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JACK

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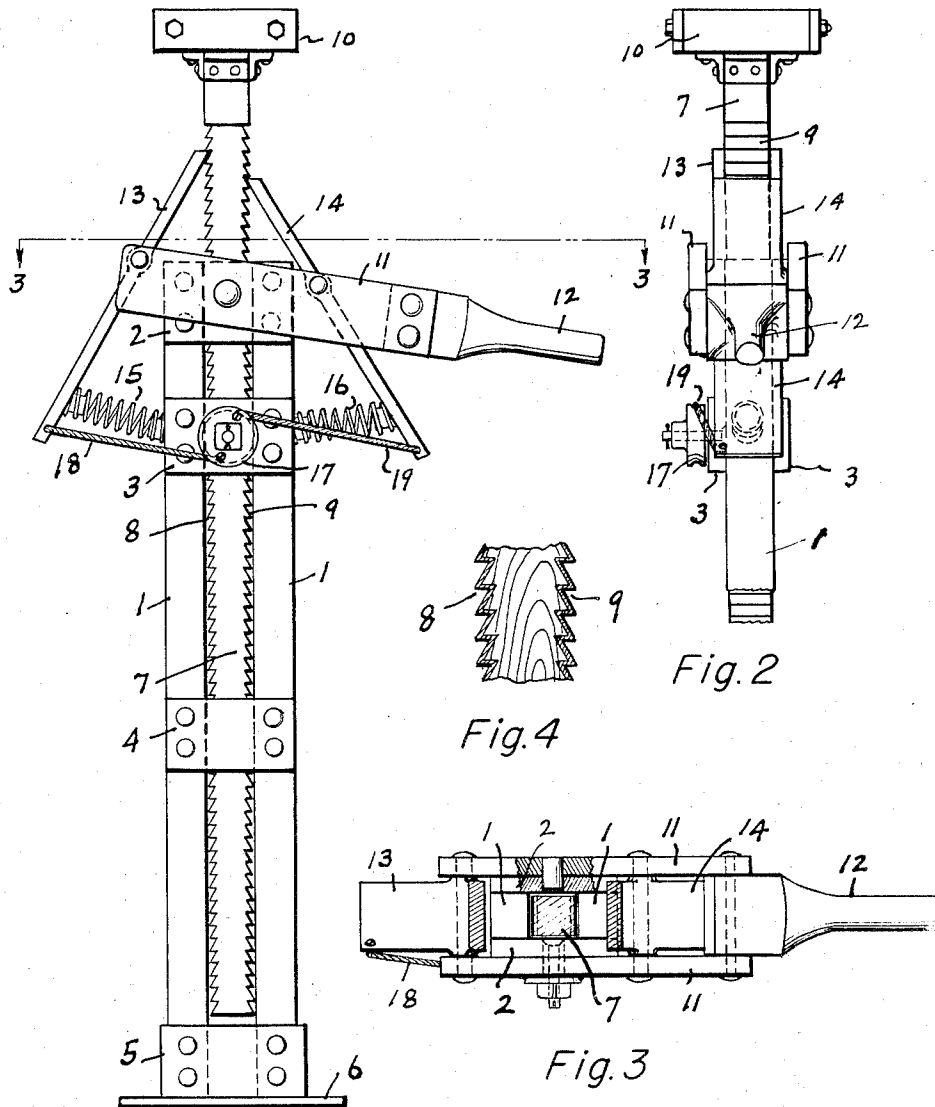


Fig. 1

Fig. 2

Fig. 4

Fig. 3

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JACK

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1 Claim. (Cl. 254—109)

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This invention relates to a jack.

An object of the invention is to provide a lifting jack designed for general use and whose ratchet bar is provided with two sets of ratchet teeth, said jack being equipped with an operating handle with dogs mounted thereon arranged to alternately engage said ratchet faces as the handle is oscillated, thereby providing a high speed jack.

It is another object of the invention to provide novel means for releasing the dogs from the ratchet faces so that the ratchet bar may be moved to initial position.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

Figure 1 is a side view of the jack.

Figure 2 is a fragmentary edge view.

