Jan. 1, 1924 1,479,090

A. J. SLONECKER

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Filed Dec. 20. 1922 3 Sheets-Sheet 1

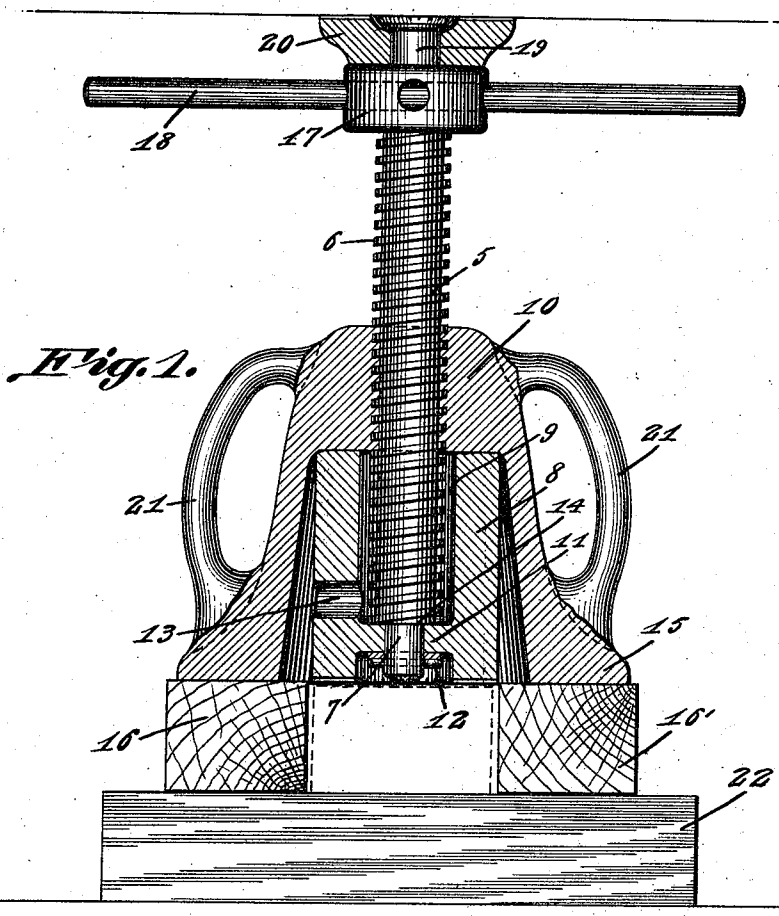


Fig. 1.

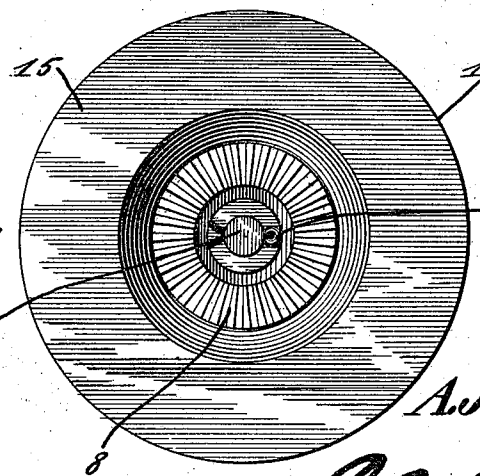


Fig. 2.

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Fig. 3.

