F. O. GOODMAN.

DEVICE FOR ELEVATING WALL MOLDS.

APPLICATION FILED JULY 10, 1920.

1,389,044.

Patented Aug. 30, 1921.

2 SHEETS—SHEET 1.

Fig. 4.

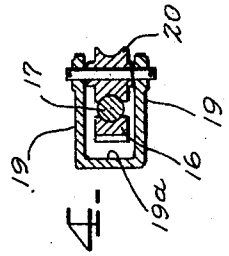


Fig. 3.

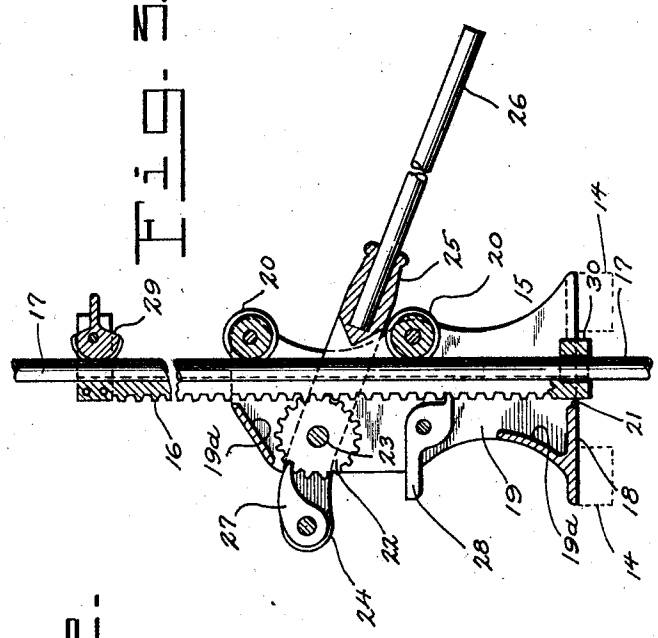


Fig. 1.

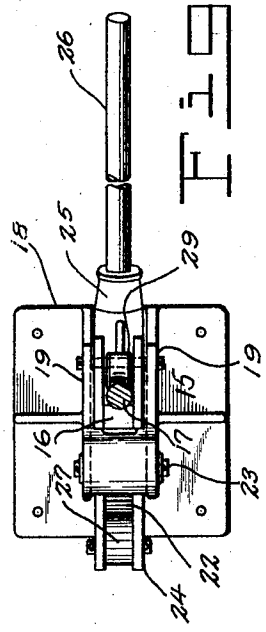
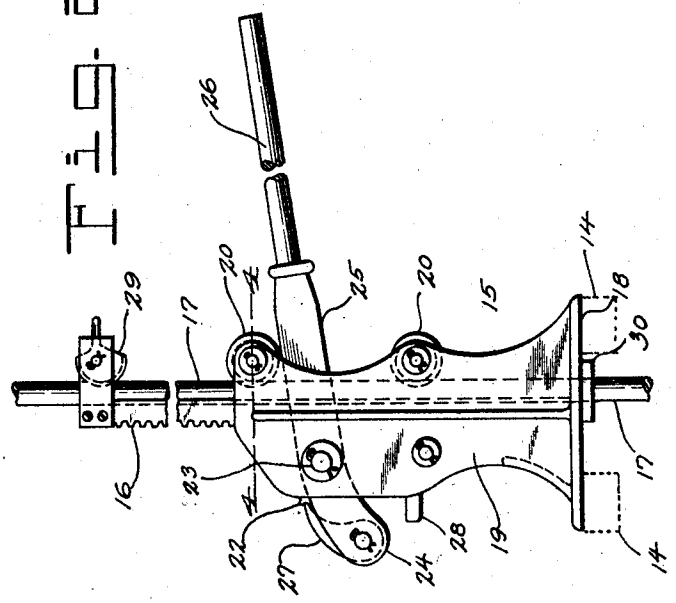


Fig. 2.



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2 SHEETS—SHEET 2.

