Jan. 13, 1953 R. E. SYKES ET AL 2,625,352

JACK TRIPOD BASE

Filed Feb. 13, 1950 2 SHEETS—SHEET 1

Fig. 1.

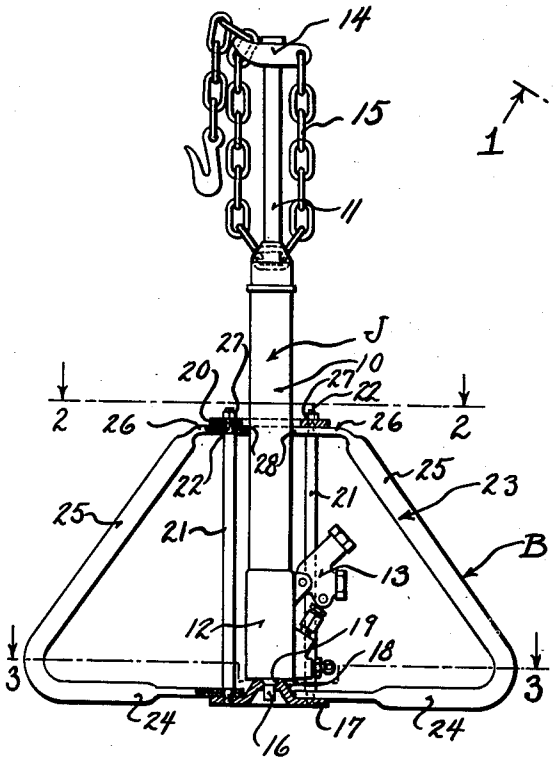


Fig. 2.

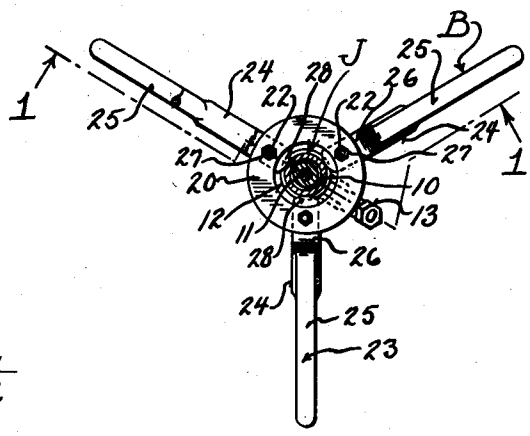


Fig. 3.

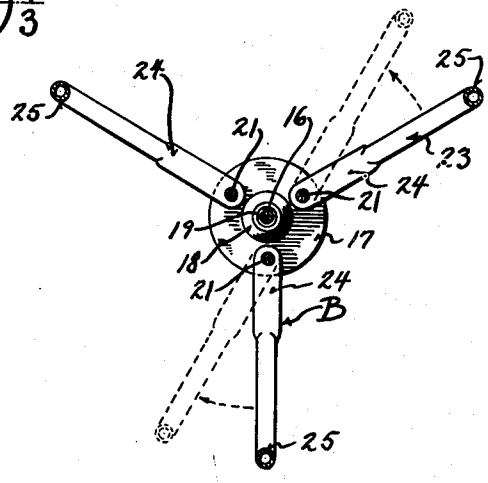
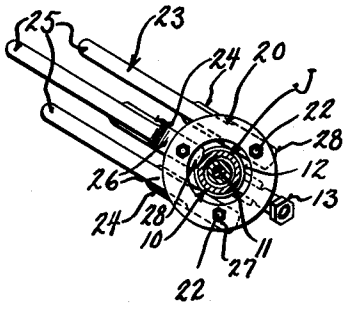


Fig. 4.



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Filed Feb. 13, 1950 2 SHEETS—SHEET 2

Fig. 5.

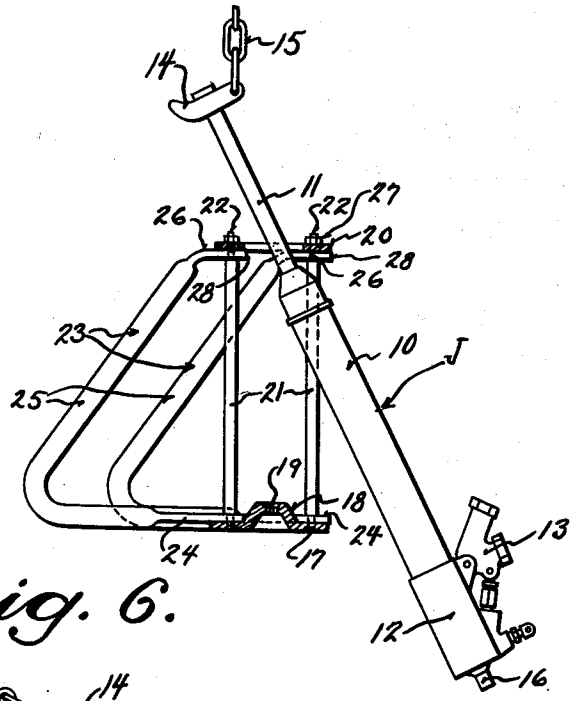


Fig. 6.

