Feb. 26, 1935. H. D. MENOHER 1,992,831

PACKING BENCH

Filed May 2, 1931 3 Sheets-Sheet 1

Fig. 4.

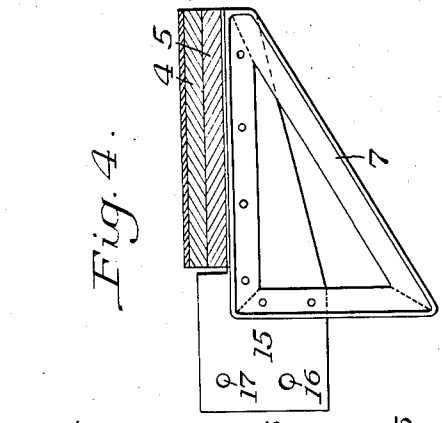
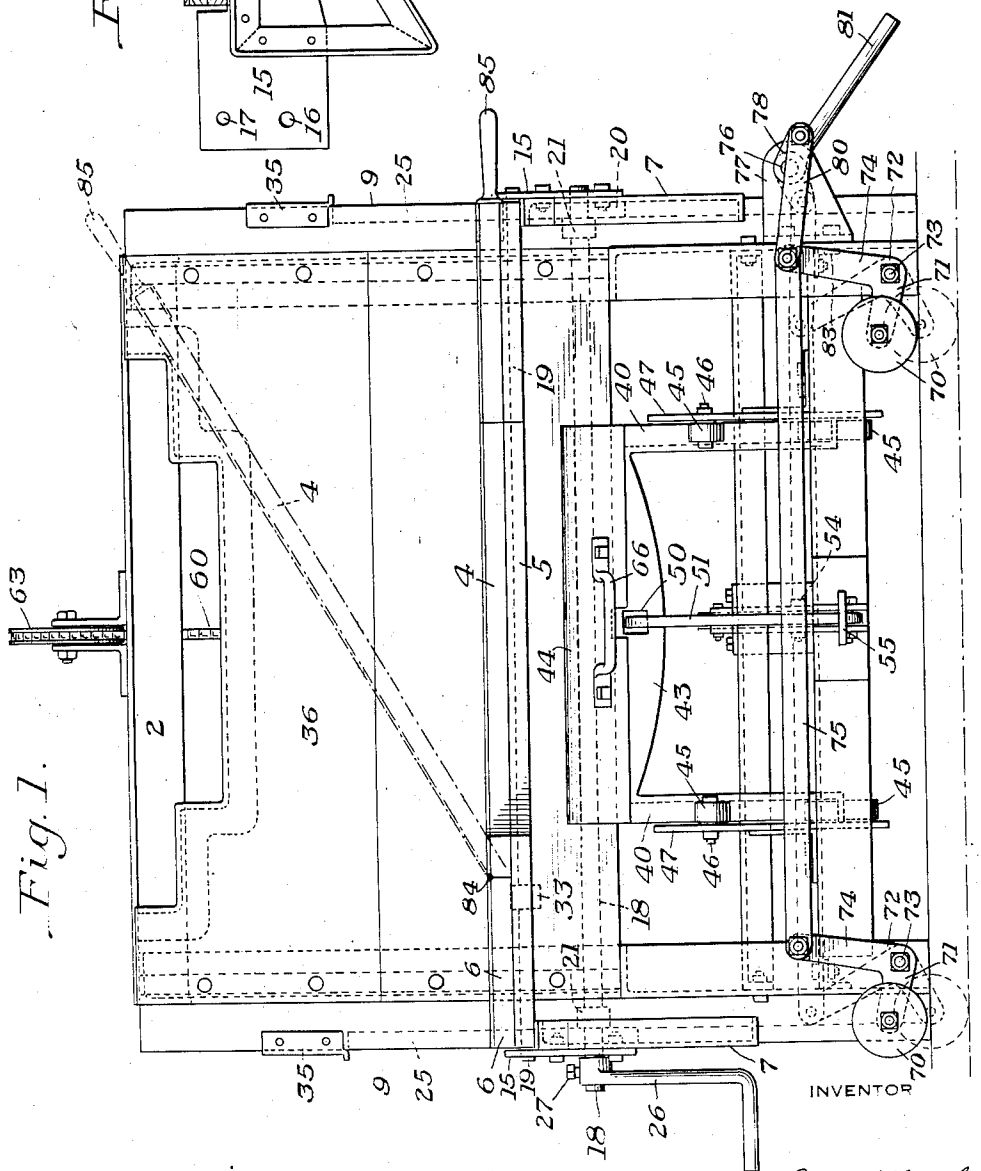


Fig. 1.



