April 19, 1932. K. J. UNWIN 1,854,966

TRUCK

Filed Feb. 20, 1931

Fig.1.

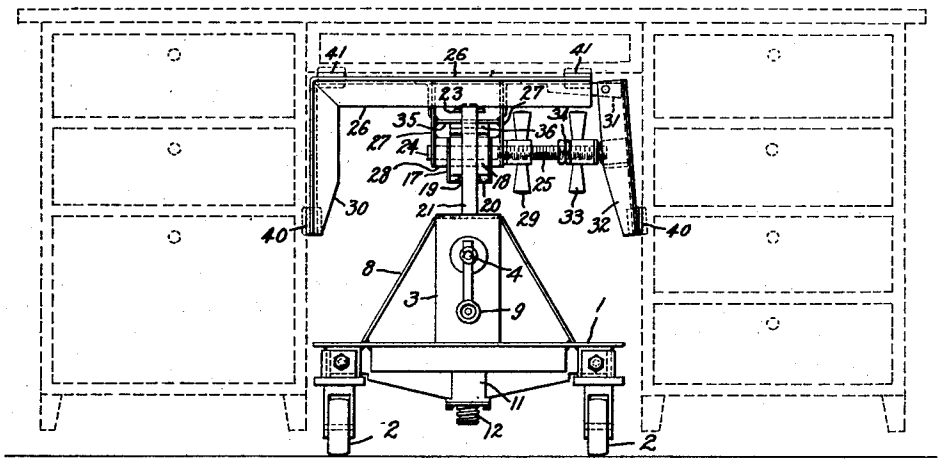


Fig.2.

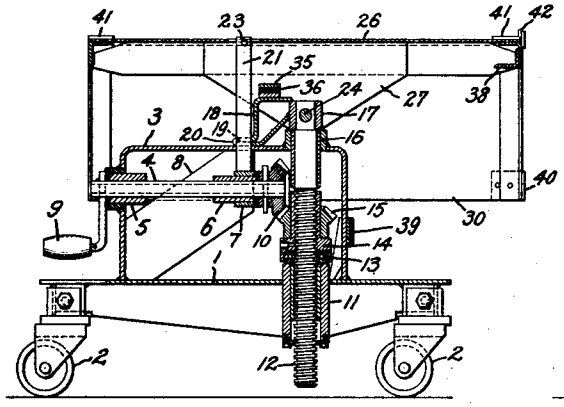
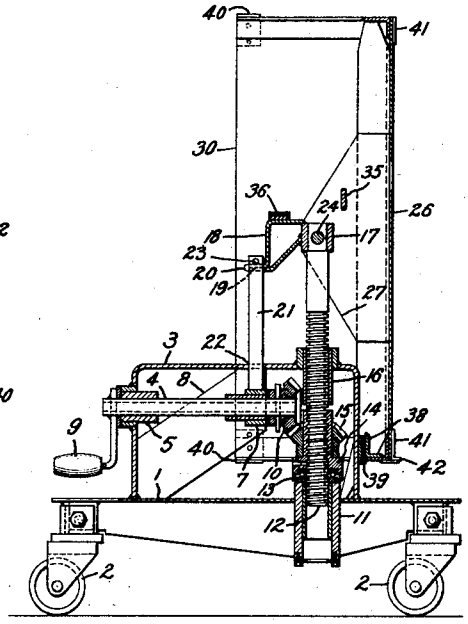


Fig.3.



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Patented Apr. 19, 1932 1,854,966

UNITED STATES PATENT OFFICE

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TRUCK

Application filed February 20, 1931. Serial No. 517,273.

This invention relates to an improved truck of the type wherein the platform is adapted to be adjusted vertically and also to be tilted angularly.

While the truck may be used to move various types of articles, it is particularly adapted for moving desks from one room into another. A steel office desk is very heavy, weighing about 400 pounds, and in moving these desks in or out of a room great difficulty has been encountered in getting the desks through the doorways, due to the fact that the doorways frequently are too narrow to permit the passage of the desks edgewise. It has hitherto been necessary for two or more workmen to turn the desk on a side and move it through the doorway and due to the weight of the desk if the men are not careful they bark either the desk or the door frame or both. By the use of my improved truck, the desk can be readily and quickly secured to the truck, turned on its side, and moved through the doorway, all of these operations requiring only a single workman.