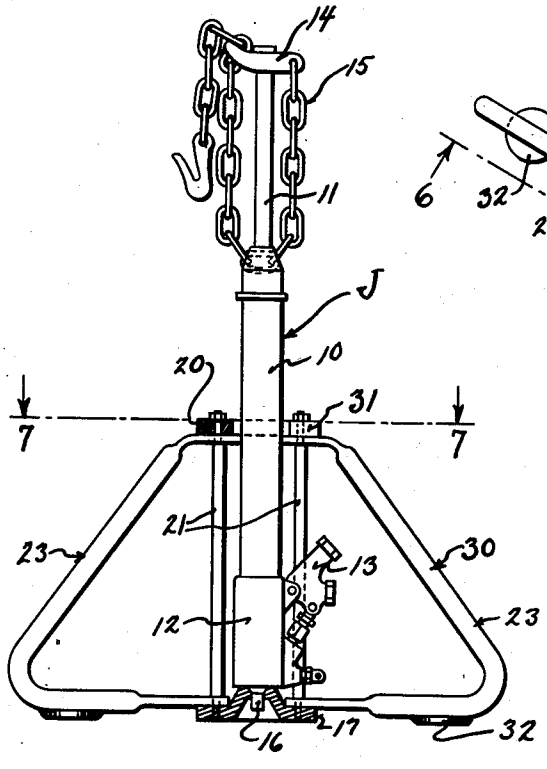
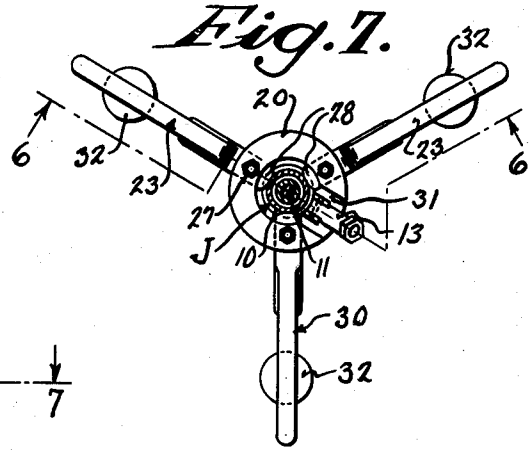


Fig. 7.



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JACK TRIPOD BASE

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6 Claims. (Cl. 248—47)

1

This invention appertains to jacks of the type particularly adapted for lifting heavy objects, such as farm tractors, automobiles and the like, and more particularly to an appliance for use with hydraulic jacks, where a broad, stable footing is necessary or desirable.

One of the primary objects of the invention is to provide a novel base for lifting jacks, which can be readily and quickly associated with jacks of a type already on the market, without any change thereto and which effectively holds the jack in an upright position against tilting, thereby eliminating the necessity of employing blocks and extra supporting jacks.

Another salient object of the invention is to provide a portable and detachable stand or base for hydraulic jacks embodying novely mounted swinging legs readily movable to a compact collapsed position for shipping and storing, and to an operative position to form a rigid wide-spread tripod base for the jack.

A further object of the invention is to provide means whereby, when the stand or base is in its collapsed, folded condition, a jack can be readily associated therewith or removed therefrom, and when the stand or base is in its set up operative condition, the jack will be firmly locked thereto in an upright position as a unit thereof.

A further important object of the invention is to provide cam members on the legs for locking, biting contact with the jack when the legs are swung out to their operative extended position.

A further salient object of the invention is to provide a stand or base of the above character embodying a base plate and an upright supporting and guide ring with rods rigidly connecting the base and ring together to form a rigid support with novely formed legs pivotally mounted on the rods for swinging movement to a collapsed position against one another and to an extended radial position to form a wide-spread base in conjunction with the plate.

A still further important object of the invention is to provide novel means for forming the stand or base, whereby a durable and efficient device will be had and one which can be manufactured and placed upon the market at a reasonable cost.

