

Dec. 13, 1960

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2,964,293

JACK FOR BUILDING MATERIAL PANELS

Filed Dec. 13, 1957

2 Sheets-Sheet 1

FIG. 1

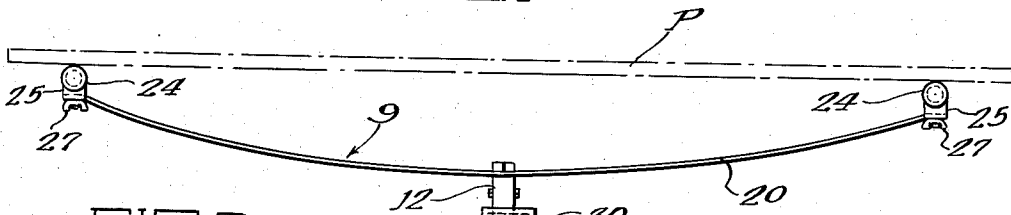


FIG. 2

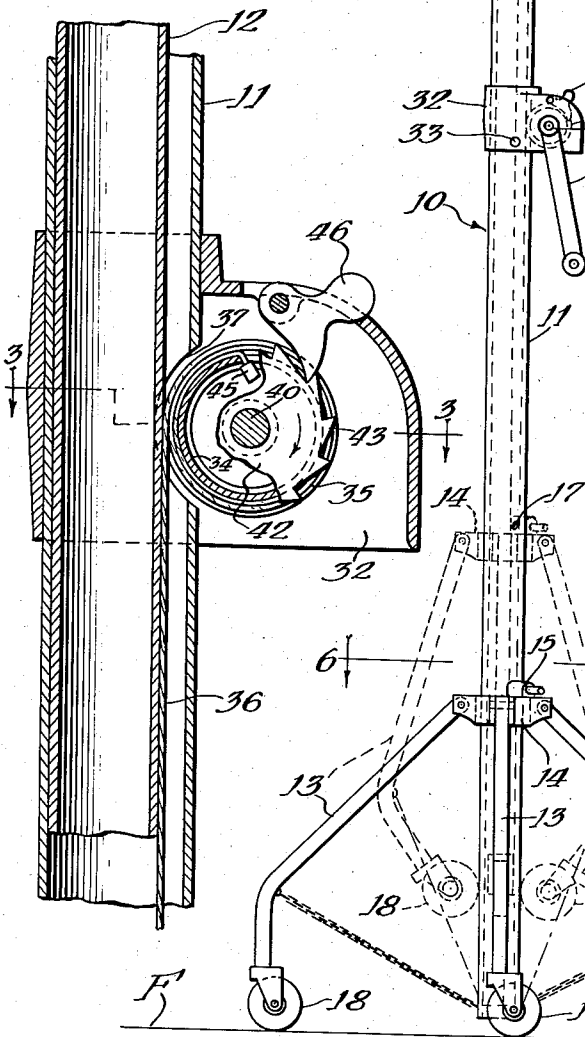
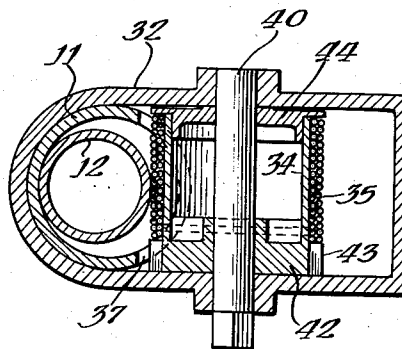