The object of the invention, accordingly, is to provide an improved form of truck.

For a consideration of what I believe to be novel and my invention, attention is directed to the following specification and the claims appended thereto.

In the drawings, Fig. 1 is an end view of the truck, a desk being shown in dotted outline supported on the truck; Fig. 2 is a side view, in section, of the truck, the platform being shown in horizontal position, and Fig. 3 is a view similar to Fig. 2 showing the platform tilted from the horizontal position of Fig. 2, to a vertical position.

Referring to the drawings, there is shown a base 1 which is provided with supporting wheels or rollers 2 adapted to rest on the ground or floor and which permit the truck to be rolled or moved about. These rollers are provided at each corner of the base and are swivelly mounted in the base in any suitable manner, so that the rollers can be swung to any angle relative to the base to enable the truck to be moved in any desired direction.

A centrally disposed vertical bracket 3 of inverted U-shape is secured in any suitable manner, as by welding, to the upper side of the base. A shaft 4 has one end journalled in a bearing 5 carried by one arm of the bracket while the other end of the shaft is journalled in a bearing 6 suitably supported in a block 7 which is secured to a diagonally positioned side plate 8 forming part of the bracket 3. The outer end of the shaft 4 projects beyond the arm of the bracket and is provided with a crank handle 9 for manually rotating the shaft while the inner end of the shaft has fixedly secured to it a bevel gear 10. Projecting vertically from the base is a sleeve 11 in which is journalled a threaded spindle 12. An end thrust bearing 13 is carried by the upper edge of the sleeve 11 and acts as a support for an internally threaded nut 14, the threads of which engage the threads of the spindle. Concentric with the nut 14 and fixedly secured to it is a bevel gear 15, the teeth of which mesh with the teeth of the bevel gear 10. The upper end of the spindle is journalled in a bearing 16 carried by the top of the bracket.

As shown in the drawings, the upper end of the spindle is reduced in cross-section for a portion of its length and on this reduced portion there is suitably secured a block 17. Secured to one face of the block 17 is a substantially Z-shaped bracket 18, the lower horizontal leg of which is slotted as shown at 19 to form the forks 20. A vertical guide bar 21, secured at one end to the block 7, projects through an opening 22 in the bracket 3 and is received between the forks 20 in the bracket 18, the bar 21 thus acting to guide the spindle 12 in its vertical movement. At its upper end the bar 21 is provided with a transverse projecting pin 23 which is adapted to be engaged by the forks 20 of the bracket 18 to limit the upward movement of the spindle 12, as shown in Fig. 3, while the downward movement of the spindle is limited by the engagement of the forks 20 with the top of the bracket 3 as shown in Fig. 2.

A transverse shaft 24 is rigidly secured in a bore in the reduced end of the spindle 12, the shaft also passing through the block 17, and projecting beyond the sides of the block.

One end of the shaft projects beyond the block for a considerably longer distance than the other end and this longer end is threaded for part of its length as shown at 25. A horizontal platform 26 is provided on its underside with substantially centrally disposed, spaced, depending arms 27. These arms have aligned hubs 28 formed on their free ends, which are journalled on the projecting ends of the shaft 24 with the block 17 positioned between the hubs 28 as shown in Fig. 1. A nut 29 is provided on the threaded end of the shaft 24 and is adapted when moved in one direction along the shaft to clamp one of the hubs 28 against a side of the block 17, thus securing the platform against rotation on the shaft. The platform is formed along one edge with a rigid depending side 30 and at its opposite edge is provided with projecting arms 31, only one of which is shown in the drawings, to which is pivoted a second depending side 32. The threaded end of the shaft 24 extends into proximity with the pivoted side 32 and is provided with a second nut 33 which when moved along the shaft 24 toward the pivoted side 32 is adapted to abut this side and move it outwardly about its pivotal connection to the platform. Lock nuts 34 are provided on the shaft and are adapted to hold the nut 33 in its adjusted position on the shaft.