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By Byrnes, Stebbins, Parmele & Blanke

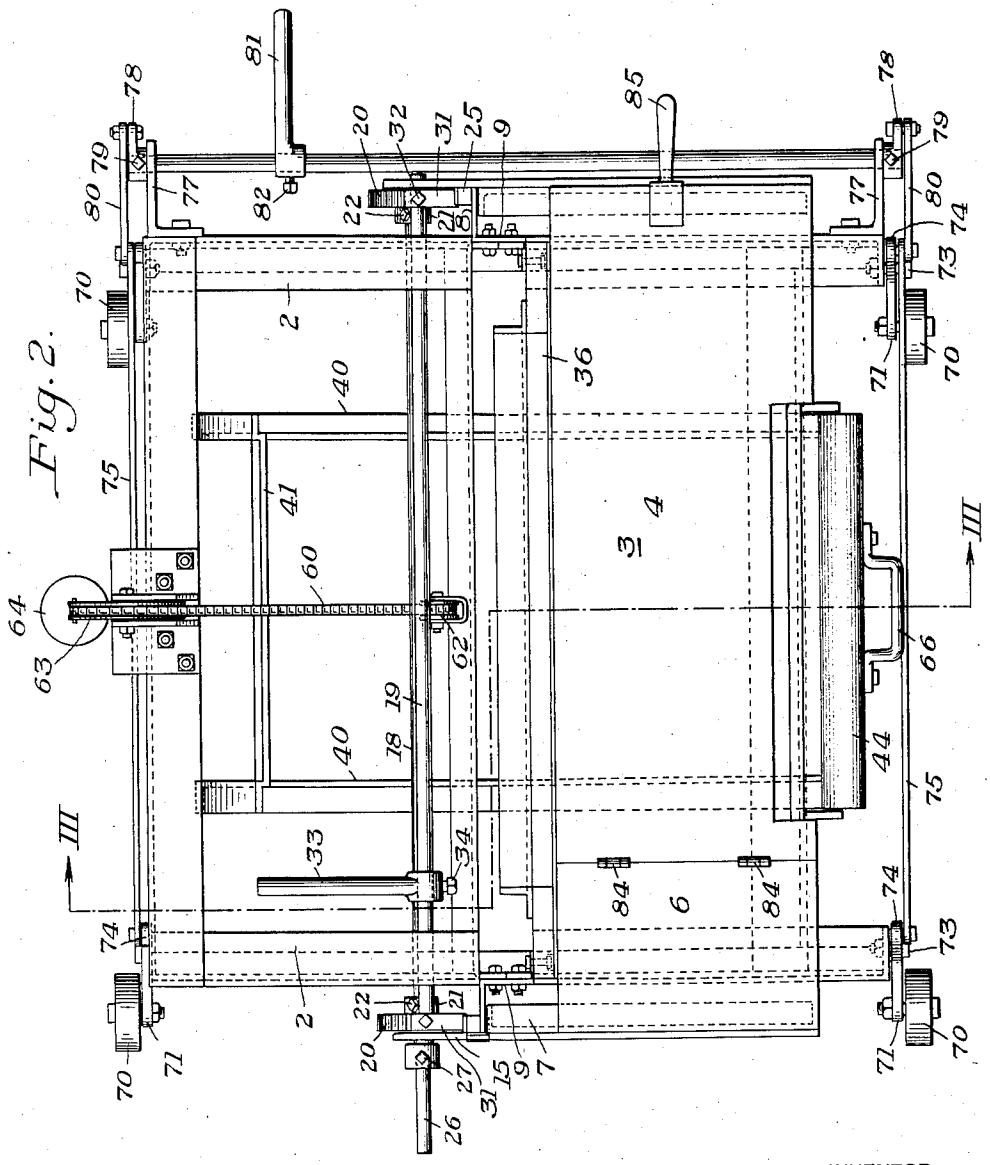
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Fig. 2.