FIG. 3



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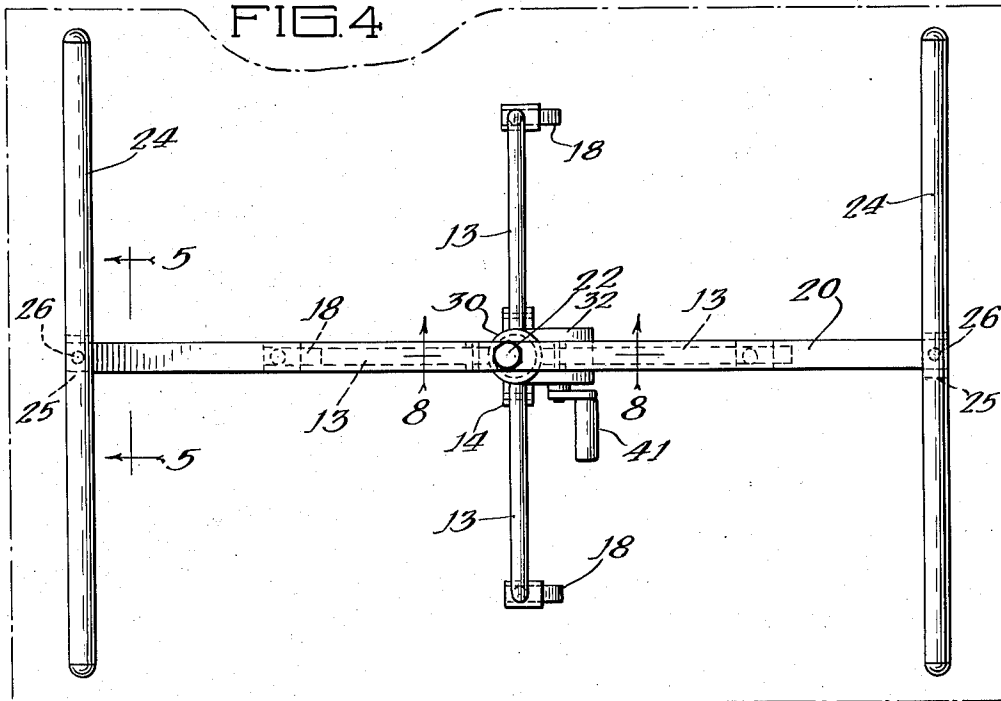


FIG. 5

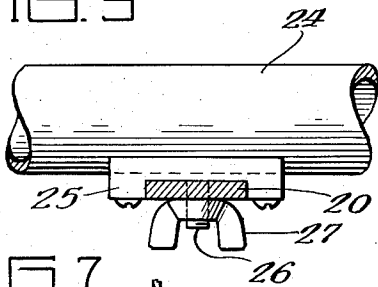


FIG. 6

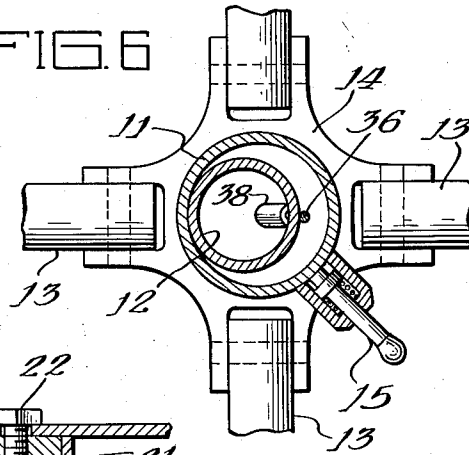


FIG. 7

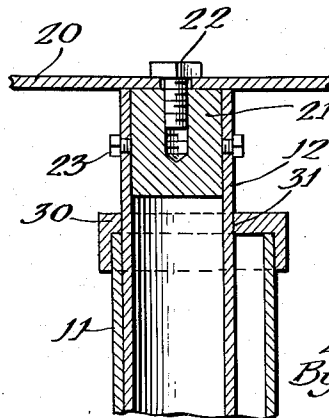
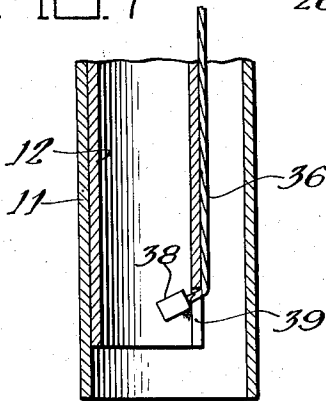


FIG. 8

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JACK FOR BUILDING MATERIAL PANELS

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1 Claim. (Cl. 254-4)

This invention relates to a jack for elevating building material panels and more particularly to a jack useful in holding panels, such as plasterboard, against ceiling joists during installation.