As shown in the drawings a plate 35 is provided which bridges the space between the arms 27, and which is adapted, when the platform is rotated in one direction on the shaft 24, to abut a padded stop 36 on the bracket 18 to prevent the rotation of the platform in this direction past a horizontal position. Similarly, an angle bar 38 carried by an edge of the platform is adapted when the platform is rotated in the opposite direction to engage a padded stop 39 carried by an arm of the bracket 3 to prevent the rotation of the platform in the opposite direction past a vertical position. Pads 40 are provided on the outer faces of the depending sides 30 and 32 which grip the sides of the desk as shown in Fig. 1 when the pivoted side 32 of the platform is moved outwardly. Similar pads 41 are provided on the top of the platform as shown in Fig. 2 on which the top of the desk rests, and the pads 41 along one edge of the platform are provided with upstanding edges 42 against which an edge of the top of the desk abuts.

In use the platform is lowered to the position shown in Fig. 2 and the truck is moved under the desk as shown in Fig. 1. The spindle 12 is then rotated until the platform raises the desk off the floor, and the desk is wholly supported on the truck. The nut 33 is then rotated to move the sides 30 and 32 into clamping engagement with the sides of the desk. The desk is thus supported on the truck and is prevented from slipping on the platform by the clamping action of the sides 30 and 32 and the upstanding projections 42. The nut 29 is then loosened and the platform is rotated on the shaft 24 until the platform has assumed the position shown in Fig. 3, in which position the desk has been turned on its side. The nut 29 is then again tightened and the platform is thus secured in vertical position with the desk on its side. The truck can then be readily moved about as desired and the desk can be easily and readily moved through a doorway, all of this work requiring the services of only one workman.

In accordance with the provisions of the patent statutes, I have described what I now consider to represent the best embodiment of my invention, but it is to be understood that the invention is not limited to the exact details of the construction shown, since various changes or modifications, such as for example making both depending sides 30 and 32 adjustable relative to the platform, may be made without departing from the spirit of the invention.

What I claim as new and desire to secure by Letters Patent of the United States, is,—

1. A truck for moving articles having a top and spaced sides depending therefrom, comprising a base, supporting rollers carried by said base, a horizontal platform supported on said base and vertically adjustable relative thereto, depending sides on said platform, said platform being adapted to be positioned in the space between the depending sides of the article to be moved with the sides of the platform substantially parallel to the sides of the article, means for clamping the sides of the platform against the sides of the article to be moved, and means for raising and lowering the platform.

2. A truck for moving articles having a top and spaced sides depending therefrom, comprising a base, supporting rollers carried by said base, a horizontal platform supported on said base and vertically adjustable relative thereto, depending sides on said platform, one of said sides being adjustable toward and away from said platform, said platform being adapted to be positioned in the space between the depending sides of the article to be moved, with the sides of the platform substantially parallel to the sides of the article, means for moving the sides of the platform into clamping engagement with the sides of the article to be moved, and means for raising and lowering the platform.

3. A truck for moving articles having a top and spaced sides depending therefrom, comprising a base, supporting rollers carried by said base, a horizontal platform supported on said base and vertically adjustable relative thereto, depending sides on said platform, one of said sides being pivotally connected to said platform, said platform being adapted to be positioned in the space between the

sides of the article to be moved, with the sides of the platform substantially parallel and adjacent to the sides of the article, means for moving said pivoted side of the platform against the adjacent side of the article to clamp the sides of the platform against the sides of the article, and means for raising and lowering the platform.

4. A truck for moving articles having a top and spaced sides depending therefrom, comprising a base, supporting rollers carried by said base, a vertical spindle journalled in said base, a transverse shaft passing through the head of said spindle, the axis of the shaft being perpendicular to the axis of the spindle, a normally horizontal platform rotatably journalled on said shaft, said platform being adapted to be rotated from a horizontal to a vertical position, means for securing said platform in rotated position on said shaft, depending sides on said platform, said platform in its horizontal position being adapted to be positioned in the space between the depending sides of the article to be moved with the sides of the platform substantially parallel to the sides of the article, means for clamping the sides of the platform against the sides of the article, and means for raising and lowering the spindle to raise and lower the platform.

In witness whereof, I have hereunto set my hand.

KENNETH J. UNWIN.