April 6, 1937. B. L. SMITH 2,075,833

PORTABLE PACKING BENCH

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Fig. 1.

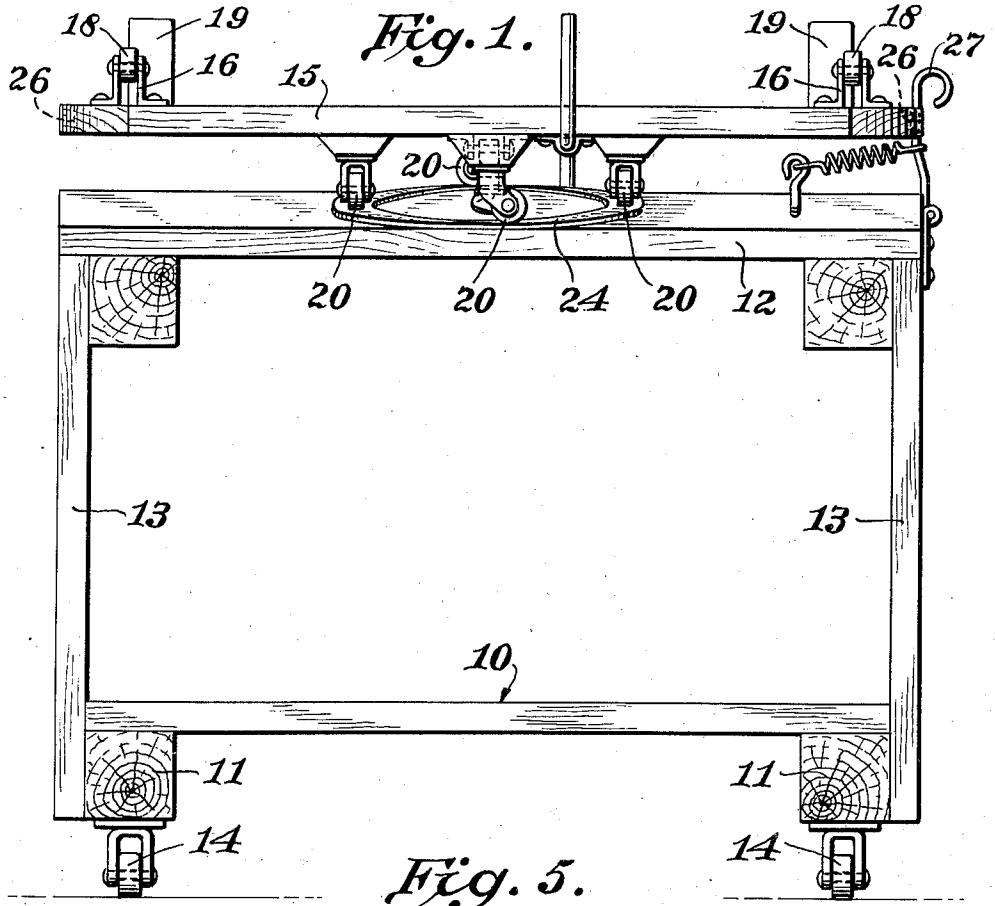
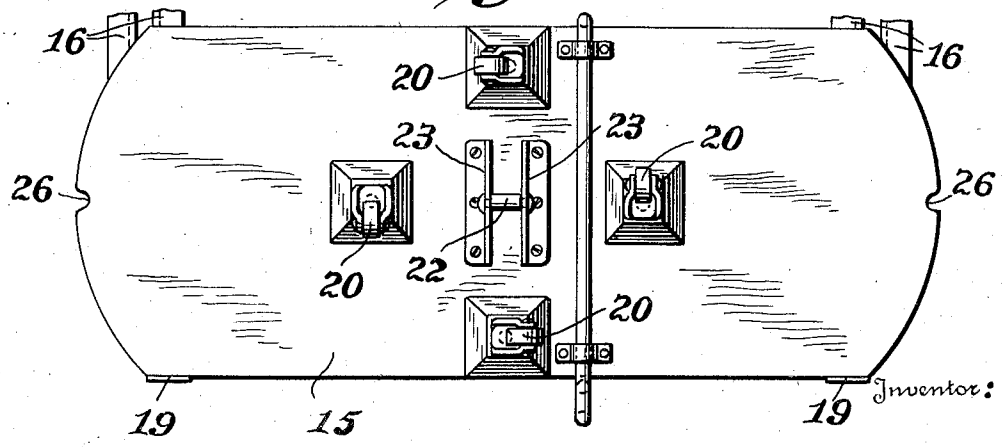


Fig. 5.



