Nov. 20, 1934. R. J. TINDALE 1,981,680

HOISTING TABLE

Filed May 4, 1934

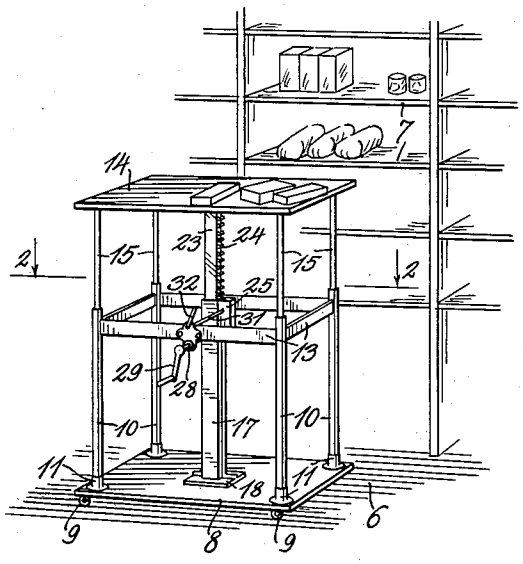

Fig.1.

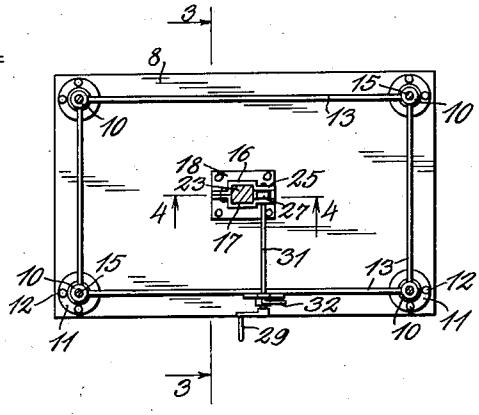

Fig.2.

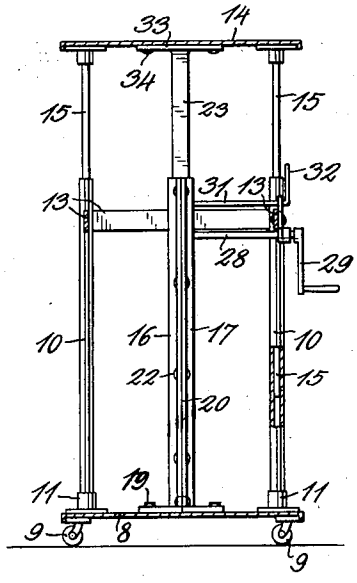

Fig.3.

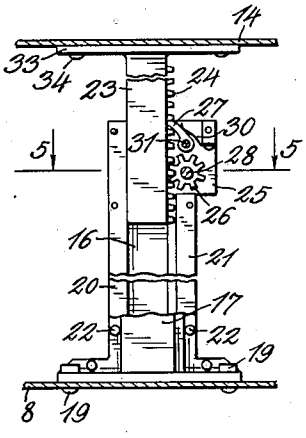

Fig.4.

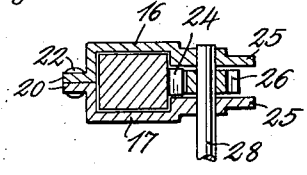

Fig.5.

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Patented Nov. 20, 1934 1,981,680

UNITED STATES PATENT OFFICE

1,981,680

HOISTING TABLE

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Application May 4, 1934, Serial No. 723,886

1 Claim. (Cl. 254—6)

This invention relates to improvements in hoisting tables and has reference more particularly to a table the top of which can be raised and lowered by means of a suitable hoisting device.

In stores of different types goods are kept on shelves along the walls and when the goods are distributed, the people doing this work find that it is very tiresome, owing to the fact that the goods are usually laid on the floor and must be picked up from the floor and then placed on the high shelves along the wall.

It is the object of this invention to produce a table whose top can be raised and lowered and which is mounted on rollers so that it can be easily moved from one position to another. When goods are to be distributed to the shelves of stores, they are placed on the movable top and the latter is elevated to the position bringing it as nearly as possible to the level where the goods are to be stored.

This invention, briefly described, consists of a base which is preferably formed from a sheet of steel and which is provided at each corner with an inwardly extending tubular guide. The top is provided on its under side with a rod corresponding to each tubular guide and these rods telescope into the tubular guides so as to constrain the table top to move in a certain direction. Interposed between the base and the table top is a hoisting mechanism which is preferably formed from a rack bar attached to the under side of the top and a tubular guide member secured to the base. A pinion is rotatably mounted in the guide member and positioned to engage the rack teeth and when this is turned by means of a crank, the top can be raised and lowered. A pawl is provided for holding the top in adjusted position and means is also provided for releasing the pawl so as to permit the table top to be lowered.

