

June 20, 1933.

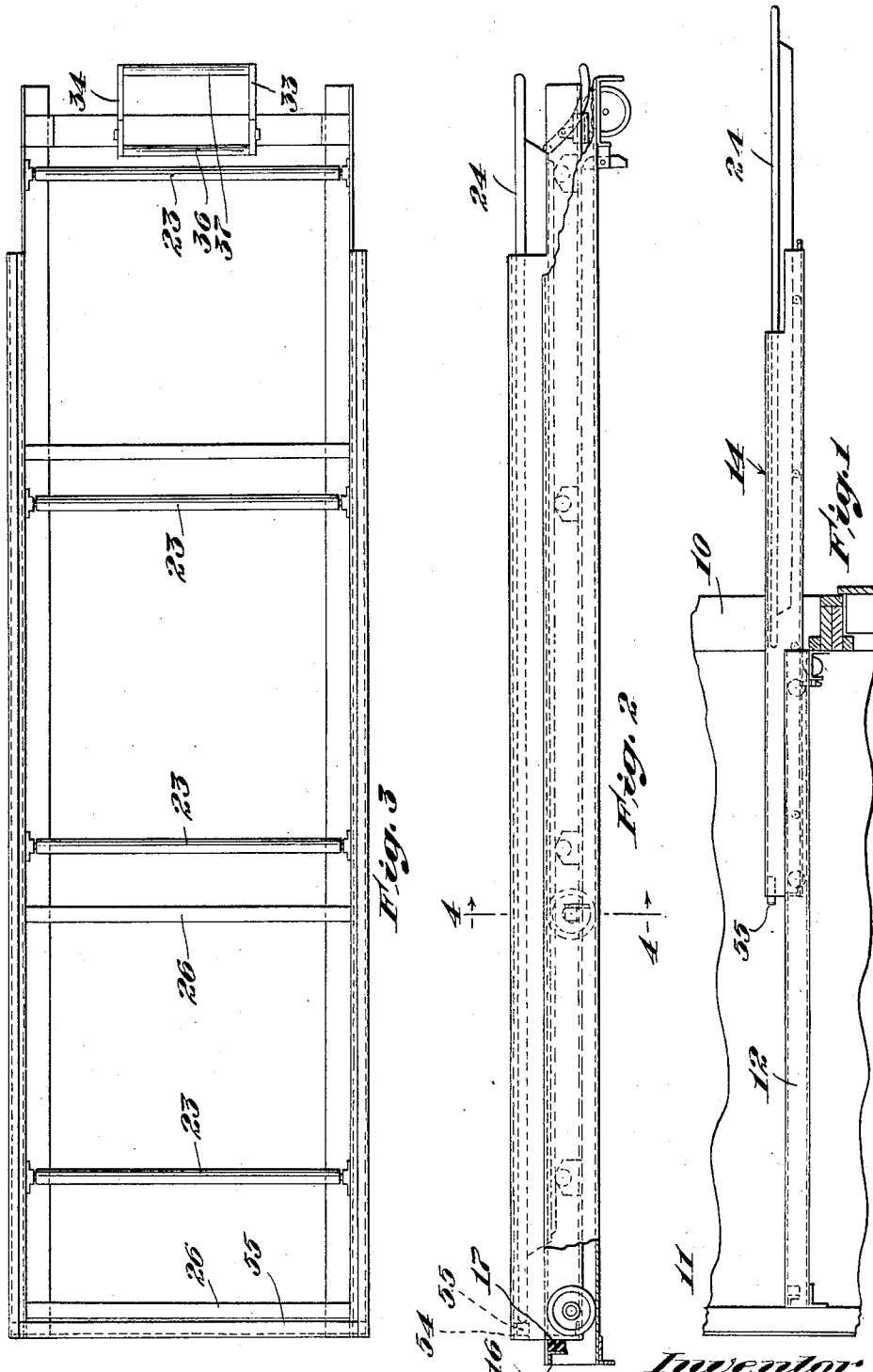
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1,914,767