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Fig. 4.

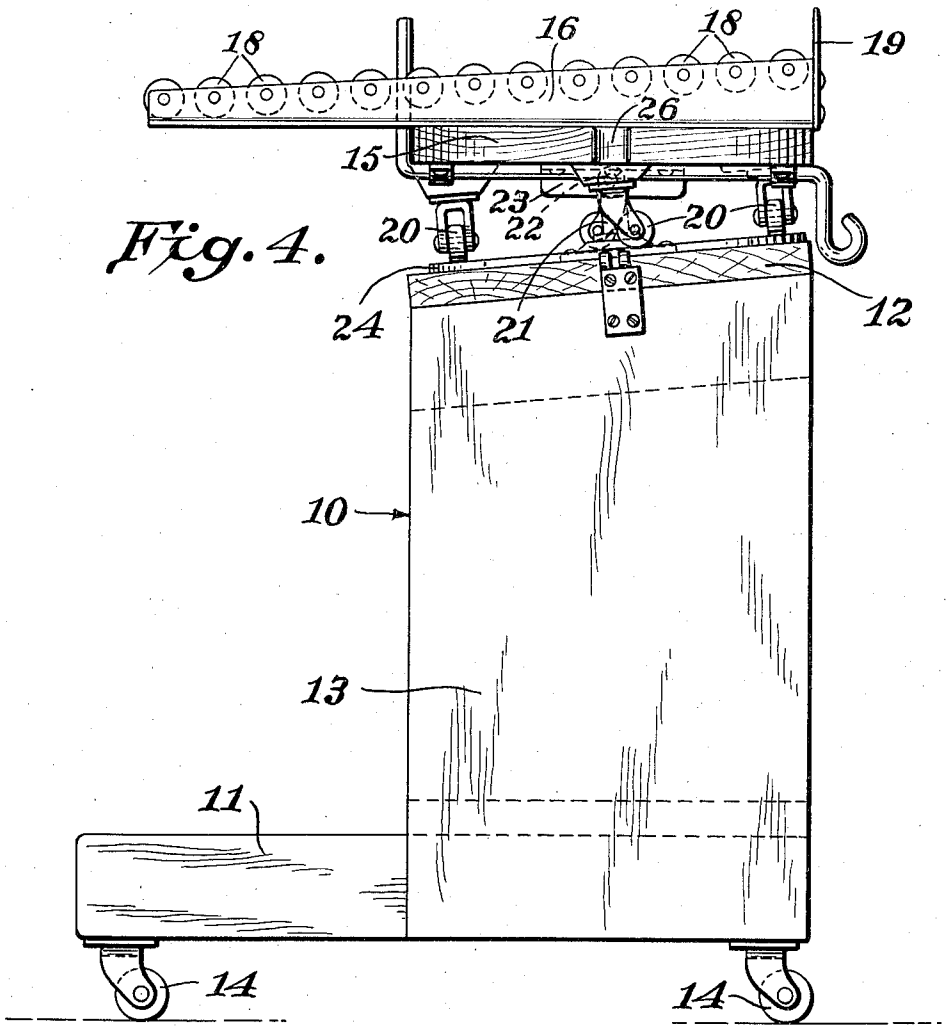


Fig. 3.

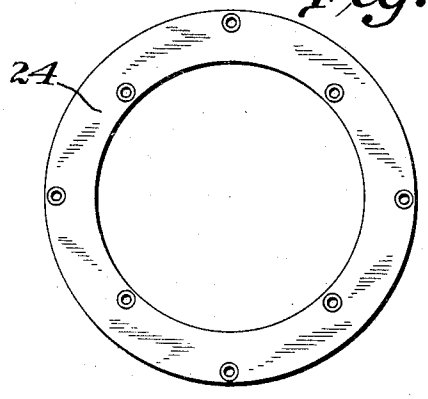
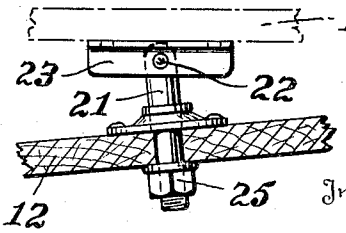


Fig. 2.