Having thus briefly described the invention, the same will now be described in detail, and for this purpose reference will be had to the accompanying drawing in which the preferred embodiment of the invention has been illustrated, and in which:

Fig. 1 is a perspective view of the improved hoisting table showing it in position adjacent a series of shelves;

Fig. 2 is a horizontal section taken on line 2—2, Fig. 1;

Fig. 3 is a vertical section taken on line 3—3, Fig. 2;

Fig. 4 is a section taken on line 4—4, Fig. 2, and shows the construction of the hoisting device; and

Fig. 5 is a horizontal transverse section taken on line 5—5, Fig. 4.

In the drawing reference numeral 6 designates the floor and reference numeral 7, the shelves, that are arranged along the wall of the store. The table to which the invention relates is provided with a base 8, which is preferably made from sheet steel and is provided on its under side with casters 9. Extending upwardly from the corners of the table are tubular guide members 10 which are provided at their lower ends with pipe flanges 11 that are secured to the base by means of bolts or rivets 12. The upper ends of the guides are connected by means of bars 13 whose ends are preferably electro-welded to the guides. The top 14 may also be made from a piece of sheet steel and is provided on its under surface with downwardly extending rods 15 that are so positioned that they will enter the openings in the tubular guides 10 and telescope with the latter. In order to support the top in any desired position, a hoisting device has been provided. This hoisting device consists of a tubular guide formed from two pieces of cast metal 16 and 17. These two pieces are identical with the exception that one is a right and the other a left. Each member 16 and 17 has a flange 18 that rests on the base 8 and is secured to the latter by means of bolts or rivets 19. The two members 16 and 17 are provided with flanges 20 and 21 that are perforated for the reception of bolts or rivets 22. Telescoping in the opening between the two members 16 and 17 is a rack 23. This rack is preferably rectangular in cross section and is provided along one side with rack teeth 24. The members 16 and 17 are provided near their upper ends with outwardly extending spaced flanges 25 between which are located a pinion 26 and a pawl 27. The pinion is mounted on a shaft 28 whose outer end is journalled in a bearing 29 secured to one of the cross members 13. The outer end is also provided with a crank 29 by means of which the pinion can be rotated. The pawl 27 is acted upon by a spring 30 that exerts a force moving it towards the rack teeth and it is fastened to a rod 31, whose outer end is journalled in a bearing in member 29 and is curved upwardly as indicated by reference numeral 32. When the crank 29 is rotated in one direction, it will move the rack bar 23 and the table top 14 upwardly and the pawl will hold the top in adjusted position. The upper end of the rack bar has a large flange

33 on which the top rests and to which it is secured by means of rivets 34.

When goods are to be distributed to the shelves they are laid on the top and the latter is adjusted in a vertical direction by means of the hoisting device so as to bring the goods to the most convenient level for transferring them to the shelves. When the top is to be lowered, the pawl is moved to inoperative position by means of the handle 32, after which the downward movement of the top can be controlled by the crank 29.

Since the pinion 26 can be quite small in comparison with the length of the handle 29, the force applied on the handle can be greatly multiplied so that a person operating the hoisting device can raise a load that is equal to many times the force applied to the handle and in this way heavy boxes can be easily elevated to a position opposite the shelf where they are to be stored and transferred to the latter with a minimum amount of exertion. The table is also useful in removing goods from the shelves in which case the operation is reversed from that described.

The hoisting device can be constructed in the manner shown, which is believed to be preferable, but any other suitable hoisting mechanism can be substituted if found more convenient than the one illustrated.

By means of a device like that shown in the drawing and described herein, a great amount of time and labor is saved in stores due to the convenience afforded by the hoisting table and in this way the overhead can be reduced because less time and labor is expended in placing the goods on the shelves and in removing them.

When the table is not used for the purpose for which it is especially designed, it can be employed for the display of goods in the same manner as an ordinary table.

Having described the invention what is claimed as new is:

A device of the class described, comprising, in combination, a base, a plurality of tubular guide posts secured thereto and extending upwardly therefrom, a top provided with a guide member for each guide post and telescopically connected therewith, a hoisting device interposed between the base and the top for raising and lowering the top with respect to the base, said means comprising a rack bar attached to the under surface of the table top at its center point and projecting downwardly therefrom, a rack housing attached to the upper surface of the base and provided with an opening for the reception of the rack, a pinion pivotally connected with the housing and operatively associated with the rack, brace members connecting the upper ends of the guide posts, one of said brace members having a bearing, a pinion shaft extending through the bearing, a pawl carried by the rack housing, and means accessible at a point adjacent the outside of a brace member for controlling the pawl.

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