With these and other objects in view, the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed and illustrated in the accompanying drawings in which drawings,

Figure 1 is a vertical sectional view through the

2

novel stand or base, taken on the line 1—1 of Figure 2, looking in the direction of the arrows, showing the base or stand in its set up operative position, with a jack supported thereby.

Figure 2 is a horizontal sectional view taken on the line 2—2 of Figure 1, looking in the direction of the arrows illustrating the cams on the legs for biting, locking engagement with the jack.

Figure 3 is a horizontal view taken on the line 3—3 of Figure 1, looking in the direction of the arrows, illustrating the novel base plate and the novel construction of the legs, the legs being shown in one of their operative positions in full lines and in dotted lines in another operative position for avoiding adjacent objects.

Figure 4 is a horizontal sectional view similar to Figure 2, but showing the legs in their collapsed position for releasing the jack.

Figure 5 is a side elevational view partly in section showing the stand or base in its collapsed position and the jack being removed therefrom or associated therewith, as the case may be.

Figure 6 is a vertical sectional view taken on the line 6—6 of Figure 7, looking in the direction of the arrows and showing a slightly modified form of the stand or base.

Figure 7 is a horizontal sectional view taken on the line 7—7 of Figure 6, looking in the direction of the arrows.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter B generally indicates the novel stand or tripod base for a hydraulic jack J.

The jack J is of a well-known type now on the market and hence will not be described in detail, but it is to be noted that the same includes a cylinder 10, having a ram 11 mounted therein. The cylinder 10, can be mounted on a reservoir 12, and the usual pump 13 and associated mechanism is mounted thereon. The ram 11, carries a head 14 for engaging the work, and this head can carry a chain 15 for also engaging the device to be lifted. In the particular type of jack shown, a centering stud 16 is carried by the reservoir casing and this stud is usually fitted within the supporting base plate (not shown).

The novel stand or base B, includes a bottom or base plate 17, having formed thereon a central boss 18 having an opening 19 for receiving the stud 16, as will be later set forth. Mounted in spaced relation to the bottom plate 17, is a top plate or ring 20, and this ring is of sufficient diameter so that the cylinder 10 of the jack

J can readily fit therein, as is best shown in Figures 2 and 4.

The bottom or base plate 17, and the top ring 20 are held rigidly in their spaced relation by vertical upright tie rods 21. The rods are preferably three in number for a purpose, which will later appear. These rods preferably have their opposite ends reduced in diameter to form pivoted bearings 22. To facilitate easy assembling, it is preferred to thread the outer ends of these bearings and the rods can be threaded into the plate 17, as will be hereinafter more fully set forth.

Associated with the rods 21, and consequently with the bottom plate 17 and ring 20 for swinging movement, are the novel legs 23. These legs can be, but not necessarily, formed from hollow tubing and the tubing is bent into a V-shape to provide horizontally disposed feet 24 and inwardly directed angle portions 25. The upper ends of the angle portions 25 are bent inwardly in parallel relation to the feet 24 to provide horizontal portions 26. The inner ends of the feet 24 and the horizontal portions 26 are flattened, and these flattened portions are apertured to provide upper and lower bearing openings.

In assembling the stand or base B the rods 21 are placed through the bearing openings in the feet 24, and then the rods are threaded into the plate 17. The legs are then sprung and the horizontal portions 26 are placed over the reduced ends 22 of the rods 21, and the ring 20 can then be placed in position on the rods and the entire device can be held in this assembled condition by nuts 27 threaded on the extreme upper ends of the rods 21. The reduced ends of the rods 21 form shoulders for engaging the legs and the legs are freely movable on said rods for swinging movement. Hence the rods can be swung out to a radial position as shown in Figure 2, to form a widespread tripod base or to a collapsed position parallel to one another as shown in Figure 4.

Attention is now directed to the fact that the horizontal portions 26 of the legs extend inwardly beyond the inner periphery of the ring 20 to form cams 28, the purpose of which will now be described.

In assembling the jack J with the stand or base B, the stand is collapsed as shown in Figures 4 and 5 and the cams 28 of certain of the legs will be moved away from the inner edge of the ring 20. The upper end of the jack is now slid into the ring 20, as shown in Figure 5, and the jack is gradually moved to an upright position, after which the jack is lowered so that the stud 16 thereof will enter the opening 19 of the plate 17. The legs 23 can now be swung out to their radial position as shown in Figure 2, and the cams 28 will move into biting contact with the jack cylinder 10. This will firmly hold the jack in its upright position and the jack J and the base B will in effect form a rigid unit.