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Fig. 6.

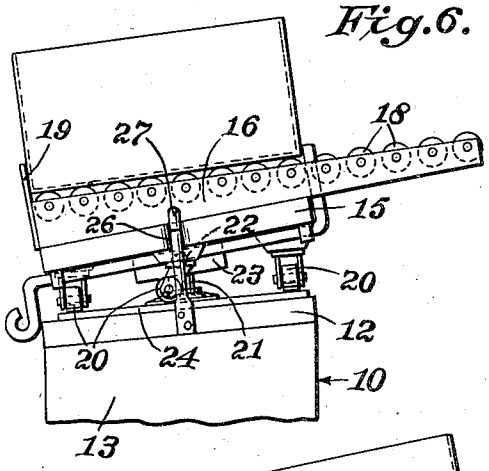


Fig. 7.

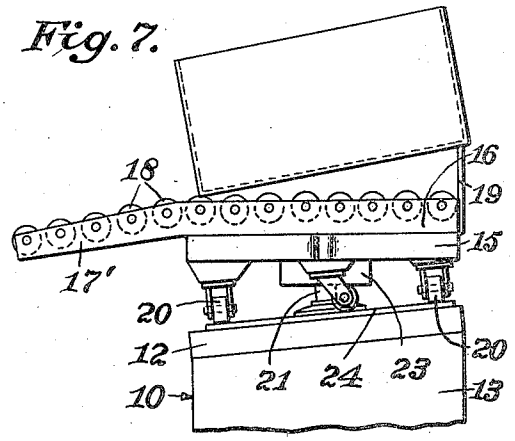


Fig. 8.

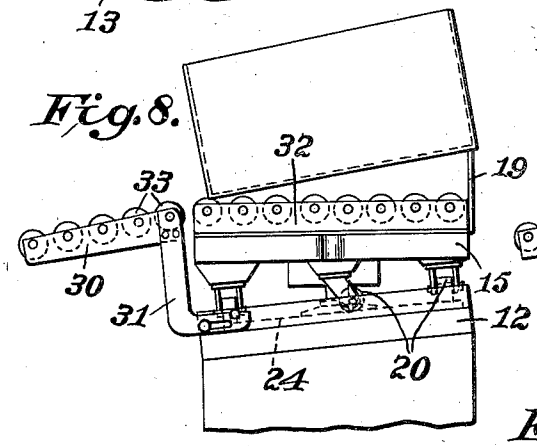


Fig. 9.

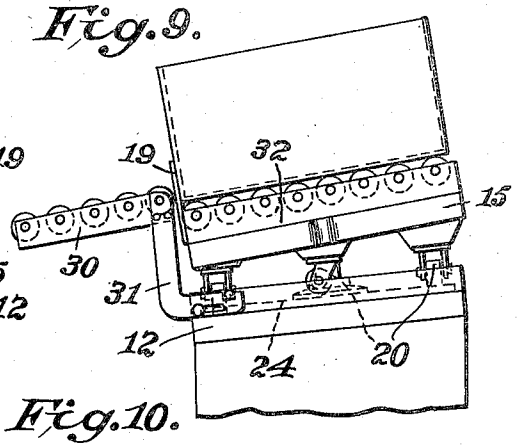


Fig. 10.

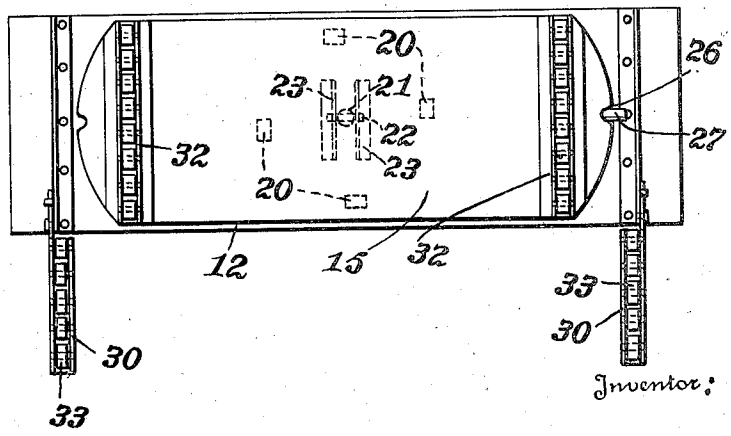
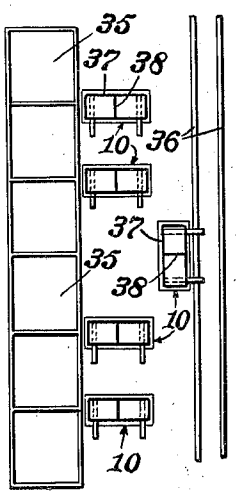