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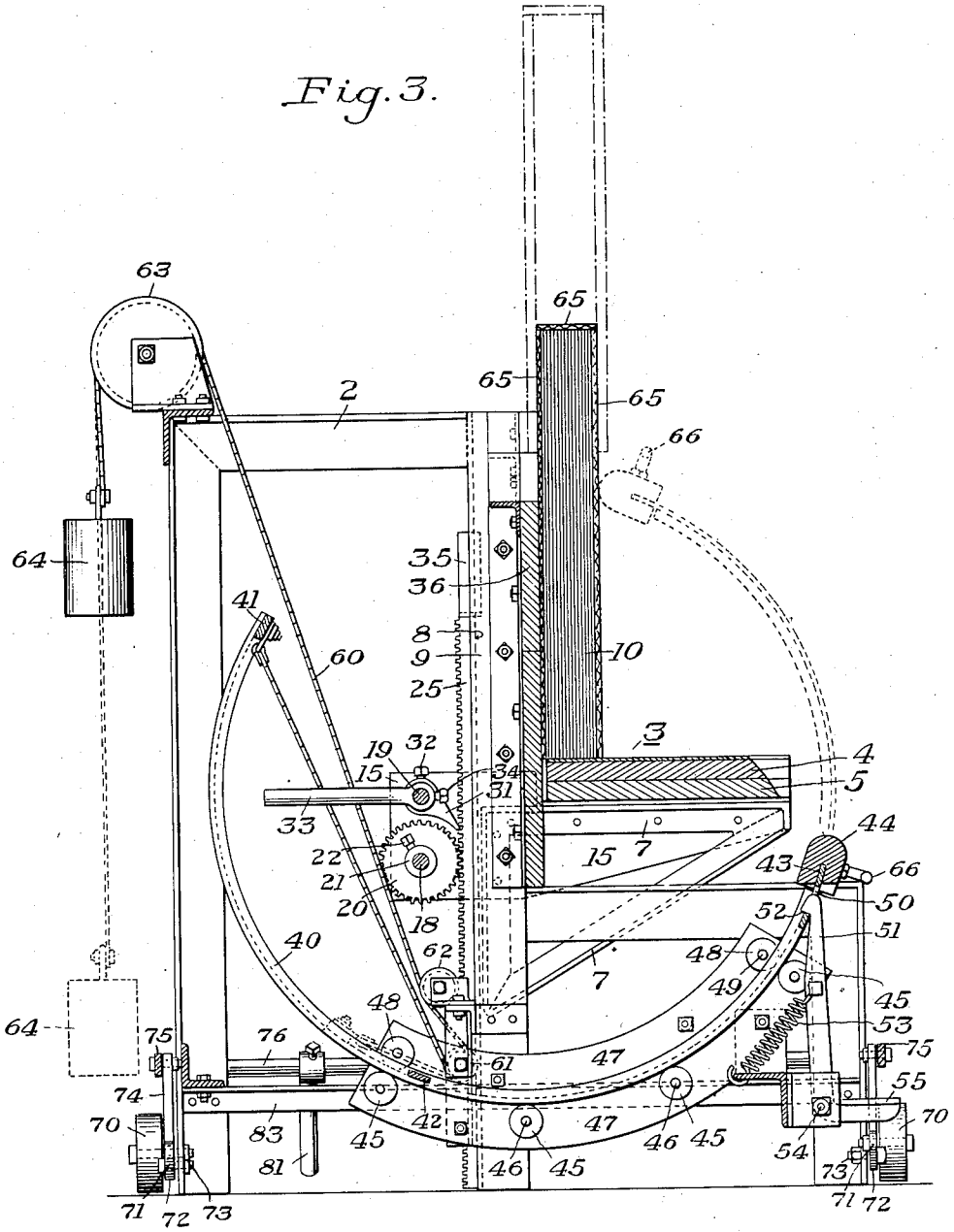
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PACKING BENCH

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Fig. 3.



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1,992,831

UNITED STATES PATENT OFFICE

1,992,831

PACKING BENCH

Harrison Dean Menoher, Belle Vernon, Pa., assignor to American Window Glass Company, Pittsburgh, Pa., a corporation of Pennsylvania

Application May 2, 1931, Serial No. 534,504

15 Claims. (Cl. 226—129)

My invention relates to packing benches generally, and while not limited thereto, relates more particularly to benches adapted for use in the packing of glass sheets or similar articles. It is desirable in the packing of glass sheets, or sheets of similar material, to carry out the operations while the sheets are standing on edge. When the packing operations are carried out with the glass sheets in this position, the box to be placed thereon can be readily slid downwardly over the sheets. In order that the packing operation may be carried out in this fashion efficiently and with out considerable breakage, it is necessary that means be provided for holding the glass sheets in the vertical position while the packer slides the box downwardly over the same. Consequently, by my invention I provide a packing bench comprising a material-supporting platform and means movable from an inoperative position clear of the platform and the material thereon to an operative position in engagement with the material for holding the material in proper position on the platform.

