

M. C. CUMMING.
SCREW JACK.
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961,106.

Patented June 14, 1910.

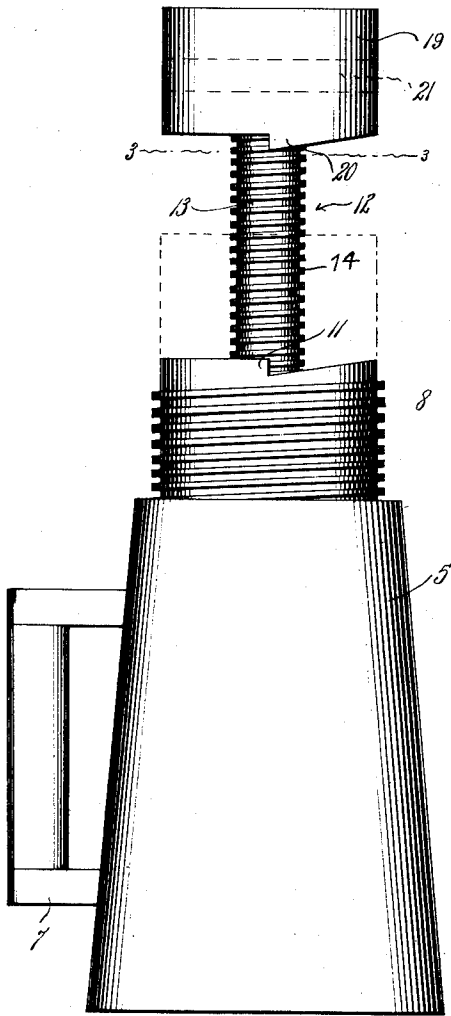


Fig. 1.

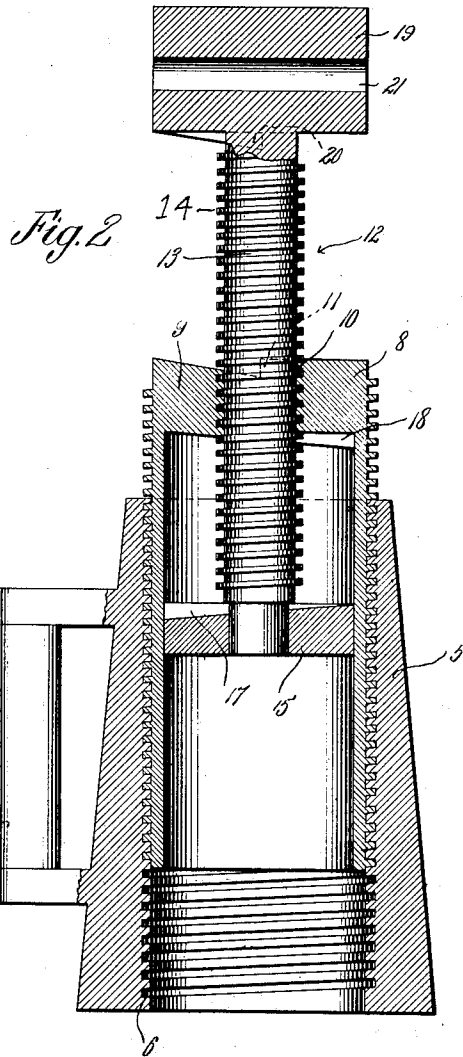


Fig. 2.

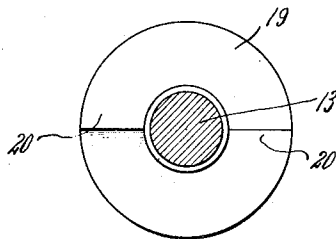


Fig. 3.

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UNITED STATES PATENT OFFICE.

MILLARD C. CUMMING, OF TIGERBAY, FLORIDA, ASSIGNOR OF ONE-HALF TO L. W. COTTMAN, OF TIGERBAY, FLORIDA.

SCREW-JACK.

961,106.

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To all whom it may concern:

Be it known that I, MILLARD C. CUMMING, a citizen of the United States, residing at Tigerbay, in the county of Polk, State of Florida, 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 invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in lifting jacks and has for its object the provision of a device of that kind which may be extended to a length substantially equal to twice the length of its supporting standard or base.

Another object is the provision of a stop serving to prevent the threads on the lifting sections from binding during the outward or lifting movement of one of the lifting sections.

With these and other objects in view as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and more particularly pointed out in the appended claims; it being understood that various changes in the form, proportion, size and minor details of the device may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of the specification: Figure 1 is a side elevation of the device. Fig. 2 is a sectional view thereof. Fig. 3 is a bottom plan view taken on the line 3—3 of Fig. 1 and showing one portion of the toothed clutch.

Similar numerals of reference are employed to designate corresponding parts throughout.