Fig. 11.



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UNITED STATES PATENT OFFICE

2,075,833

PORTABLE PACKING BENCH

Bessie Linn Smith, Avon Park, Fla.

Application March 15, 1935, Serial No. 11,323

25 Claims. (Cl. 226—129)

This invention relates to portable packing benches such for example, as those used in fruit packing houses upon which a container is placed for packing and subsequent transportation to a conveyor for delivery.

The containers into which citrus fruits are packed are usually of oblong shape divided midway by a transverse partition. The container in being packed is placed with one end close to the bin from which the fruit is obtained. In packing the compartment close to the bin, the packer experiences little difficulty, but in packing the compartment away from the bin, the packer is required to make several steps each time fruit is transferred. Due to the heaviness of a container even when half packed it is inexpedient to bodily lift the container and turn it around to bring each compartment close to the bin.

An object of this invention is to provide means for making it easily possible to alternately bring the separate compartments of a container close to a bin.

Another object is to facilitate the delivery of the packed container onto a conveyor.

Other objects will hereinafter appear.

In the drawings—

Fig. 1 is a front view of one embodiment of the invention.

Fig. 2 is an enlarged view of the details of the center pin.

Fig. 3 is a plan view of a wear plate.

Fig. 4 is an elevation of the bench of Fig. 1.

Fig. 5 is a view of the bottom side of the movable top of the bench.

Fig. 6 is a view similar to Fig. 4 showing the top in reversed position.

Fig. 7 is a side view of a preferred embodiment of the invention.

Fig. 8 is a side view of another embodiment of the invention.

Fig. 9 is a side view similar to Fig. 8 with the top reversed.

Fig. 10 is a plan view of Fig. 8.

Fig. 11 is a plan view showing one application of the device of this invention.

Referring first to Figs. 1 to 5 the body portion 10 of the packing bench may have any suitable construction but preferably should include spaced elongated base members 11 between which a packer may stand, and an inclined upper board 12 supported by side standards 13. Casters 14 are attached to the base members 11 as shown, to make the bench portable.

Carried by the upper board 12 is a movable top comprising a base plate 15 to which are affixed trackways 16 upon which a container may rest and along which the packed container may be moved to be delivered upon a conveyor. It will be observed that the trackways project beyond the side of the body of the bench so as to provide a free space therebeneath in which to receive a conveyor. This enables the bench to be moved close to a conveyor with the projecting portion of the trackway overlying the conveyor to insure deposition of a packed container on the conveyor. The trackway may be built up in any suitable manner and should include rollers 18 to facilitate movement of the container therealong. To the rear part of the trackway should be fixed upstanding rest member 19 for a purpose to be described.

An important feature of this invention is the mounting of the movable top on the body 10 so as to be movable relative thereto. To accomplish this a plurality of casters 20 are affixed to the under side of the plate 15 to roll upon the top member 12. These casters are of graduated height so that when the parts are in the relation shown in Fig. 4 the slant of the upper board 12 will be overcome and the base plate 15 and trackway thereabove will be placed in but a slightly inclined position.

Although any suitable means may be employed to maintain the movable top upon the bench, as here shown, a pivot pin 21 connects the base plate 15 and body portion and constrains the movable top to a rotary motion about this pin. It is desirable that this pin be disposed centrally of the base plate 15 and of the upper board 12. The upper end of the pin 21 is apertured to receive a cross pin 22 carried by angle plates 23 on the under side of base plate 15. This cross pin permits a rocking motion between the movable top and pivot pin 21.