Since sheets of various sizes are packed, it is desirable to have a packing bench which can be readily adjusted to permit the proper packing of sheets of various sizes. Consequently, by my invention I also provide a material-supporting platform which is adjustable vertically of the frame of the bench.

I further provide by my invention a packing bench which normally rests solidly on the legs of the main frame but which has a plurality of wheels or rollers carried thereby which may be readily moved from an inoperative position above the floor level to a floor engaging position. This makes it possible to readily transport the packing bench which I provide from one location to another.

In the accompanying drawings, I have shown for purposes of illustration only a preferred embodiment of my invention. In the drawings—

Figure 1 is a front elevational view of the bench which I provide;

Figure 2 is a plan view of the bench shown in Figure 1;

Figure 3 is a sectional view taken along the offset line III—III of Figure 2;

Figure 4 is a detail view of the supporting members on which the material-supporting platform rests.

The main framework of the bench shown in the drawings, which framework is indicated generally by the reference character 2, comprises a plurality of angles which are bolted or welded together.

A material-supporting platform indicated generally by the reference character 3 and which comprises hardwood pieces 4, 5 and 6, is provided for supporting sheets of glass 10 to be packed. The platform 3 is bolted or otherwise secured to brackets 7 which are located on opposite ends of the bench. The brackets 7 are adapted to engage and slide along the faces 8 of the angles 9, which form a portion of the main framework of the bench.

A plate 15 is riveted or otherwise secured to each of the brackets 7. Each plate 15 has bearings 16 and 17 therein, which bearings are adapted to support shafts 18 and 19 respectively which extend longitudinally of the bench. The shaft 18, adjacent each plate 15, carries a spur gear 20, which gears are keyed to the shaft 18. The gears 20 have hubs 21 thereon which have set screws 22 therein which hold the gears in proper position along the shaft.

Vertically extending rack rods 25 are fastened to angles 9 on each end of the bench and are adapted to be engaged by the spur gears 20. As may readily be seen, rotation of the shaft 18 will cause the gears 20 to travel along the rack rods 25 carrying plates 15, brackets 7 and the platform 3 therewith. The shaft 18 extends through and beyond one of the plates 15 and a crank 26 is secured thereto by means of a set screw 27.

By turning the handle 26, the shaft 18 is revolved and the platform 3 raised or lowered as desired. The brackets 7, as stated above, engage and slide along faces 8 of the angles 9 of the main frame. The brackets in this manner carry a considerable portion of the weight on the platform. The balance of the weight is carried by the shaft 18 and the gears 20 which bear on the rack rods 25 which are fastened to the main frame.

The platform 3 may be maintained in any adjusted position by means of pawls 31 which are secured to the longitudinally extending rod 19 and which are adapted to engage rack rods 25. The rod 19 is mounted in bearings 17 in the plates 15 which are attached to the brackets. The pawls 31 are secured to the rod 19 by means of set screws 32. A handle 33 is secured to the rod 19 by means of a set screw 34 and serves when operated to release pawls 31 when so desired so that the platform may be raised or lowered.

Stop members 35 are fastened to the main

frame for limiting the upward movement of the platform 3.

As may be seen from the above, the supporting platform which I provide may be readily adjusted to any desired position so as to make it possible to efficiently use the bench for the packing of glass sheets of various sizes. A stationary wooden back 36 is bolted or riveted to the main frame adjacent the platform 3. The back 36 is not as long as the platform 3 and consequently does not interfere whatsoever with the mechanism for raising the platform, which mechanism is located at each side of the back.

Arms 40, which are in the shape of a half circle, are joined together by means of cross bars 41, 42 and 43. The arms and cross bars form a semi-circular frame which is mounted for movement form an inoperative position clear of the movable platform and the material thereon to a material-engaging position, in which position it operates to hold the material on the platform in a vertical position. A wooden crosshead 44 is mounted on the cross bar 43, which crosshead contacts with the material when the frame is in operative position.

The bars 40 are mounted on rollers 45, which rollers are mounted on studs 46 secured to circular plates 47 mounted on the main frame. The bars 40 are held in place on the rollers 45 by means of upper rollers 48 which are mounted on studs 49, which in turn are mounted in the circular plates 47.

