May 31, 1949. R. L. HATCH 2,471,955

BENCH STAND TABLE LIFT

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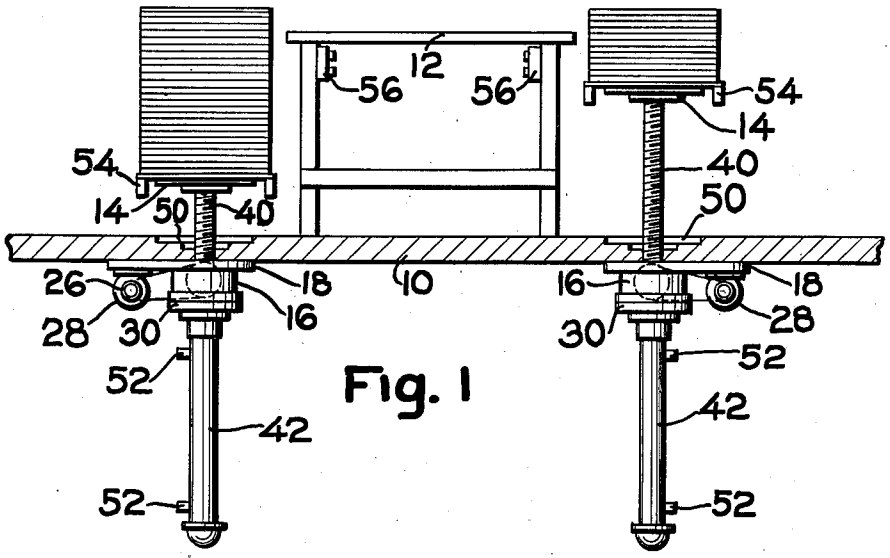


Fig. 1

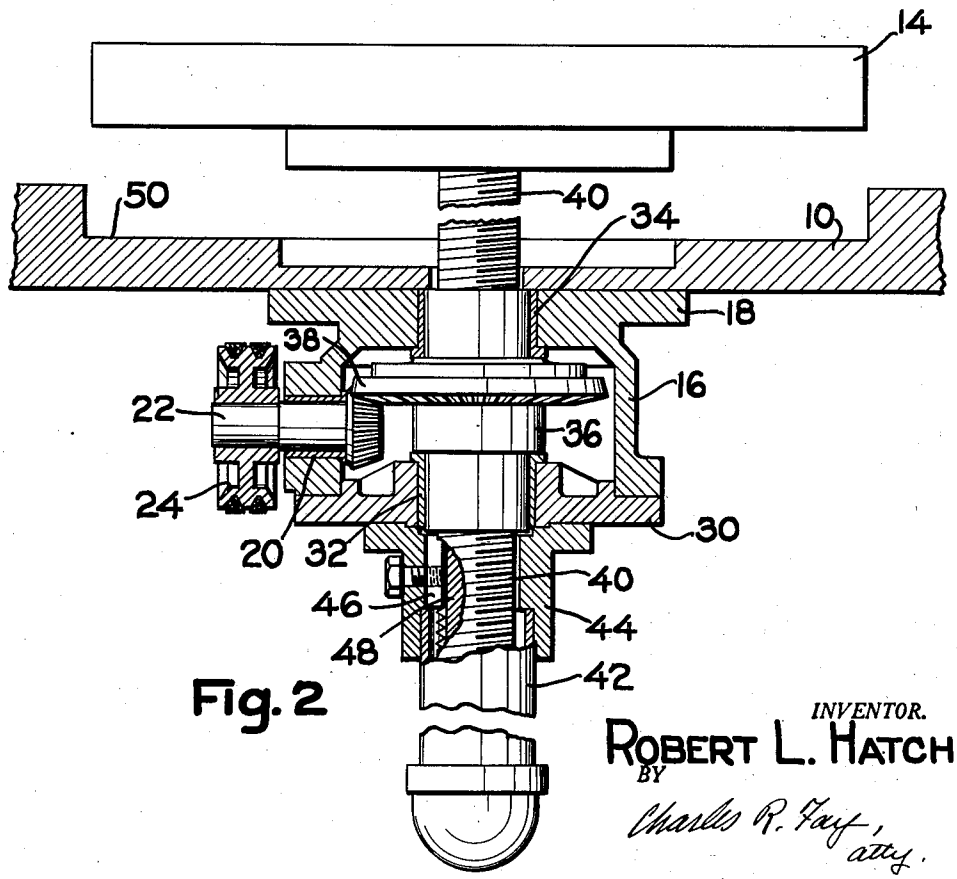


Fig. 2

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BENCH STAND TABLE LIFT

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1 Claim. (Cl. 187—24)

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This invention relates to new and improved table lifts for bench stands.

