plate and depending therefrom in parallel spaced relation to the standard, said shaft threadably engaging with said movable jaw, an annular plate having peripheral notches fixed in the free end of the shaft above the said plate, a handle rotatably and pivotally mounted on the shaft, and means on the shaft engageable in said notches for detachably locking the handle to the shaft, and extensions slidably mounted on the standard and resting on the movable jaw.

4. A device of the character described, comprising a stationary jaw, a standard rising from the jaw, a movable jaw slidable on the standard, a plate secured to the upper end of the standard, a worm shaft journaled through the plate and depending therefrom in parallel spaced relation to the standard,

said shaft threadably engaging with said
movable jaw, an annular plate having pe-
ripheral notches fixed in the free end of the
shaft above the said plate, a handle rotatably
5 and pivotally mounted on the shaft, and
means on the shaft engageable in said notches
for detachably locking the handle to the
shaft, and extensions slidably mounted on
the standard and resting on the movable jaw,
10 and said fixed jaw having a wedge shaped
plate on its forward end, and an enlarged
head on the other end for driving the fixed
jaw between timbers.

15 In testimony whereof I affix my signature.
HERMAN C. HANSEN.

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