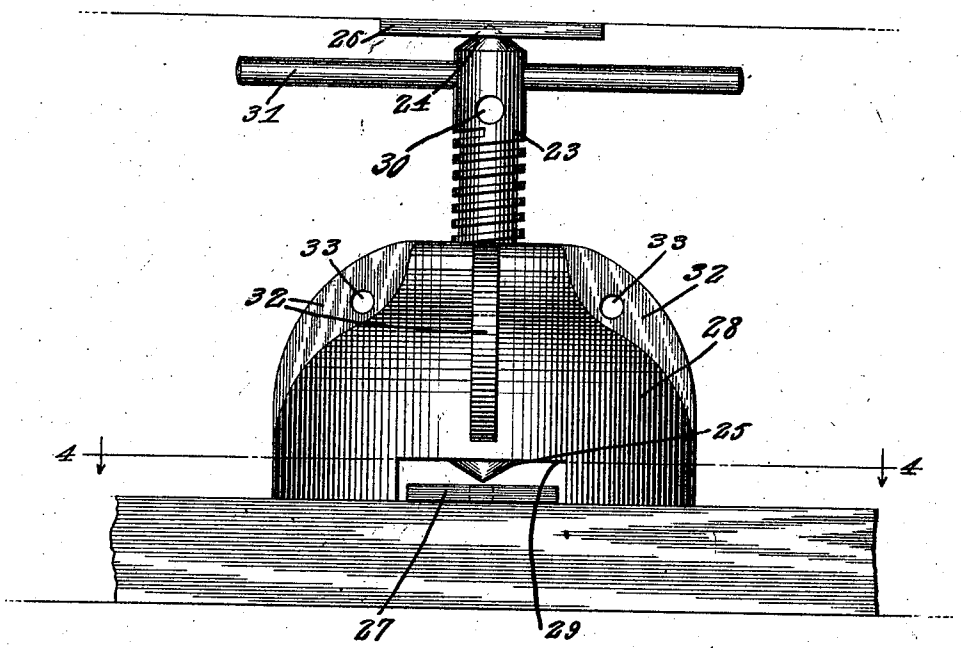
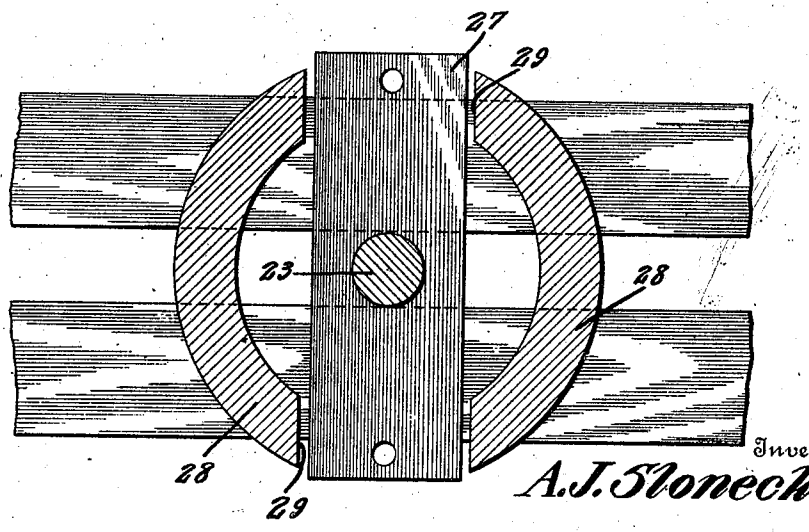


Fig. 4.



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Fig. 5.

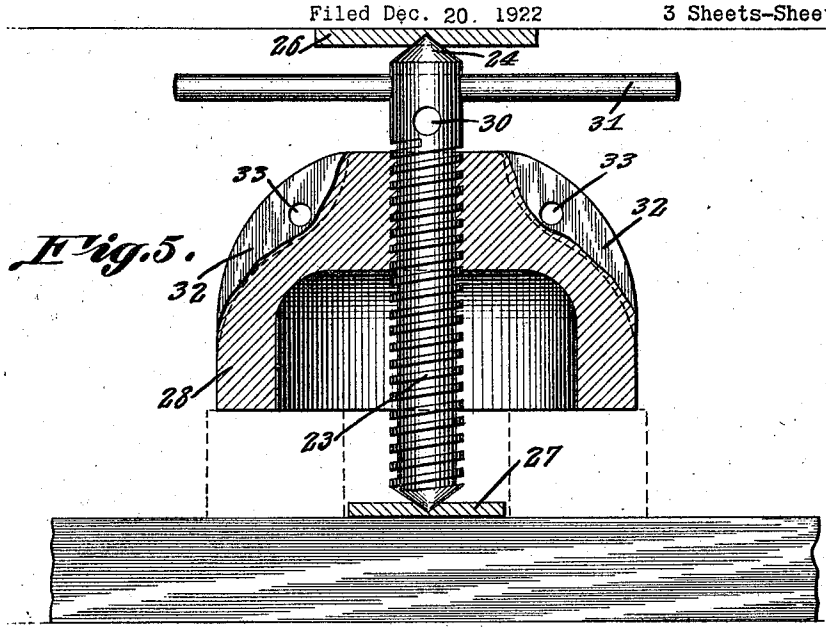
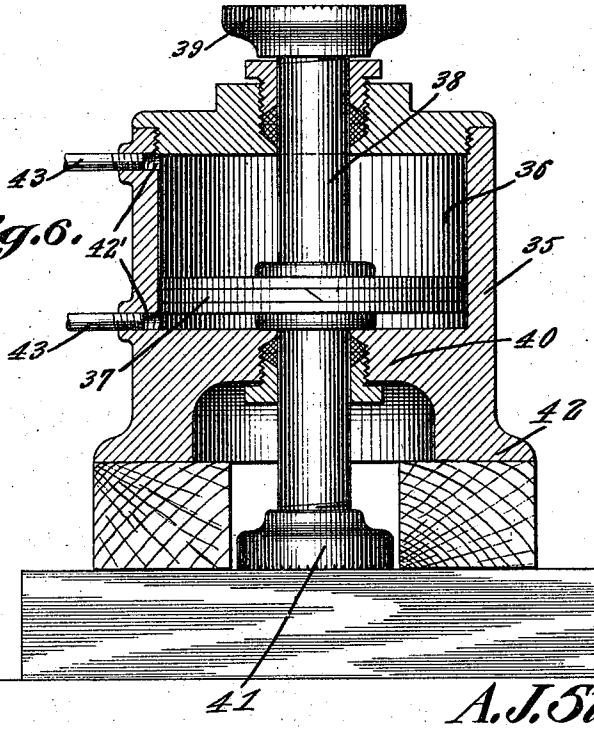


