

April 30, 1935.

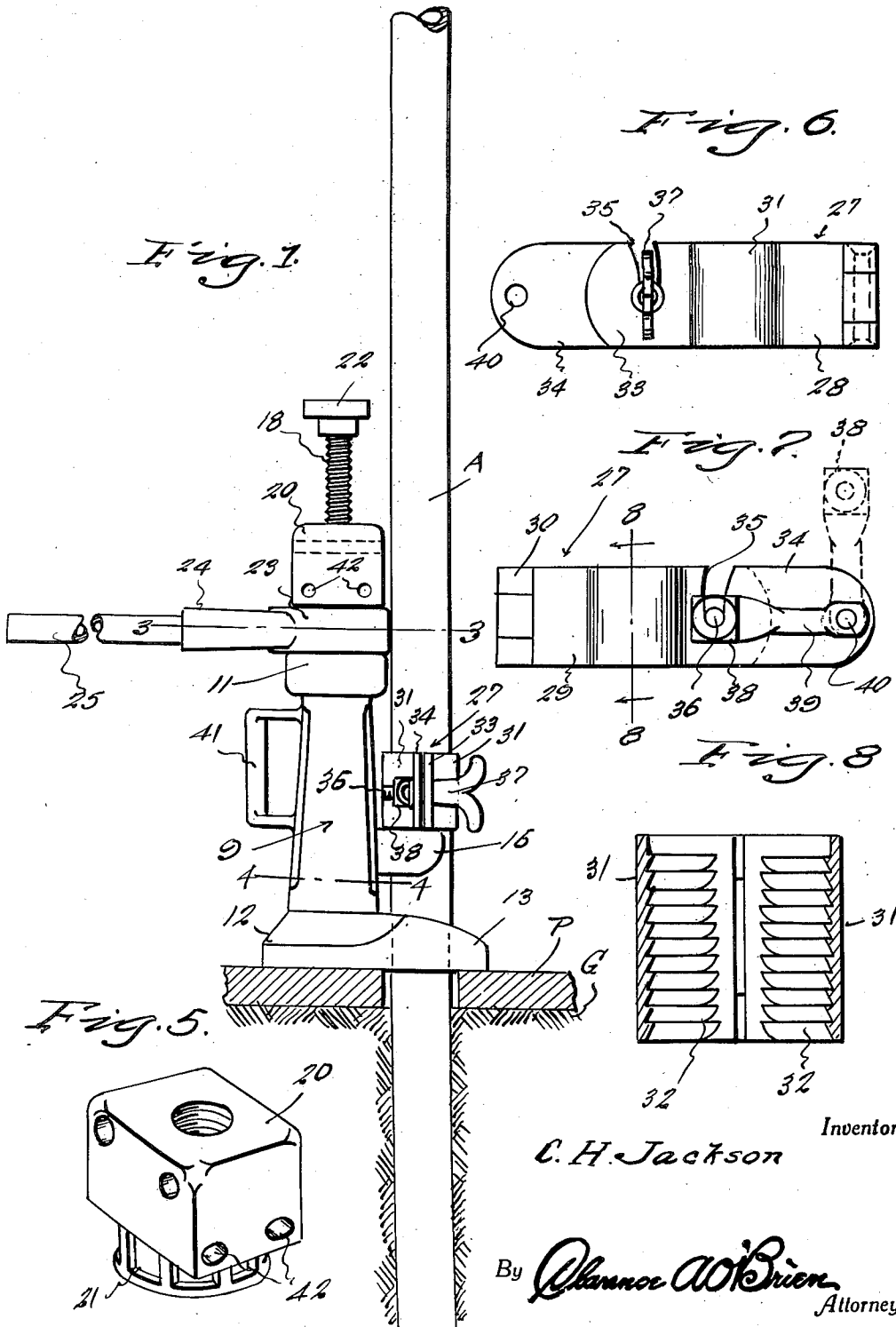
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1,999,174

COMBINATION HOISTING AND LIFTING JACK

Filed Sept. 11, 1933

2 Sheets-Sheet 1



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1,999,174

COMBINATION HOISTING AND LIFTING
JACK

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Application September 11, 1933, Serial No. 689,027

1 Claim. (Cl. 254—93)

This invention relates to an improved jack which is especially constructed to serve primarily for hoisting embedded rods and pipes such as well pipes and further constructed to permit it to be utilized as an ordinary jack for lifting weighty objects and the like.

One feature of the improved jack is predicated upon the base formation of the standard which is particularly adapted to rest firmly and adequately on a seating board or the like, the base formation being fashioned to provide a pair of stabilizing feet to straddle the pipes of the string of piping such as are used in driven water wells and the like.

A further feature of construction is predicated upon the adoption and use of a lifting and lowering feed screw whose upper end is fashioned with a disk-like load rest or head and whose lower end is attached to a hoisting claw slidably mounted in a slotted portion of the hollow standard.