The cross bar 43 has an opening 50 therein, which opening is designed to admit the pawl 51 which has a bearing surface 52 thereon adapted to engage the lower face of the opening 50. One end of a spring 53 is attached to the pawl 51. The other end of the spring 53 is attached to any suitable portion of the main frame. This spring is adapted to pull the pawl rearwardly so that it will engage the lower face of the opening 50 and normally hold the circular frame in the position shown in solid lines in Figure 3. The pawl 51 is pivotally mounted at 54 and is formed with a treadle 55. When the treadle 55 is pushed downwardly against the force of the spring, the upper portion of the pawl 51 is released from the cross bar 43 and the circular frame permitted to move from inoperative position to an operative position.

One end of a chain 60 is fastened at the center of cross bears 41 which joins the rear ends of the bars 40. This chain passes around grooved pulley 61, then upwardly against grooved pulley 62, then upwardly over grooved pulley 63. A counterweight 64 is attached to the other end of the chain. The pulley wheels 61, 62 and 63 are all suitably mounted to rotate on studs secured in brackets which are secured to the framework of the bench.

In the packing of glass sheets, they may be set on edge on the platform 4 and sheets 65 of corrugated material placed thereabout. After the corrugated material has been placed around the glass sheets, the operator presses treadle 55 which releases pawl 51 from engagement with cross bar 43. The counterweight 64 operating through chain 60 pulls the circular frame forward and upwardly around the material-supporting platform and causes the crosshead 44 to engage the material. The frame and the counterweight will hold the material in the vertical position, thereby permitting the packer to let go of the material and pick up the box which is to be slid downwardly over the material. After the packer has started the box downwardly over the material, he can grasp the circular frame by the handle 66 and pull the frame away from the material and to its inoperative position where it will be engaged and held by the spring-pressed pawl 51.

The bench normally sets solidly upon the leg portions of the main framework thereof. The bench, however, is so constructed that it may be moved from place to place when so desired. For this purpose, four rollers 70 are mounted in the lower leg portions 71 of bell cranks 72. The bell cranks 72 are suitably pivoted to the framework of the bench by bolts 73. The upper leg portions 74 of the bell cranks 72 are tied together in pairs by bars 75 which extend longitudinally of the bench on the front and rear thereof. A shaft 76 is rotatably mounted in brackets 77. This shaft 76 carries on each end thereof arms 78 which are attached thereto by means of set screws 79. Links 80 are used to connect arms 78 with each pair of linked bell cranks. The arms 78 and the links 80 are so arranged that when the shaft 76 is rotated to the left, as shown in Figure 2, the rollers 70 will be forced down against the floor in such manner as to raise the bench clear of the floor so that it may be moved from place to place supported by the rollers. A handle 81 is attached by means of a set screw 82 to the shaft 76 and is used to rotate the shaft. When the shaft has been rotated a sufficient distance to raise the bench off the floor, the handle 81 engages the angle bar 83 which forms a part of the main framework of the bench. The parts are so arranged that when the shaft 76 has been rotated a sufficient distance for the handle 81 to engage the angle bar 83, the ends of the arms 78 have moved past center. The rollers are thus held locked in the position shown in dotted lines in Figure 1.

When the bench has been moved from one position to another desired position, the shaft 76 may be rotated in the reverse direction so as to lower the bench and permit it to set solidly on the floor.

The hardwood piece 4 which forms a part of the material-supporting platform is hinged at 84 to the hardwood piece 6. A handle 85 is provided on the free end of the piece 4. After the box has been lowered on the material being packed, the box and material can be readily removed from the bench by the packer merely grasping the handle 85 and raising the hinged portion 4. After the box with the material therein has been removed from the bench, a strip of corrugated material similar to strips 65 is placed on the top thereof and the lid nailed thereon.

The glass sheets or other material may be readily and efficiently packed by means of the bench which I provide. The bench is of such character that it can be readily operated by one man and one man alone is necessary to pack any box of glass. The cost of packing is further reduced due to the fact that breakage of the glass sheets in packing the same is practically eliminated.

While I have shown and described a preferred embodiment of my invention, it is to be understood that it is not limited thereby but may be otherwise embodied within the scope of the accompanying claims.

I claim:

1. A packing bench comprising a main frame, a material-supporting platform supported thereby, means movable from an inoperative position clear of the platform and the material thereon to an operative position in engagement with the material for holding the material in position on

the platform, and releasable locking means for normally holding said movable means in inoperative position.