The upright or base is designated in general by the numeral 5 and is shown to be a tubular structure interiorly screw threaded as shown at 6. The outer surface of this upright or base is flared from its upper end and is provided with the usual handle 7. The threads 6 extend for the entire length of the base 5 and engage with the exterior threads of an inner section 8. The inner section 8 is screw threaded throughout its length and corresponds in length to the

length of the base section 5, or substantially so. The inner section 8 is tubular and at its upper end is integrally provided with a thickened head 9. The thickness of the head 9 corresponds approximately to one eighth the length of the inner section 8, and formed centrally of the head 9 is a threaded opening 10. The pitch of the threads in the opening 10 is the same as the pitch of the threads on the outer surface of the inner section 8 and inner surface of the section 5, for a purpose to be presently described. The upper face of the head 9 is flush with the upper end of the section 8 and formed in the upper face are a pair of diametrically opposite clutch teeth 11, which are adapted to engage with a similar clutched surface to transmit movement to the section 8 in one direction only.

A second lifting section is designated in general by the numeral 12 and consists of an elongated shank portion 13, corresponding approximately to the length of the section 8 and exteriorly provided with a screw thread 14 to engage with the threads of the opening 10 in the head 9. The length of the shank 13 corresponds approximately to the length of the section 8 and its lower or inner end is provided with a head 15, the upper surface of which is provided with a pair of diametrically opposite clutch teeth 17. Formed on the lower face of the head 9 are a pair of clutch teeth 18 similar to the clutch teeth 17 and which are adapted to engage with the latter when the head 15 is brought into engagement with the head 9. The clutch teeth 17 and 18 are so formed that they will impart movement to the section 8 in one direction only. The upper or opposite end of the shank 13 terminates in a lifting head 19, the upper surface of which is flat and the lower surface of which is provided with a pair of diametrically opposed clutch teeth 20, which are adapted to engage with the clutch teeth 11 and impart a turning movement to the section 8 in one direction only and opposite to the movement imparted by the clutch teeth 17. The head 19 is provided with a transverse opening 21, which is adapted to receive a suitable tool, by means of which the head may be turned.

Having now described the structure of the device its operation will be given. The jack is placed in the ordinary manner under the object to be lifted and a suitable bar or other tool is inserted through the opening 21

in the lifting head 19. By turning the latter in one direction so that the bearing surfaces of the clutch teeth 20 on the lower face of the head and the clutch teeth 11 on the upper face of the head 9 are moved into engagement with each other the section 12 will ascend on the threads of the opening 10 in the head 9. After the section 12 has ascended to its full extent the clutch teeth 17 on the head 15 at the lower end of the shank will engage with the clutch teeth 18 on the lower face of the head 8 whereby a rotary movement will be imparted to the section 8, which will cause the latter to ascend on the thread 6 of the base 5. It will be observed that during the upward or outward movement of the section 8 on the threads 6 that the threads 14 will be prevented from binding on the threads of the opening 10 by virtue of the clutch teeth 17 and 18, since the bearing surfaces of these teeth will be in engagement and will thereby prevent upward or ascending movement of the shank 13 on the threads of the opening 10 beyond a certain point, so that when it is desired to disengage the jack from the object lifted the turning movement of the head 19 in a direction to cause the section 12 to descend will not be prevented by the threads binding.

It will be observed that the device is exceedingly simple in structure and comparatively inexpensive to manufacture, and its utility will be greatly appreciated since with its use the employment of blocks, which are usually interposed between the lifting head and object to be lifted when devices of this kind having but one telescoping section are used, will not be necessary; for it is evident that after one section has been extended to

its full extent and it is required to raise the object higher the same can be done by continuing to turn the head 21 to cause the section 8 to ascend.

What is claimed as new, is:—

1. In a lifting jack, a plurality of screw threaded telescoping sections, one of which is provided with oppositely disposed clutch surfaces and another of which has similarly formed clutch surfaces to engage with the clutch surfaces of the first-named section to cause the latter to ascend and descend.

2. In a lifting jack, an interiorly threaded tubular base section, a plurality of screw threaded telescoping sections threaded into said base, one of said sections being provided with oppositely disposed clutch surfaces and another of said sections having similarly formed clutch surfaces to engage with the clutch surfaces of the first-named section so as to cause the latter to ascend and descend on the threads of the base section.

3. In a lifting jack, an interiorly threaded tubular base section, a lifting section threaded into said base and provided at its upper end with a head having on its opposite faces a plurality of clutch teeth, a third section threaded into the second section having heads at its opposite ends the inner faces of which are provided with clutch teeth to engage with the teeth on the said second section so as to cause the latter to ascend and descend on the threads of the base section.

In testimony whereof, I affix my signature, in presence of two witnesses.

MILLARD C. CUMMING.

Witnesses:

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H. W. ZANDER.