MORTUARY RACK

Filed June 12, 1931

2 Sheets-Sheet 1



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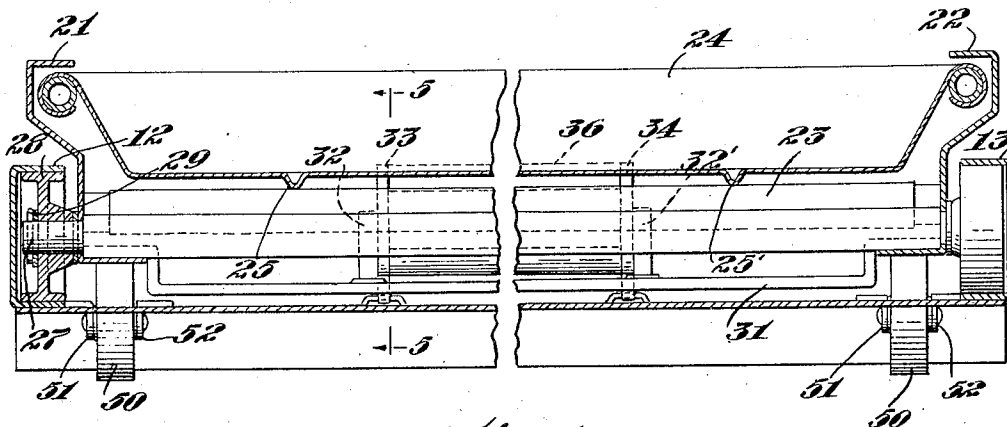


Fig. 4

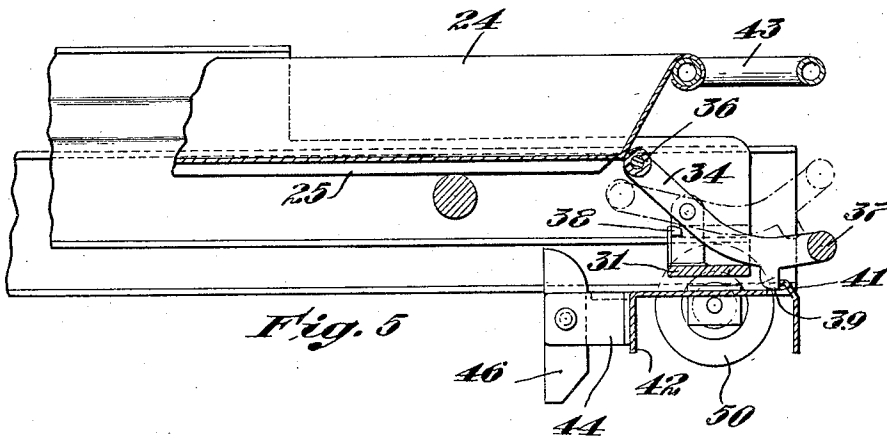


Fig. 5

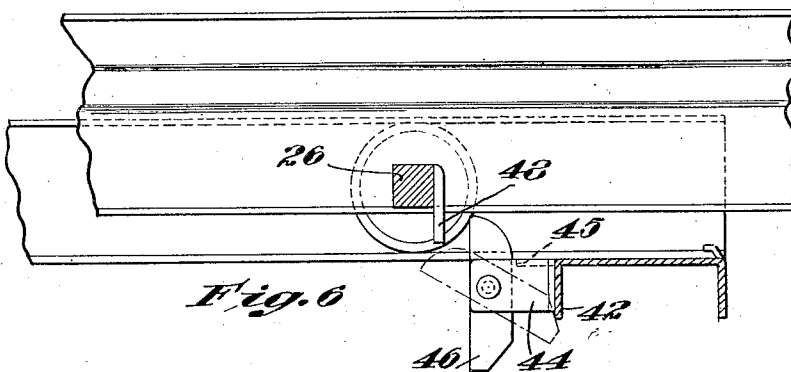


Fig. 6

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UNITED STATES PATENT OFFICE

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MORTUARY RACK

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This invention relates to apparatus for facilitating storage and handling of material or bodies, typically corpses which are being preserved or prepared for disposal, as for burial or dissecting. It is customary to store such bodies temporarily in refrigerating rooms or compartments. For this purpose refrigerating chambers may be provided with racks equipped with some form of extensible means such as a carriage which is adapted to project from a rack to support or to receive a body during transfer. Frequently the bodies are carried in trays which may be mounted upon or removed from such a carriage while the latter is supported by the storage rack in an extended position.

The present invention is directed to improvements in the construction and arrangement of apparatus of this general class with the object generally of improving features of construction and of providing improved means for positively locking such a tray and carriage from relative movement along the rack or from movement from their storage position thereon while providing for releasing these members to permit the carriage to be moved to a transfer position in which it extends well beyond the rack so that an attendant on each side thereof may secure a firm grip on a body or on a tray containing the same. The invention provides means for preventing over-travel of the carriage, particularly from the latter position and also provides for releasing the carriage for removal from the rack.

Other important objects are to provide a handle or lever by which the carriage may be moved and which may be effective automatically to lock the carriage and tray to the rack and may also operate to release these parts when grasped to pull out the carriage, and also to provide apparatus of this general class which is compact and economical of space and yet of rugged, durable construction so as to be thoroughly dependable in operation and consisting of few relatively simple parts which are inexpensive to manufacture and to assemble.