2. A packing bench comprising a main frame, a material-supporting platform supported thereby, means movable from an inoperative position clear of the platform and the material thereon to an operative position in engagement with the material for holding the material in position on the patform, and releasable locking means for normally holding said movable means in inoperative position, said movable means being biased for movement from an inoperative position to an operative position upon release of said locking means.

3. A packing bench comprising a main frame, a material-supporting platform supported thereby, material holding means movable from an inoperative position clear of the platform and the material thereon to an operative position for holding the material in position on the platform, releasable locking means for normally holding said material holding means in inoperative position, and means for moving said material holding means from an inoperative position to an operative position.

4. A packing bench comprising a main frame, a material-supporting platform supported thereby, material holding means movable from an inoperative position clear of the platform and the material thereon to an operative position for holding the material in position on the platform, releasable locking means for normally holding said material holding means in inoperative position, means for moving said material holding means from an inoperative position to an operative position, and means for releasing said locking means.

5. A packing bench comprising a main frame, a material-supporting platform supported thereby, an arm movable from an inoperative position clear of the platform and the material thereon to an operative position in engagement with the material, said arm being biased for movement from an inoperative position to an operative position, and releasable locking means for normally holding said arm in an inoperative position.

6. A packing bench comprising a main frame, a material-supporting platform supported thereby, and a movable frame carried by and movable along the main frame and having a material engaging portion thereon, said movable frame being biased for movement from an inoperative position to an operative position for engaging the material and holding it in position on the platform.

7. A packing bench comprising a main frame, a material-supporting platform supported thereby, a movable frame supported by a plurality of rollers carried by the main frame, said movable frame having a material engaging portion thereon and being biased for movement from an inoperative position to an operative position for engaging the material and holding it in position on the platform, and releasable locking means for normally holding the frame in inoperative position.

8. A packing bench comprising a main frame, a material-supporting platform supported thereby, means for adjusting the platform in substantially a vertical direction, means for holding the platform in any adjusted position, a movable frame carried by the main frame and having a material engaging portion thereon, said movable frame being biased for movement from an inoperative position to an operative position in engagement with the material for holding the material on the platform, and releasable locking means for normally holding the frame in inoperative position.

9. A packing bench comprising a main frame, a material supporting platform supported thereby, and a slidably mounted arm movable from a position clear of the platform and the material thereon to an operative position for holding the material on the platform.

10. A packing bench comprising a main frame, a material supporting platform supported thereby, and a slidably mounted arm biased for movement from a position clear of the platform and the material thereon to an operative position for holding the material on the platform.

11. A packing bench comprising a main frame, a material supporting platform supported thereby, and a slidably mounted arm comprising curved parallel arms joined by a cross-head and cross-bars movable from a position clear of the platform and the material thereon to an operative position for holding the material on the platform.

12. A packing bench comprising a main frame, a supporting platform, a plurality of brackets on which the platform is mounted, said brackets having vertically extending portions adapted to bear against and slide along said main frame, a vertically extending back member mounted on said frame adjacent the supporting platform, and means for adjusting the platform vertically relative to said back member and along said frame.

13. A packing bench comprising a main frame, a supporting platform, a plurality of brackets on which the platform is mounted, said brackets having vertically extending portions adapted to bear against and slide along said main frame, a vertically extending back member mounted on said frame adjacent the supporting platform, and means including a rack mounted on the frame, and a shaft and gearing carried by the brackets for adjusting the platform vertically relative to said back member and along said frame.

14. A packing bench comprising a main frame, a supporting platform, a plurality of brackets on which the platform is mounted, said brackets having vertically extending portions adapted to bear against and slide along said main frame, a vertically extending back member mounted on said frame adjacent the supporting platform, and means for adjusting the platform vertically relative to said back member and along said frame, and material holding means movable from an inoperative pisition clear of the platfrom to an operative position for holding material in position on said platform in any adjusted position.

15. A packing bench comprising a main frame, a supporting platform, a plurality of brackets on which the platform is mounted, said brackets having vertically extending portions adapted to bear against and slide along said main frame, a vertically extending back member mounted on said frame adjacent the supporting platform, and means including a rack mounted on the frame, and a shaft and gearing carried by the brackets for adjusting the platform vertically relative to said back member and along said frame, and material holding means movable from an inoperative position clear of the platform to an operative position for holding material in position on said platform in any adjusted position.

HARRISON DEAN MENOHER.