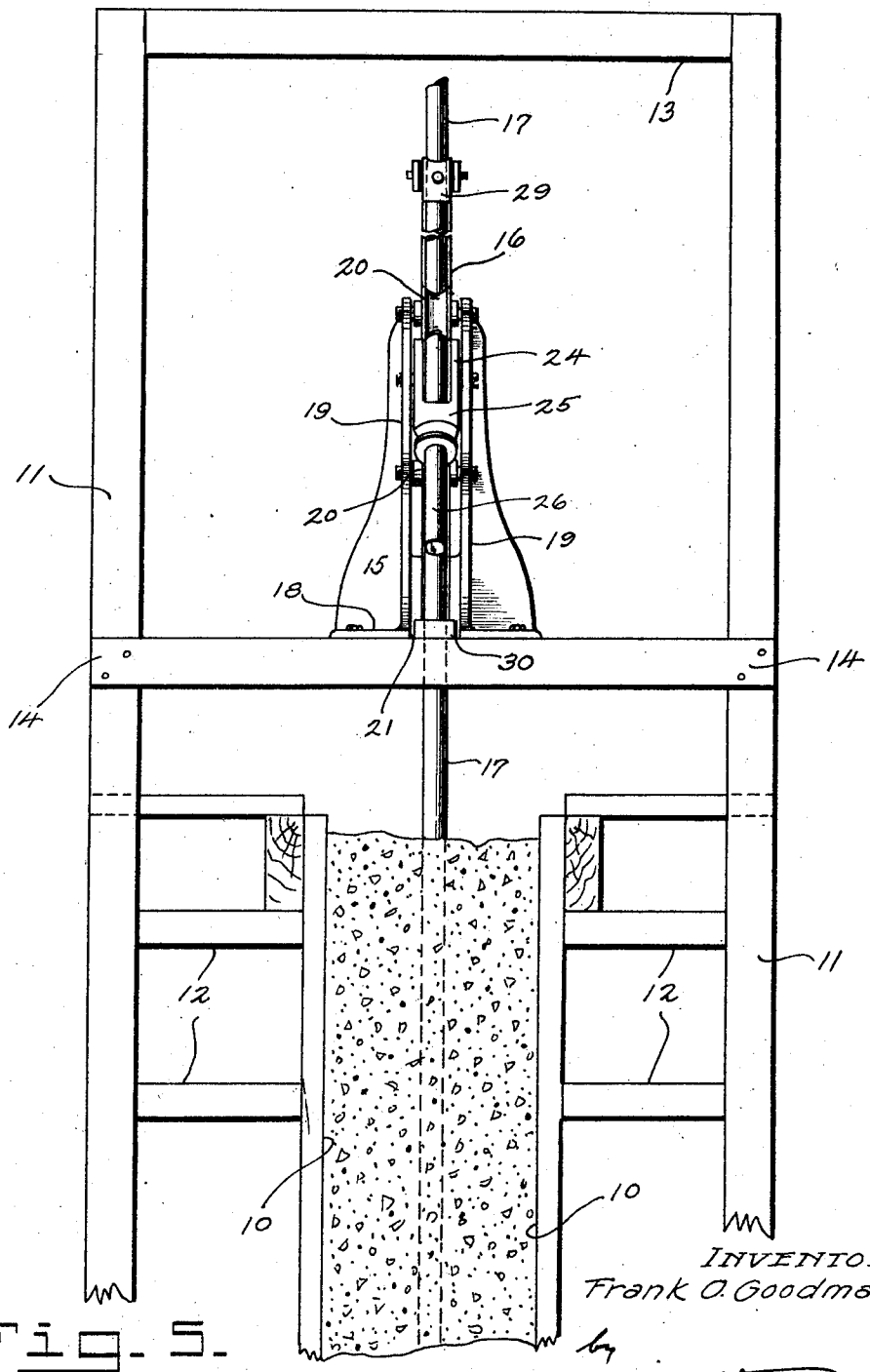

Fig. 5.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR ELEVATING WALL-MOLDS.

1,389,044. Specification of Letters Patent. Patented Aug. 30, 1921.

Application filed July 10, 1920. Serial No. 395,228.

To all whom it may concern:

Be it known that I, FRANK O. GOODMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Devices for Elevating Wall-Molds, of which the following is a specification.

This invention relates to molds or forms employed in the erection of concrete walls, and more particularly to forms of this kind having a height which is less than that of the walls to be erected, so that the forms must be slid upwardly after they are filled and the concrete has set to require no further support, this operation being repeated as the work progresses and until the walls are run to the required height.

The invention has for its object to provide a novel and improved jack for elevating the forms, and to this end the invention consists in a combination and arrangement of parts to be hereinafter described and claimed.

In order that the invention may be better understood, reference is had to the accompanying drawings forming a part of this specification, and in said drawings,

Figure 1 is a plan view of the device;

Fig. 2 is a side elevation thereof;

Fig. 3 is a central vertical section;

Fig. 4 is a horizontal section on the line 4—4 of Fig. 2, and,

Fig. 5 is an elevation of the device in place on the mold or form to be operated on.