Fig. 6.



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Patented Jan. 1, 1924. 1,479,090

UNITED STATES PATENT OFFICE.

ABIRAM J. SLONECKER, OF TRENTON, MISSOURI, ASSIGNOR TO SLONECKER PRODUCTS COMPANY, OF TRENTON, MISSOURI.

JACK.

Application filed December 20, 1922. Serial No. 608,034.

To all whom it may concern:

Be it known that I, ABIRAM J. SLONECKER, a citizen of the United States, residing at Trenton, in the county of Grundy and State of Missouri, have invented a new and useful Jack, of which the following is a specification.

This invention relates to lifting jacks and aims to provide a novel form of jack which may be conveniently operated in the lifting and supporting of a building or the like, thereby eliminating the necessity of removing the jack and blocking under the building when the jack has been moved to the limit of its upward movement.

Another object of the invention is to provide a jack having a swiveled base, the base being reversible to increase or shorten the length of the lifting screw forming a part of the jack, thereby adapting the jack for various usages.

A still further object of the invention is to provide a quick-acting jack wherein the weight of the work being lifted may be transferred from one base to the other base and the base readily rotated and moved to a position adjacent to the upper end of the lifting screw.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:—

Figure 1 is a vertical sectional view through a jack constructed in accordance with the invention.

Figure 2 is a bottom plan view thereof.

Figure 3 is a side elevational view of a jack especially designed for house moving.

Figure 4 is a vertical sectional view taken on line 4—4 of Figure 3.

Figure 5 is a vertical sectional view through the jack.

Figure 6 is a vertical sectional view through a jack of the hydraulic type.

Referring to the drawings by characters of reference, the device embodies a lifting screw 5 which is formed with threads 6 disposed throughout substantially the entire length of the screw, there being provided a reduced portion 7, however, at the lower end of the screw.

The inner base which is indicated at 8 is formed with a central opening 9 of a diameter greater than the diameter of the screw 5 to permit the lower end of the screw to be positioned therein, the upper end of the inner base being designed to contact with that portion of the inner surface of the outer base 10 directly above the inner base to restrict upward movement of the inner base.

A wall 11 forms a part of the base 8 and is provided with an opening to accommodate the reduced end 7, the connection between the base 8 and screw 5 being such as to permit rotation of the screw 5 within the base 8. Formed in the reduced end 7 is a transverse opening to accommodate the cotter key 12 designed to secure the base to the screw and prevent movement of the base longitudinally of the screw.

Formed in the side wall of the base 8 is an opening 13 through which opening the key 12 may be passed, when the base 8 is reversed to add length to the lifting screw 5, it being obvious that by removing the cotter key 12 from its position as shown by Figure 1 of the drawings, and reversing the base 8 end for end, the shoulder indicated at 14 and formed at the base of the threaded portion of the screw 5 will contact with the opposite side of the wall 11, the cotter key 12 being positioned in its opening in a manner as described. It will be further seen that by removing the inner base from the screw 5, the screw 5 may be further rotated to lengthen its stroke.

The outer base is preferably hollow and formed with an enlarged lower extremity 15 designed to engage the supporting blocks 16 usually employed in connection with lifting jacks, for lifting and supporting buildings. Formed in the upper end of the outer base 10 is a threaded opening to accommodate the lifting screw 5 so that when the weight of the work under operation has been transferred from the base 10 to the inner base 8, the outer base 10 may be readily and easily rotated in an anti-clockwise direction to cause the same to travel to the limit of its upward movement and rest at the upper end of the screw 5.

Secured to the screw 5 at the upper end thereof is a head 17, which is formed with a transverse opening to accommodate the operating rod 18, the upper end of the screw 5 being reduced as at 19 to accommodate the work engaging head 20 in a manner to permit rotation of the screw 5 within the head 20, the upper surface of the head being however roughened to cause the same to be held stationary with respect to the work engaged thereby.

