(No Model.)

A. R. TIFFANY.

SCREW JACK.

No. 295,837. Patented Mar. 25, 1884.

Fig. 1.

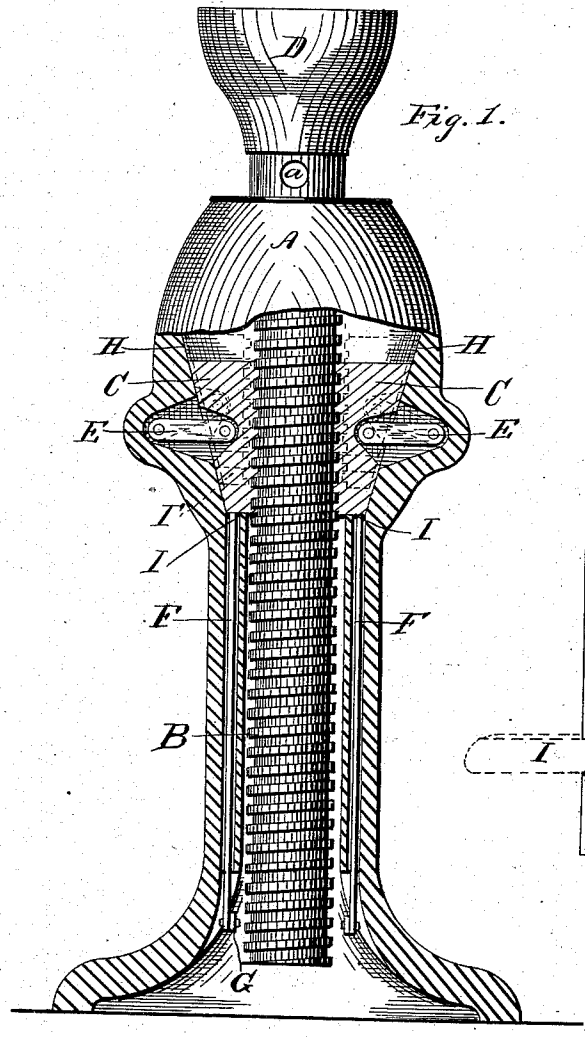
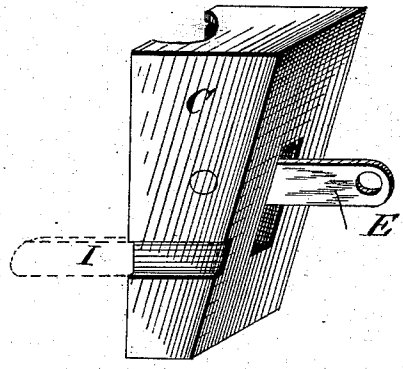


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

ALBERT R. TIFFANY, OF DAYTON, OHIO, ASSIGNOR OF FIVE-SIXTHS TO MICHAEL NEIL, HORACE L. GILLETTE, AND JOHN J. LELAND, ALL OF SAME PLACE.

SCREW-JACK.

SPECIFICATION forming part of Letters Patent No. 295,837, dated March 25, 1884.

Application filed January 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALBERT R. TIFFANY, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Screw-Jacks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My invention relates to that class of screw-jacks in which the screw-stem or lifting-bar is enabled to be quickly changed from a higher to a lower elevation, and vice versa, without resort to the slow action of the screw, the latter being only called into play when a weight is being operated upon, or when for any purpose but a comparatively short movement of the lifting-bar in either direction is required.

More especially my invention has relation to that class of screw-jacks in which a divided nut is employed in connection with the screw-stem or lifting-bar for the purpose of permitting quick adjustment of the lifting-bar; and its novelty consists in certain improvements in the construction of the nut, and in means for adjusting and supporting it, which will be first described, and then pointed out particularly in the claims at the end of this specification.

Referring to the drawings, Figure 1 represents a sectional elevation of a jack embodying my invention. Fig. 2 is a view of one of the parts of the divided nuts detached.

Similar letters of reference in the several figures indicate like parts.