There have been several suggestions as to jack structures for raising building panels against ceiling joists but for several reasons none of them have been commercially successful. For several years, much home construction has employed a so-called dry-wall instead of wet plaster. The dry-wall is made up of plasterboard panels ordinarily 4' wide and either 8' or 12' in length. These panels of plasterboard have a cardboard coating which should not be marred in the processes of nailing the board to the wooden framework of the building, either wall partitions or ceiling joists.

In order to permit one man to handle building material panels of the size indicated, some mechanical contrivance is necessary to hold the panel in place. In the absence of such mechanical help, the job of placing ceiling panels has required two or more workmen. It is believed that among the reasons why a jack of the character to be described has not been commercially successful is the fact that a light-weight and economical structure has never before been proposed. The jack of the present invention is both light-weight, easily operated and may be constructed at a price well within the budget of those engaged in building construction.

The primary object of this invention is to provide a new and improved jack for raising building material panels.

Another object is to provide a jack of the character described having a novel and relatively inexpensive extensible supporting post.

Another object is to provide a jack of the character described made of a minimum number of parts of simple design and of particular light-weight construction.

A further object is to provide a jack for building material panels having a cable operated lift post requiring a minimum of maintenance.

Other objects, features and advantages of the present invention will be apparent from the following description of a preferred embodiment as illustrated in the accompanying drawings in which:

Figure 1 is an elevational view of a jack embodying the invention;

Figure 2 is an enlarged fragmentary sectional view through the cable wench and associated structure;

Figure 3 is a cross sectional view through the wench taken substantially along line 3-3 in Figure 2;

Figure 4 is a top plan view looking down upon the jack;

Figure 5 is a fragmentary enlarged sectional view taken along line 5-5 in Figure 4;

Figure 6 is a fragmentary enlarged sectional view taken along line 6-6 in Figure 1;

Figure 7 is a fragmentary enlarged sectional view adjacent the lower end of the supporting post; and

Figure 8 is a fragmentary enlarged sectional view taken along line 8-8 in Figure 4.

The structure of the entire jack is best seen from Figures 1 and 4. The rough sub-flooring F is indicated as supporting the jack for purposes of lifting a building panel P mounted upon a framework generally indicated 9. The building panel may be a 4' x 8' sheet of plasterboard intended to be nailed to ceiling joists in a residential type building. The jack to be described in detail is intended to elevate the building panel against the joist and hold it in that position while the workman nails it at its edge and along each of the joists against which it is held.

The jack has an upright extensible post generally indicated 10 including an outer post 11 and an inner post 12. Each of the posts is made of tubular metal stock of light-weight but fairly stiff material. It has been found that electrical conduit is particularly useful and has the qualities desired. The outer post 11 is considerably larger than the inner post as illustrated. The inner post may freely move or telescope within the outer post.

The posts are held in an upright position over the floor F by four (4) foldable legs 13 each pivoted to a bracket 14 more particularly illustrated in Figure 6. The bracket is slidable upon the outer post 11 and held in position by a spring pressed detent 15 engageable in appropriate stamped openings in the outer post. Chains 16 prevent the legs from swinging outwardly more than as illustrated in Figure 1, the chains being attached to the lower end of the outer post and to each leg. The legs may be folded by retracting the spring pressed member 15, raising the collar 14 upon the post so that the detent may engage in an opening 17 in the outer tube, placing the legs in the dotted line position in Figure 1. In this position the casters 18 will rest in a position above the lower end of the outer post.