The casters 20 may be disposed upon the circumference of a circle having its center coinciding with the axis of the pin 21. A wear plate 24 of annular shape may then be provided on the top member 12 to provide a raceway for the casters 20. The pivot pin 21 has a reduced end portion 24 passing through the plate 12 and presenting a shoulder against the upper surface of the plate 12 as shown. Removal of the pivot pin may be prevented, for example, by a nut 25.

Means may be provided to retain the turnable top in any fixed position. For example the ends of the base plate 15 may be notched as at 26 and a spring detent 27 carried by the body of the bench may engage therein.

In the embodiment of the invention shown in

Fig. 7 the portion 16' of the trackway directly above the bench is disposed to lie horizontal when in the position shown. This eliminates need for any means to retain a container on the trackway. The projecting portion 17' of the trackway, however, is angularly disposed so as to incline downwardly. This inclined portion serves to gravitationally deliver a container placed thereon.

As a modification of the invention only the portion of the trackway directly above the bench may be shiftable upon the top of the bench, as shown in Figs. 8 to 10. In this case the projecting inclined portion 30 may be fixed to the body of the truck as by brackets 31, independently of the trackway portion 32 above the bench. To prevent the fixed projecting portion of the trackway from interfering with the free shifting of the movable portion of the trackway or a container thereon, the projecting portion is placed outside of the path of movement of the movable portion as best shown in Fig. 10 and below the level of the movable trackway when in the position of Fig. 8 as best shown in Fig. 8. It will be noted in Fig. 8 that the highest roller 33 of the projecting portion 30 is slightly below the level of the rollers of the movable portion 32.

The utility of the bench of this invention becomes apparent upon reference to Fig. 11 which shows in plan, a plurality of bins 35 from which the fruit is obtained for packing the container, and the conveyor 36 upon which the packed container is to be deposited. The benches carrying thereon the containers 37 each having a transverse partition 38 therein, are placed close to each bin with one compartment of the container nearer to the bin. When this nearer compartment is packed it has formerly been necessary for the packer to turn the container entirely around so as to bring the empty compartment next to the bin, or else the packer has had to take the several steps necessary each time fruit is transferred from the bin to the far compartment. In the course of a day the fatigue resulting from the manual effort in either case has been excessive and in some instances paid attendants have been employed for the sole purpose of shifting the container around.

With the present bench the packer can readily turn the packed or partially packed container around so as to bring either compartment close to the bin. Little effort is required to release the detent 27 and move the trackway upon the antifriction casters 20.

In placing an empty container upon the bench with the movable top in the position shown in Fig. 4, 7 or 8, its rearward edge is positioned on the rest 19 so as to tilt the upper open end of the container toward the packer standing between projecting members 11. This inclination of the box makes it easier for the packer to position fruit within the container. Having packed the one compartment of the container, the container is drawn off of the rest and allowed to fall upon the trackway so as to assume a horizontal position. The movable top is thereupon turned around to the position shown in Fig. 6 or 9. In this position, due to the inclination of board 12 and the graduation of the rollers 20, the container will be tilted toward the packer, as shown, to facilitate access to the interior.

When the container is fully packed the movable top must be returned to the position of Fig. 4, 7 or 8 so as to restore the container to a horizontal position. With the bench of Fig. 4 and Fig. 7 this will also bring the projecting portion of the trackway over the elongated projecting ends of base members 11 so that there will be no tendency for the bench to tilt during the delivery of the container. With the bench of Fig. 8 the restoration of the trackway to the position of Fig. 8 will permit movement of the container onto the projecting portion 30 and since this projecting portion 30 of the trackway is fixed to overhang the projecting base members 11, as shown, the bench will not upset.

The angular formation of the trackway of Fig. 7 has the advantage that a container will attain only the delivery velocity imparted to it by the inclination of the short projecting portion of the trackway and this will not be sufficiently great to cause the container to overtravel the conveyor on which it is being delivered.

It is to be understood that the present invention is not limited to the particular embodiments thereof, herewith shown, and that the various possible modifications are to be considered as falling within the scope of the appended claims.