The letter A represents the standard of the jack; B, the screw-stem of lifting-bar, and C C the divided or two-part nut. A head, D, of the usual construction is provided at the upper end of the lifting-bar, and holes *a a* are provided in the bar below the head for the insertion of a hand-lever or other implement by which to rotate the bar when it is desired to screw it up or down. Other well-known means for effecting the raising and lowering of the lifting-bar by the action of its screw may be substituted for the holes and the hand-lever, and I have merely shown the latter arrangement because of its simplicity in illustrating my present improvement. Each of the parts of the divided nut is jointed to a bar, E, that is also jointed to the standard or casing A, as shown, and from the bottom of each part extends a rod, F, which is connected at its lower end to a lever, G, suitably fulcrumed in the base of the standard. The end faces of the nut are inclined inwardly from top to bottom, and normally rest against the correspondingly-inclined faces H H of the standard A, while the bottom face rests upon a shoulder, I, of the standard, as shown in Fig. 1. I term the nut a "gravitating nut," because its weight, in connection with the inclination of its ends, causes its parts to tend downwardly and inwardly, and keep in engagement with the screw-stem or lifting-bar. When it is desired to quickly adjust the lifting-bar up or down, the foot-lever is so operated as to cause both parts of the nut to be raised simultaneously through the medium of the rods F F. As the parts of the nuts are raised, they for a short distance carry the lifting-bar with them, and they then separate and become disengaged from the bar, leaving the latter free to drop of its own weight, or to be quickly raised or lowered by hand to the desired elevation.

From the manner in which the parts of the nut are jointed to the standard it results that as said parts are raised they gradually leave their inclined supporting-walls, and remain out of contact therewith until after they have become disengaged from the lifting-bar, when, after the adjustment of the bar has been effected, they are permitted to gravitate back and engage with the threads of the bar, and then at their outer inclined portions with the inclined walls of the standard again. Arranged and operated in this way, there is no sliding of the parts of the nut on the walls of the standard while being shifted, though at the time when they are required to withstand the greatest pressure they are backed and supported by said walls throughout their entire length as well as at their bottom. Friction of the parts while in motion is thus reduced to a minimum, while a firm support is afforded them when at rest and in normal position. The parts of the nut are maintained at all

times in their relative positions and prevented from tilting by means of a horizontal key, I′, let into slots in their sides, as shown.

It will be observed that the standard or casing of my jack is so constructed as to entirely inclose the operative parts of the device and prevent access to the same of water, snow, ice, sand, dirt, or anything else which would tend to injure or clog them and impair their action. This feature I deem of much practical importance.

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

1. In a screw-jack, the combination, with a standard, of a screw-stem or lifting-bar and a divided nut the parts of which are guided to and from the lifting-bar in arcs of circles, substantially as described.

2. In a screw-jack, the combination, with a screw-stem or lifting-bar, of a divided nut the parts of which are hinged to the jack-standard, substantially as described.

3. In a screw-jack, the combination, with the standard, of a screw-stem or lifting-bar and a divided nut the parts of which are hinged to the standard, and are adapted, when in engagement with the lifting-bar, to be supported against the walls of the standard, substantially as described.

4. In a screw-jack, the combination of a screw-stem or lifting-bar with the standard having inclined inner walls, and a divided nut having inclined ends, and having each of its parts connected to the standard by a hinged connection, substantially as described.

5. In a screw-jack, the combination of a screw-stem or lifting-bar with a standard, a divided nut having each of its parts connected to the standard by a hinged connection, and means, substantially as described, for raising the nut to release the lifting-bar, substantially as described.

6. In a screw-jack, the combination of a screw-stem or lifting-bar with a standard, a divided nut having each of its parts connected to the standard by a hinged connection, and means for maintaining the parts of the nut in the same horizontal plane in all positions of adjustment, substantially as described.

7. In a screw-jack, the combination of a screw-stem or lifting-bar with a standard having inclined inner walls, a divided nut having inclined ends, and having each of its parts connected to the standard by a hinged connection, and means, substantially as described, for simultaneously raising both parts of the nut, as set forth.

ALBERT R. TIFFANY.

Witnesses:
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