Referring specifically to the drawings, 10 denotes the laterally spaced side walls of the form between which the concrete is poured to form the wall. The height of the walls 10 is considerably less than the height of the wall to be erected, and hence the form must be elevated at intervals as the work progresses. The walls 10 are rigidly connected to uprights 11 by spacers 12, and the uprights are connected by a top cross beam 13, and below the latter, and above the top of the walls 10, by cross beams 14 on opposite sides. This is a conventional wall form or mold structure, and hence a further description thereof is not necessary.

The jack for elevating the mold form consists of movable and stationary members. The movable member consists of a stand 15 which is fastened down on the beams 14 so that when it is moved upwardly, the entire form is elevated for the purpose stated. The stationary member is a vertical rack 16 fastened to one of the reinforcing rods 17 which is embedded in the concrete material forming the wall, and rising from the finished portion thereof.

The stand 15 comprises a base 18 and laterally spaced side walls 19 rising therefrom and connected on one side of the stand by top and bottom webs 19^a. The stand is so positioned that the rack 16 and the rod 17 seat between the side walls 19. The rack 16 is fastened to one side of the rod 17, and the opposite side of the rod is engaged by guide rollers 20 carried by the walls 19 and seating therebetween. The base 18 has an opening 21 through which the rack 16 and the rod 17 pass, and it is firmly bolted down or otherwise fastened to the beams 14 to straddle the same, the rack and the rod extending upwardly between said beams.

In mesh with the rack 16 is a pinion 22 which seats between the walls 19, and has its shaft 23 supported by said walls. Between the walls 19 extends the forked end 24 of a lever 25 having a socket to take a handle extension 26. The outer end of the lever fork 24 carries a pivoted pawl 27 engaging the pinion 22 to rotate the same when the lever is swung. The pawl 27 slips over the pinion 22 when the lever is swung upwardly, and on the downward swing of the lever, the pawl takes hold and rotates the pinion causing it to travel upwardly on the rack 16, resulting in an upward movement of the stand 15 and the mold form to which it is fastened. The walls 19 also carry a pivoted detent 28 engageable with the rack 16 to prevent the stand 15 from dropping when the lever is swung upwardly for another working stroke, the detent, of course slipping on the upward travel of the stand. The lever 25 has its forked end 24 fulcrumed on the shaft 23 of pinion 22.

The rack 16 is rigidly fastened at its upper end to the rod 17, by a cam clamp 29, and at its lower end the rack has a laterally extending lug 30 through which the rod passes, said lug having a vertical opening to seat the rod. As the rack 16 and the rod 17 seat between the pinion 22 and the rollers 20, the stand 15 cannot shift sidewise to take the pinion out of mesh with the rack.

The mold form will be provided with a suitable number of the hereinbefore described lifting jacks, and by giving the operating levers of the entire set of jacks the same number of strokes, the form will be uniformly elevated at all points, and it is not necessary to provide a scale of graduations

The jack is strong and durable, and it has no springs or other parts to weaken or complicate the action.

I claim:

1. The combination with a vertically movable wall mold form, and an upright rod stationary relative to said form; of a stand fastened to a top portion of the form, a pinion carried by the stand, operating means for the pinion, a vertical rack in mesh with the pinion, and means for detachably coupling the rack to the aforesaid rod.

2. The combination with a vertically movable wall mold form, and an upright rod stationary relative to said form; of a stand fastened to a top portion of the form, a pinion carried by the stand, operating means for the pinion, a vertical rack in mesh with the pinion, means for detachably coupling the rack to the aforesaid rod, said rod passing through the stand, and guide pulleys on the stand engageable with the rod.

3. The combination with a vertically movable wall mold form, and an upright rod stationary relative to said form; of a stand fastened to a top portion of the form, a pinion carried by the stand, operation means for the pinion, a vertical rack in mesh with the pinion, and means for coupling the rack to the aforesaid rod, said stand having a base provided with an opening through which the rod passes.

4. The combination with a vertically movable wall mold form, and an upright rod stationary relative to said form; of a stand fastened to the top portion of the form, said stand comprising laterally spaced side walls and a base from which said walls rise, the base having an opening through which the aforesaid rod passes to seat between the side walls, a rack connected to that portion of the rod which seats between the side walls of the stand, means for detachably fastening the rack to the rod, a pinion carried by the side walls of the stand and located between said walls to mesh with the rack, and operating means for the pinion.

In testimony whereof I affix my signature.

FRANK O. GOODMAN.