Figure 3 is a horizontal, sectional view taken on the line 3—3 of Figure 1, and

Figure 4 is an enlarged, fragmentary, vertical, sectional view of another form of ratchet bar.

Referring now more particularly to the drawings, wherein like numerals of reference designate the same parts in each of the figures, the numerals 1, 1 designate the side bars of the frame which are spaced apart and which are secured in fixed relation by means of the upper, intermediate and lower pairs of side plates 2, 3 and 4, the plates of each pair being arranged on opposite sides of the bars 1 and being securely fastened thereto.

The numeral 5 designates a rectangular, box-like foot piece in which the lower ends of the bars 1 are seated and secured, said foot piece having a wide base 6.

Working between the bars 1, 1 and between the plates which secure said bars together, there is a ratchet bar 7 having oppositely disposed ratchet faces 8, 9. This may be an all metal bar, as indicated in Figure 1, or it may be composed of wood with the ratchet teeth formed of metal, as indicated in Figure 4.

Secured to the upper end of the ratchet bar, there is a head piece 10.

There is an operating handle composed of the side bars 11 which embrace the side plates 2, 2 and are pivoted thereto as indicated in Figures 1 and 3. This lever is provided with a grip member 12 at its outer end.

There are the dogs 13 and 14 whose upper ends are arranged to co-act with corresponding ratchet

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faces 8 and 9. These dogs are pivoted between the handle side bars, at intermediate points and their lower ends rest against compression springs 15 and 16 which are interposed between their lower ends and the corresponding side bars 1. These springs operate to hold the dogs in engagement with the corresponding ratchet teeth of the ratchet bar.

In operation, upon downward movement of the grip member 12, the dog 13 will operate to lift the ratchet bar 7 while the dog 14 will pass over the ratchet teeth 9 for a new hold. Upon reverse movement of the grip member 12, the dog 14 will engage the teeth of the ratchet bar 7 and impart a further movement to it while the dog 13 will pass over the ratchet teeth 8 for a new hold, so that with each movement of the lever the ratchet bar 7 will be advanced, thus producing a quick action jack.

In order to move the ratchet bar 7 back to initial position, both dogs must be simultaneously released. In order to accomplish this, a sheave 17 has been mounted to rotate on one of the side plates 3, and a cord 18 has been connected to the lower end of the dog 13 and to the lower margin of the said sheave, while a cord 19 has been connected to the lower end of the dog 14 and to the upper margin of said sheave. By turning the sheave 17 to the left, the lower ends of the dogs may be pulled inwardly, thus releasing the upper ends thereof from the ratchet faces of the bar 7, so that said bar may be manually moved to initial position.

The jack hereinabove described may be of any desired dimensions. The larger sizes will be very useful in construction work for lifting, or moving, heavy loads while the smaller size jacks will be adapted for use as automobile jacks or for lifting similar loads.

It is, of course, to be understood that structural changes may be made and the proportions of the various parts varied so long as the principle of the invention is not departed from.

The drawings and description are illustrative merely, while the broad principle of the invention will be defined by the appended claim.

What I claim is:

A jack comprising, a frame having upstanding side bars spaced apart, upper, intermediate and lower pairs of side plates securing the side bars in fixed relation, the plates of each pair being arranged on opposite sides of said bars, a box-like, rectangular footpiece in which the lower ends of the bars are seated and secured, said footpiece having a wide base, a ratchet bar which

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works between the side bars and between the plates which secure the side bars together, said ratchet bar having oppositely disposed ratchet faces, a headpiece secured to the upper end of the ratchet bar, an opposing handle composed of side bars which embrace the upper side plates and are pivoted thereto, a grip secured to the outer end of the handle side bars, dogs whose upper ends are arranged to co-act with the corresponding ratchet faces and which are pivoted between the handle side bars at intermediate points, compression springs interposed between the side bars and the lower ends of said dogs and which operate to hold the dogs in engagement with the corresponding ratchet faces, a sheave mounted to rotate on one side of the

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frame, a pair of cords connected at their outer ends to the lower ends of said dogs and at their inner ends to the sheave at opposing points whereby the turning of the sheave will pull the lower ends of the dogs inwardly and release the upper ends of the dogs from said ratchet faces.

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10 The following references are of record in the file of this patent:

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