An especially designed well-balanced feed screw actuating nut is also adopted and utilized as an added feature of the invention.

Last, but not least, I desire to emphasize the provision of a dependable, quick-acting pipe clamp expressly made for expeditious application and removal and appropriately designed to accommodate the stress and strain to which it is subjected when used in conjunction with the hoisting claw of the jack.

Other features and advantages may become apparent from the following description and drawings.

In the drawings:

Figure 1 is an elevational view of the complete assembly showing the manner in which it is utilized for extracting a driven well pipe or casing.

Figure 2 is a view in section and elevation, detailing the specific jack construction.

Figures 3 and 4 are horizontal sectional views taken on the planes of the lines 3—3 and 4—4 respectively of Figure 1.

Figure 5 is a perspective view of the special feed screw actuating nut.

Figures 6 and 7 are elevational views of opposite sides of the especially designed pipe clamp.

Figure 8 is a section taken approximately on the plane of the line 8—8 of Figure 7, the view being somewhat enlarged to disclose the anti-slipping teeth.

In Figure 1 the reference character G designates the ground and P a wooden platform which is placed on the ground in the vicinity of the well to provide an effective support for the hoisting assembly. The letter A designates the well pipe.

Considering now the particular construction of the jack, it will be observed that it comprises a single cast standard 9 having a central perpendicular bore 10 and provided at its upper end with a flat top weight supporting and bearing forming head 11. As before implied, the base portion 12 is somewhat enlarged to seat effectively on the platform P and is provided with a pair of outstanding stabilizing and balancing feet 13 which straddle the pipe in the manner shown in Figure 1. The numeral 14 designates a vertically elongated slot in communication with the bore 10 adapted to accommodate the reciprocatory hoisting unit 15. This is of general block-like form and provided with claws 16 to slidably embrace the pipe A. At its inner end this unit is fixedly attached as indicated at 17 to the lower reduced end of the feed screw 18. The feed screw works up and down through a guide passage 19 formed in the head and registering with the bore 10. It is understood that the feed screw does not rotate since it is rigidly connected at its lower end as at 17 with the block like unit and the block like unit moves up and down in the slot 14.

The numeral 20 designates the actuating nut which is shown as provided with a reduced adapter neck or sleeve provided with seats or depressions 21 permitting said part to serve as a rotary ratchet. The ratchet rests rotatably on the head 11 and the feed screw extends up through and beyond the nut and terminates in a load-supporting disk-like head 22. The ratchet is surrounded by a ring-like collar 23 provided with a socket 24 to accommodate an operating rod or handle 25. The numeral 26 in Figure 3 merely designates a spring-pressed reversible pawl carried by the collar and selectively engageable with the ratchet member 21.

I next call attention to the numeral 27 which designates an especially designed pipe clamp. This comprises a pair of substantially duplicate companion sections 28 and 29 hingedly connected together at corresponding ends as indicated at 30. The intermediate portions are of semi-circular form as indicated at 31 and cooperate in forming a pipe grip. The inner faces thereof are provided with anti-slipping teeth 32 as indicated in Figure 8. The terminals of the respective sections are differentiated by the numerals 33 and 34, the end 33 being somewhat shorter than the extended end portion 34. Both of these end portions 33 and 34 are, however, formed with registering notches 35 defining a keeper seat for the clamping bolt 36. The bolt 36 is provided at one end with a winged grip 37.

The opposite end thereof is attached to a nut 38 as indicated in Figure 7 formed on one end of a retaining link 39 pivotally attached as at 40 to the extended end portion 34. This arrangement allows the clamping bolt 36 to be inserted and withdrawn from the notches 35 expeditiously and conveniently. It also makes for a quick-acting pipe clamp. Then too, the particular construction of the hinged parts 28 and 29, together with their end extensions 33 and 34 provide diametrically opposite abutments with which the aforesaid claws 16 engage as indicated in Figure 1 to provide the requisite lifting force.

I have yet to mention that the numeral 41 merely designates a handle on the standard of the jack and the numerals 42 in Figure 5 designate a multiplicity of sockets formed in the nut to accommodate removable rods (not shown) which may be used to turn the nut in case the handle 25 breaks.

The method of operation and use of the clamp and jack assembly is quite clear from the drawings and a description thereof is thought to be unnecessary.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after

considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Minor changes in shape, size, and rearrangement of details coming within the field of invention claimed may be resorted to in actual practice, if desired.

What is claimed is:

In a jack of the class described including a hollow standard and a vertically arranged screw shaft having its lower portion loosely arranged in said standard, a block-like member having a vertically arranged threaded bore through which the shaft passes, the lower end of said block-like member being reduced and of circular shape in cross section with its lower end resting on the top of the standard, said reduced portion having vertically arranged notches in its circumference, the ends of which terminate short of the ends of said reduced portion, a handle member having a ring-shaped part encircling the reduced part and covering the notches and having its lower edge resting on the top of the standard and a spring-pressed dog carried by the ring-shaped part for engaging the notches.

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