What is claimed is:

1. A portable packing bench comprising a supporting body structure which is of oblong shape in horizontal dimensions, and tracks at the top of the bench disposed at the narrow ends of the bench, said tracks throughout their lengths extending parallel with the narrower dimension of the bench and transversely to a long side thereof, said tracks having a portion overlying the bench and a portion projecting beyond said long side of the bench, said overlying portion of the tracks providing rests upon which a container may be placed during packing to present a longer side of the container toward said long side of the bench, and said projecting portion of the tracks providing means for delivery of the container from the bench, said overlying portion of the trackway being horizontal so that a container thereon will remain at rest, and said projecting portion of the trackway being inclined downwardly away from the bench so as to gravitationally deliver a container when positioned thereon.

2. A portable packing bench comprising a body portion and a trackway carried at the top thereof, said trackway extending along the top of the body portion and projecting beyond the side of the body to overlie a free space therebeneath and permit the bench to be moved adjacent a conveyor with the projecting portion of the trackway overlying the same, the portion of the trackway above the body portion lying in a horizontal plane, and said projecting portion having its terminal free end in a plane below the top trackway, said trackway and its projecting portion being in the same vertical plane throughout its extent so that a container moving therealong to the discharge end may be deposited upon a conveyor upon withdrawal of the bench in a direction parallel with the length of the trackway and counter to the movement of the article, the entire trackway being movably carried by the body portion so that the trackway may be shifted to bring opposite vertical sides of a container thereon adjacent one vertical side of the body.

3. A portable packing bench comprising a body portion and a trackway carried at the top thereof, said trackway extending along the top of the body portion and projecting beyond the side of the body to overlie a free space therebeneath and permit the bench to be moved adjacent a conveyor with the projecting portion of the trackway overlying the same, the portion of the trackway

above the body portion lying in a horizontal plane, and said projecting portion inclining downwardly away from the body to gravitationally deliver a container therefrom, said trackway being in the same vertical plane throughout its extent so that a container moving therealong to the discharge end may be deposited upon a conveyor upon withdrawal of the bench in a direction parallel with the length of the trackway and counter to the movement of the article, the horizontal portion of the trackway being pivotally connected to the body portion to be movable thereon, and the projecting portion of the trackway being independently carried by the body portion.

4. A portable packing bench comprising a body portion and a trackway carried thereby, said trackway including a movable portion disposed above said body and a fixed portion projecting beyond a side of the body, said movable portion being shiftable to bring opposite vertical sides of a container thereon toward the fixed projecting portion of the trackway.

5. A portable packing bench according to claim 4 in which the projecting portion of the trackway is disposed below the plane of the movable trackway portion when in one of its positions so as to lie below a container on the movable trackway.

6. A portable packing bench according to claim 4 in which the projecting portion of the trackway is outside of the path of movement of the movable trackway portion.

7. A portable packing bench comprising a body portion and a trackway movably carried thereby, said body having an inclined upper surface and said trackway having spacing means carried thereby for supporting the trackway above the body, the lowermost part of said spacing means defining a plane which is inclined to the plane of the trackway above the body.

8. A portable packing bench comprising a body portion and a trackway movably carried thereby, said body having an inclined upper surface and said trackway having spacing means affixed to its under side to support the trackway above the body, said spacing means being of graduated height to set the trackway at different angles relative to said surface upon movement of the trackway upon the body.

9. A bench according to claim 8 in which the spacing means are so graduated as to overcome the inclination of said surface and place the trackway in a horizontal plane in one of its positions relative to the body.

10. A bench according to claim 8 in which the spacing means are casters of graduated height, the lowermost and highermost of said casters lying in a vertical plane centrally of and parallel to said trackway.

11. A portable packing bench according to claim 1 including an upright support at the end of the tracks distant from the projecting portion thereof for inclining a container relative to the horizontal portion of the trackway during packing.

12. A portable packing bench comprising a body portion, a trackway carried thereby for supporting a container, a pivotal connection between the body portion and trackway for enabling rotation of the trackway about an upright axis, and means extending between the trackway and the body portion for causing variations in the angular position of the trackway relative to the horizontal as the trackway is rotated about said axis.

13. A portable packing bench according to claim 12 in which the pivotal connection includes a pin transverse to said upright axis to accommodate the various angular positions assumed by the trackway.