The principal object of the invention includes the provision of a fixed bench stand having a table lift at each side thereof, each lift being independently raised or lowered under control of an operator, the controls for raising and lowering the lifts being mounted on the bench stand to promote efficiency by permitting the operator to work at the stand and on one lift while the other lift is being loaded or unloaded, and to simultaneously operate the lift controls.

Further objects of the invention include the provision of a new and improved bench stand table lift wherein the table in lowermost position is flush with the floor to provide easy access thereto by work handling trucks; the provision of a bench stand table lift comprising an elongated tube secured to the floor and depending therefrom, said tube housing a non-rotatable screw meshing with a rotatable nut driven by a motor, the latter being controlled from a bench above the floor, said tube being provided with limit switches shutting off the motor at both the uppermost and lowermost limits of travel of the lift.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a view in elevation illustrating the construction and operation of the invention; and

Fig. 2 is an enlarged section showing the operation mechanism of one of the lifts.

Referring to Fig. 1 there is shown a floor 10 on which is supported a stationary bench 12 for the purpose of providing a work table for the operator. At each side of bench 12 there is provided a lift table 14, these lift tables being substantially alike.

Each lift comprises a gear housing 16 having a flange 18 bolted to the floor 10 at the underside thereof. Each housing is provided with a sidewall carrying a bearing 20 for a shaft 22, shaft 22 mounting a pulley 24. The pulley is operatively connected to a pulley 26 on the shaft of a motor 28 mounted on the flange plate 18, as is clearly shown in Fig. 1.

The gear casing 16 is open at the bottom and is closed by a plate 30, this plate 30 carrying a bearing 32 cooperating with a bearing 34 rotatably

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mounting an elongated nut 36. The nut is provided with a gear 38 meshing with a similar gear on shaft 22.

Nut 36 meshes throughout its length with a heavy screw threaded rod 40. Rod 40 is housed in an elongated tube 42. The tube is secured in a central depending flange 44 on plate 30. The flange 44 mounts a key 46 in a keyway 48 in the screw threaded rod 40 so that as nut 36 is rotated the rod 40 is moved up and down without rotation.

Rod 40 mounts the table 14 at its upper end and this table in its lowermost position fits into a cutout 50 in the floor so that the table is exactly flush with the floor. Limit switches 52 on the tubes 42 stop the motor when the tables 14 are either flush with the top of the bench stand or with the floor, so that skids 54 may be quickly and easily picked up by trucks.

The lifts are controlled by start and stop switches 56, located out of the way but conveniently to the operator under the top of the bench stand.

The present invention will be seen to provide a convenient mechanism for fast efficient work wherein the operator may work at the bench on material from the uppermost lift while the other is down and being unloaded and loaded. The operator does not have to wait for a lift to go down and be reloaded before proceeding.

An important feature of the present invention resides in the controls for the lifts. The stop and start switches 56 are very conveniently located on the stationary bench stand, so that the lifts are simulaneously controllable to be placed at any desired height, and at the same time, the limit switches stop the lifts either flush with the bench stand top or flush with the floor.

Having thus described my invention and the advantages thereof, I do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claim, but what I claim is:

In combination with a floor, a bench stand table lift of the character described comprising a housing secured to and supported from the under side of the floor and including an enlarged upper portion serving as a gear casing for a lift actuating means and an elongated tubular member depending from the gear casing, a vertically reciprocable table supporting rod extending through

said floor and into said tubular member, said rod being externally threaded, an internally threaded nut rotatably mounted within said gear casing and coacting with said externally threaded rod, means for actuating said nut to rotate the same, said actuating means including a beveled gear housed within said casing, said gear being mounted coaxially with the nut and externally secured thereto, and a drive shaft extending laterally through the gear casing and provided at its inner end with a second beveled gear meshing with the first beveled gear, coacting means carried by said housing and said rod comprising a key and a keyway for preventing rotation of said rod while permitting vertical reciprocation of the rod, and a table carried by the upper end of said rod, the upper surface of the floor being recessed to receive the table flush with the floor.

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