Similar roughened portions are provided on the ends of the base 8, so that the base will also be secured against movement with respect to the block on which the same is positioned. Handles 21 are formed on the base 10 and by means of these handles, the base 10 may be readily rotated to cause the same to move over the screw 5. These handles also provide convenient means for handling the jack to facilitate the transporting of the same.

In the use of the jack, it is obvious that with the jack in a position as shown by Figure 1 of the drawings, and the blocks 16 and 16′ as shown in this figure have been positioned under the bases 8 and 10, the base may be rotated until the same moves to the upper end of the screw 5, whereupon blocks may be positioned under the base 10 and disposed in parallel relation with the blocks 22. With the base 10 in this position, it is obvious that as the screw 5 is rotated to lift, the base 8 will be elevated to a position wherein the lower edge thereof lies in a plane with the lower edge of the base 10.

A block may now be positioned under the base 8 to transfer the weight from the base 10 to the base 8 whereupon the operation as before described may be repeated indefinitely until the building has been raised to the desired height.

As shown by Figures 3, 4 and 5 of the drawings the principle of the jack is applied to a house mover's jack, the screw being indicated at 23 and formed with a tapered upper extremity 24 as well as a tapered lower extremity 25, which tapered extremities are designed to enter the depressions formed in the plates 26 and 27 respectively, the latter plate being relatively long, may be employed to span the space between adjacent supporting blocks shown more particularly by figure 4 of the drawings. In this form of the invention, the screw 23 acts in the capacity of a combined lifting screw and base, the bell shaped base 28 cooperating therewith being formed with a threaded opening to accommodate the screw.

As shown, the base 28 is formed with oppositely disposed cut out portions 29 through which the plate 27 to be engaged by the lower end of the screw 23, may be passed to properly position the same, for supporting the work while the base 28 is raised for blocking as shown by Figure 5. Openings 30 are formed in the upper end of the screw 23 and are designed to receive the operating bar 31 which may be rotated to rotate the screw 23 in manipulating the jack.

Flanges 32 are formed on the base 28 and provide means whereby the base 28 may be rotated to accomplish the moving of the base 28 to the limit of its upward movement, whereupon the blocks may be positioned thereunder to support the jack and the work being lifted.

Each of the flanges is formed with an opening 33 for the reception of a bar to permit the base 28 to be rotated under pressure.

As clearly shown by Figure 6 of the drawings, the jack is of the hydraulic type and embodies an outer base 35 which is formed with a cylinder 36 in which the piston 37 may move, the piston 37 being however secured to the lifting rod 38 that extends through the base 35, the upper end of the lifting rod being supplied with a head 39.

This rod 38 extends below the wall 40 of the base 35 and is formed with a foot 41 at the lower end thereof which foot is formed with a roughened surface designed to contact with the supporting blocks employed in connection with devices of this character, to prevent slipping of the jack while the same is in operation.

At the lower end of the base 35 is an enlargement 42 which rests on the blocks usually positioned under the jack for supporting the jack in a predetermined position after the same has been raised. Ports 42′ are provided in the cylinder 36 in which ports pipes 43 are positioned, the pipes 43 providing communication between the cylinder 36 and a suitable source of fluid supply not shown, means being provided for controlling the passage of fluid to and from the cylinder to cause the operation of the rod 38.

In the operation of the jack as shown by Figure 6 of the drawings, fluid is admitted to the lower portion of the cylinder 36 through the lower pipe 43 with the result that the rod 38 is raised. When the rod 38 has been moved to the limit of its upward movement, a block is positioned under the foot 41 whereupon fluid is admitted to the cylinder 36 through the upper pipe 34, raising the base 35 to a position to permit blocks to be laid thereunder.

This operation is repeated until the work being lifted has reached the desired height.

What is claimed is:—

1. A lifting jack comprising a screw, a reversible base swiveled on the lower end of the screw, a hollow movable base adapted to move over the screw, means for rotating the screw, and handles on the hollow movable base for rotating the hollow movable base.

2. A lifting jack comprising a screw having a continuous thread formed thereon and

having a reduced lower extremity, a base having an opening extending therethrough and having a wall formed adjacent to one end of the base, said wall having an opening to accommodate the reduced end, means for securing the base to the screw, a hollow movable base adapted to normally house the first mentioned base, said hollow movable base having a threaded opening to permit the same to move over the screw, and means for rotating the screw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ABIRAM J. SLONECKER.

Witnesses:

I. E. SIMPSON,

AGNES ROCKELLI.