14. A portable packing bench comprising a body portion, a trackway carried thereby for supporting a container, a pivotal connection between the body portion and trackway for enabling rotation of the trackway about an upright axis, means extending between the trackway and the body portion for causing variations in the angular position of the trackway relative to the horizontal portion as the trackway is rotated about said axis, said means causing the trackway to be horizontal in one of its positions and to be sharply inclined when in an opposite position, and a rest at one end of the trackway and elevated thereabove to serve as a support for one end of the container to hold the container in an inclined position above the trackway when in its horizontal position and to serve as a stop preventing movement of the container off of the trackway when the trackway is in an inclined position.

15. A portable packing bench comprising a supporting body structure which is of oblong shape in horizontal dimensions, and tracks at the top of the bench disposed at the narrow ends of the bench, said tracks throughout their lengths extending parallel with the narrower dimension of the bench and transversely to a long side thereof, said tracks having a portion overlying the bench and a portion projecting beyond said long side of the bench, said overlying portion of the tracks providing rests upon which a container may be placed during packing to present a longer side of the container toward said long side of the bench, and said projecting portion of the tracks providing means for delivery of the container from the bench, said overlying portion of the trackway being substantially horizontal, and said projecting portion of the trackway throughout its extent being in the same vertical plane with the said overlying horizontal portion, the free end of said projecting portion being in a lower plane than the horizontal portion, substantially as described.

16. A packing bench having trackways extending in substantially a horizontal plane to the discharge edge of the bench top, and projecting portions one for each trackway extending beyond said discharge edge, the terminal of said projecting portions being in a lower plane than the horizontal trackways, each projecting portion throughout its extent lying in the same vertical plane with its corresponding trackway, substantially as described.

17. A packing bench having substantially horizontal trackway means at its top, means extending to a higher level than said trackway means for supporting one edge portion of the box to be packed elevated above said trackway means, while the front edge portion of said box rests upon said trackway means, and a trackway extension of the trackway means having its terminal free end arranged in a lower plane than the trackway means and overhanging a free space beneath, substantially as described.

18. A packing bench according to claim 17 in which the trackway means is provided with antifriction rollers, and said elevated supporting means has frictional engagement with the box, substantially as described.

19. In combination, a supporting body, a pack-

ing box holder supported pivotally at a fixed level on said body, means for altering the position of said box holder to be substantially horizontal in one position, and be inclined downwardly and forwardly towards the operator when turned about its pivot, approximately 180° from its first position, said box holder in either position presenting one of the opposite sides of the packing box to the operator for packing articles therein, substantially as described.

20. Apparatus according to claim 19 in which the supporting body has an inclined trackway thereon, and different lengths of bearing members between the box holder, and said inclined trackway maintaining the box holder horizontal at one point of its rotary adjustment, and inclined at another point of said rotary adjustment.

21. Apparatus according to claim 19 in which the box holder is provided with rest means extending up therefrom for supporting one edge of the box elevated in respect to the holder means, so that the box will incline forwardly when said box holder is substantially horizontal, substantially as described.

22. Apparatus according to claim 19 in which the pivotal connection between the box holder and the supporting body includes a substantially horizontal pivot which allows the said holder to tilt as it is rotated, substantially as described.

23. In combination, supporting means, a member pivotally mounted thereon to turn and tilt from a substantially horizontal position to a position inclining downwardly and forwardly, said member being longer than wide to form a rest for a box to be packed with goods, said box being of the type longer than wide and divided into two compartments by a central transverse partition, means for holding said member in each of two positions 180° apart to present a long side of the box to the point where the operator stands, and means extending up from said member near one of the long edges thereof to hold the box tilted when the said member is substantially horizontal, said means engaging the bottom of the box and allowing the rear portion of said box to drop onto said member when pulled forward, substantially as described.

24. A packing bench comprising a support, a member affording a rest for a packing box, said member being rotatably mounted on said support and as a consequence of said rotation being tilted to a certain inclined position, and means extending up from said member to hold the packing box elevated at one portion and inclined forwardly and downwardly in relation to said member.

25. In a packing bench the combination of a support, a top member mounted on the support for holding the box to be packed, said top being turnable about an axis to assume two positions in planes at an angle to each other, one of said planes inclining downwardly and forwardly towards the operator to hold the box in inclined position, and means adjacent the rear edge of said top member for supporting the rear edge of the packing box above the top member to make the box assume an inclined position when the said top is in the other and lower of said planes, and means for making the top assume the said positions by turning it about said axis through 180° from one position to the other.

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