As mentioned above, the building panel is supported upon a frame 9 so that it may be forced upwardly against ceiling joists. This frame has an elongated leaf spring 20 removably attached to a central block 21 by a fastener 22 so that the block may be inserted into the inner post 12, and held therein by sheet metal screws 23. Cross bars 34 are removably attached to the outer ends of the leaf spring in the manner indicated in Figure 5. Each cross bar 24 may be about 3' long and equipped with a bracket 25 at its center having a threaded shank 26 to pass through an opening in the end of the spring and be held thereon by a wing nut 27. The frame is thus composed primarily of the spaced and generally parallel bars 24 so that the panel may rest upon these bars as illustrated in Figure 1. The leaf springs supporting the bars and thus the panel, give the assembly some resiliency to take up any irregularities because of an uneven floor on which the jack sets or any unevenness in the ceiling joists. The leaf spring also permits the panel to be tightly held against the joist with the pressure exerted by the bowed spring.

One of the structural parts of the present jack which contributes to its low cost is the elevating structure employed between the inner and outer posts. These posts are extended in the present invention by the use of a cable lift. It is preferred that the inner post be considerably smaller than the outer and for example, might be 1 1/2" in outer diameter whereas the outer post might be 2 3/16" in outer diameter. A cap 30 is made of light-weight aluminum and fastened to the upper end of the outer post to guide the inner post. For guiding purposes, the cap is provided with an off-center opening 31 which will place the inner post adjacent one side of the outer post.

A further guide of the inner post is provided by the mechanism of the cable lift. The housing 32 is a casing provided to slip over the outer post and be fastened thereto as by fasteners 33. The housing is downwardly open and receives therein a drum 34 upon which a cable 35 is wound in such a manner that one end portion 36 ex-

tends into the outer post through an opening 37 provided for this purpose. The end 36 of the cable is fastened to the lower end of the inner post 12 by passing an enlargement 38 thereon past a slot 39 in the lower end of the inner post. The cable wound upon the drum also bears against the inner post 12 as illustrated in Figures 2 and 3, and thus provides a guiding bearing spaced from the cap 30 and serving to keep the inner post against one side of the outer post. In this manner, a space is left within the outer post extending along side the inner post through which the cable 36 may freely pass.

The drum is mounted upon a shaft 40 to which an operating handle 41 is externally attached. Preferably, the drum is made up of two parts, a cup shaped part 42 having teeth 43 about its base, and a cap part 44 closing the cup shaped part. The cable may be conveniently fastened to the drum by passing an enlargement 45 past a slot formed between the cooperating parts of the drum. A manually operated dog 46 is pivotally secured to the housing in position to engage the teeth on the drum holding the drum from unwinding the cable.

The above description of the elevating mechanism will indicate that a minimum number of parts are so arranged that maintenance of the unit is practically nil. The housing, the drum, the cap and the collar for mounting the legs may all be of light-weight metal casings. The inner and outer posts are preferably electrical conduit type tubular members and the construction is such that the cable lift may, most conveniently and easily, be operated and maintained. In operation, one man may toss a building panel up onto the upper frame and then elevate the same against the ceiling joists. Operation of the locking dog 46 will hold the jack extended while the same workman nails the panel in place.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom for some modifications will be obvious to those skilled in the art.

I claim:

A jack for elevating building material panels, compris-

ing: a wheeled base with an upright extendable and adjustable support secured to the base, said support having a pair of round tubular posts of dissimilar size, one within the other and said one being extendable lengthwise of the other and adjustable angularly with respect to the other post; a cap member telescoped over the upper end of the larger post and having an off center opening therein aligned with the interior of the larger post for guiding the smaller post in an upright path within the larger post generally closely adjacent one side and spaced from the opposite side of the larger post, said cap opening permitting the smaller post to turn within the larger post; a cable drum mounted on the exterior of the larger post spaced at a distance below the upper end thereof and at a greater distance above said base, said cable drum having one side projecting into said larger post on said opposite side thereof; a cable on said drum having one end attached to the lower end of the smaller post and its other end attached to the drum so that an intermediate portion of said cable extends generally parallel to and against the smaller post for elevating the smaller post when the cable is wound upon said drum, said cap and said cable on said drum engaging the smaller post at longitudinally spaced points to maintain the posts in predetermined alignment during extension and retraction thereof; and a frame upon the upper end of the smaller post for receiving a panel to be elevated, said smaller post being adjustable in height and angular position relative to said base to position a building panel as desired.

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