Obviously, a firm wide base is now provided for the jack and the jack can be used for lifting the desired heavy load, such as a farm tractor and automobile, and the jack will be held against tilting movement during the swinging movement of a tractor or an automobile incident to the raising thereof. The jack is particularly useful in farm work for raising tractors, and eliminates the necessity of providing extraneous blocking and jacks for the tractor.

When the jack is to be removed from the base B the legs are again swung to their parallel position as shown in Figure 4 and the jack will be released by the cams 28. The jack can be raised a short distance until the lug 16 is removed from the plate 17, at which time the jack can be tilted and removed from the base (see Figure 5).

In some instances, where the jack is being used in confined quarters, the legs 23 can be swung to different positions (see dotted lines in Figure 3) to avoid any adjacent obstructions.

In Figures 6 and 7, a slightly modified form of base or stand is shown, and this base or stand is indicated by the reference character 30. The essential difference between the base or stand 30 and the base or stand B is that the top ring 20 in the base or stand 30 can be thickened and provided with a cut out portion 31, defining an entrance throat. The width of this throat is slightly greater than the outside diameter of the jack J so that the jack J can be slid into the ring 20 through the throat. Attention is directed to the fact that this throat 31 is diametrically opposite one of the pivoted legs and that the other two legs are on opposite sides of the throat. Hence the cams 28 carried by these last two mentioned legs will effectively grip and hold the jack when the legs are in their radial operative position. The legs can also be provided with pads 32 on their lower ends to form additional supporting surfaces.

From the foregoing description, it can be seen that an exceptionally simple and rugged base or stand has been provided for hydraulic jacks and that a well-known type of jack can be quickly and easily associated with the strand or removed therefrom. The base or stand B is particularly useful as the same can be collapsed into a small, compact structure for shipping and storing and in effect the base can be readily placed in the trunk of an automobile along with the jack.

Changes in details may be made without departing from the spirit or the scope of this invention, but what is claimed as new is:

1. A portable base for supporting jacks against tilting movement comprising a bottom plate having means for engaging the lower end of a jack and a top plate arranged in spaced relation to the bottom plate having an opening for receiving an intermediate portion of the jack, a plurality of like legs mounted for swinging movement relative to one another and to the top and bottom plates to an operative extended radial position or to a collapsed substantially parallel position relative to one another, and cam members on the upper ends of said legs movable into the opening of the top plate when said legs are in their radial position for gripping and centering a jack in said top plate.

2. A base for supporting a jack in a vertical position against tilting comprising a ground rest plate for engaging the lower end of a jack, a top plate arranged in spaced relation to the ground rest plate having an opening for receiving an intermediate portion of the jack, supporting and tie rods operatively connecting said plates together and legs mounted for swinging movement on said tie rods between the plates movable in one position radially of said plates and movable to another collapsed position substantially parallel to one another.

3. A base for supporting a jack in a vertical position against tilting movement comprising a ground rest plate having means for engaging the lower end of a jack, an upper plate arranged in spaced parallel position relative to the ground rest plate having an opening for receiving an intermediate portion of the jack, vertical tie rods

connecting said plates together, said tie rods having reduced portions defining shoulders, said reduced portions being received in openings in said plates, and legs mounted for swinging movement on said tie rods between the plates and confined between the shoulders and said plates.

4. A base for supporting a jack in a vertical position against tilting movement comprising a ground rest plate having means for engaging the lower end of a jack, a top plate having an opening therein for receiving an intermediate portion of the jack, tie rods connecting said plates together, and legs mounted for swinging movement on said tie rods between the plates, and said top plate having an entrance throat for the jack communicating with the opening in said top plate.

5. A base for supporting a jack in a vertical position against tilting movement comprising a ground rest plate having means for engaging the lower end of a jack, a top plate having an opening therein for receiving an intermediate portion of the jack, tie rods connecting said plates together, and legs mounted for swinging movement on said tie rods between the plates, and said top plate having an entrance throat for the jack communicating with the opening in said top plate, said throat being diametrically opposite one leg and other of said legs being disposed on opposite sides of the throat.

6. A base for supporting a jack in a vertical position against tilting movement comprising a bottom plate having means for engaging the lower end of a jack, a top plate having an opening therein for receiving an intermediate portion of the jack, tie rods connecting said plates together, and legs mounted for swinging movement on said tie rods, and said top plate having an entrance throat for the jack communicating with the opening in said top plate, said throat being diametrically opposite one leg and other of said legs being disposed on opposite sides of the throat, the upper ends of said legs having extensions movable into the opening of the top plate when said legs are swung radially relatively to said plates for locking engagement with a jack in said opening.

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