In the drawings,
Fig. 1 is a side elevation, with parts broken

away, of a rack having an extensible carriage and tray mounted thereon and arranged in extended relation;

Fig. 2 is a side elevation, with parts broken away, showing the carriage and tray locked in position on the rack;

Fig. 3 is a top plan view of the carriage;

Fig. 4 is a transverse section taken along the line 4—4 of Fig. 2;

Fig. 5 is a vertical longitudinal section through the right end portion of the apparatus shown in Fig. 2; and

Fig. 6 is a view similar to Fig. 5, but showing certain parts in different relative positions.

In the apparatus selected for illustration, the rack comprises upright members 10 and 11 which support longitudinally disposed channels 12 and 13 (Fig. 4), the latter being arranged face to face and spaced to provide ways for guiding the carriage 14 along the rack. At the left end of the rack, as viewed in Fig. 2, the channels are connected by a transverse member such as the angle 16 which carries bumpers 17 of rubber or other suitable material. This transverse member and the bumpers constitute a fixed abutment means for limiting movement of the carriage toward the left, as viewed in Fig. 2.

The carriage comprises longitudinally disposed channels 21 and 22 arranged face to face and having the lower portions of their webs offset inwardly, or toward each other. A number of rollers 23 extend transversely between the lower offset portions of the webs of the channels and are rotatably mounted thereon. These rollers are substantially aligned longitudinally of the carriage to provide an antifriction support for the tray 24. A number of stationary axles 26, preferably rectangular or square in cross section, are arranged to extend between the lower portions of the webs of the channels 21 and 22 and are fixedly connected to these channels. These axles have journals 27 which project through suitable openings in the channels and receive wheels 28, the latter being rotatably secured thereon in any approved manner, as by means of cotter pins 29. These parts are so arranged that the

wheels are mounted closely adjacent to the lower offset portions of the webs of the channels 21 and 22 and thereby provide a compact nested arrangement in which the wheels are disposed substantially beneath the outwardly projecting upper portions of these channel members.

At the right end of the carriage, as viewed in Fig. 2, a transverse member 31 (Figs. 4 and 5) has its end portions offset upwardly to rest on the lower flanges of the channels 21 and 22, being affixed to these flanges. This member carries spaced brackets 32 and 32' on which a pair of similarly curved or bent levers 33 and 34 are mounted to pivot about an axis disposed transversely of the carriage, rollers 36 and 37 being rotatably mounted between the end portions of these levers, or if desired the member 37 may be fixedly attached to or made integral with the levers. The brackets also carry stops or abutments 38 which limit movement of the levers in a clockwise direction, as viewed in Fig. 5. Each lever is also provided with a depending lug 39 which is engageable with a lug 41 formed by striking up a portion of the web of a transverse channel 42 connected to the longitudinal channels of the rack. The tray 24 has a substantially flat bottom and inclined side walls which are rolled at the brim, and preferably a handle 43 is mounted in the roll portion at the end of the tray to assume a position above the levers 33 and 34. The base or bottom of the tray has a plurality of longitudinally extending depressions or grooves 25 and 25' preferably V-shaped in cross section and extending the whole length of the tray to the bottom corners of the ends. These V-shaped impressions in the bottom of the tray provide considerable reinforcement and do away with objectionable noise caused by vibrations set up during movement of trays formed of sheet metal or other vibratory material. In addition these depressions collect any liquid substance and retain the latter out of contact with a corpse resting in the tray and thus avoid spreading of such liquid substance over the bottom of the tray.

A bifurcated or vertically slotted bracket 44 is mounted on the rack channels 12 adjacent the transverse channel 42. A movable abutment member 46 is pivotally mounted between the furcations forming the slot of this member, the end portion of the slot constituting an abutment or stop means 45 for limiting rotary movement of this abutment member in a clockwise direction, as viewed in Fig. 5. The abutment member is movable about its pivot in a counterclockwise direction approximately at least to the position indicated in dotted lines in Fig. 6. At a suitable point along the carriage intermediate the ends thereof, a projection or depending lug 48 is arranged to depend therefrom

for engagement with the upper end of the abutment member as the carriage moves along the rack. This depending lug may conveniently be mounted upon one of the square axles 26, as shown in Fig. 2, or upon any other fixed part of the carriage, preferably at approximately the distance from the end thereof at which the carriage is intended to project beyond the rack during transfer of the tray. At suitable points spaced longitudinally along the transverse rack channel 42 portions of the web thereof are cut away to provide recesses through which wheels 50 may project, these wheels being rotatably mounted in brackets 51, 52 attached to the under side of the web of this channel.

In using the apparatus the carriage need not be removed from the rack merely to facilitate transfer and assure careful and proper handling even of relatively heavy bodies or other material disposed in the tray, for the latter is supported by the carriage in a manner to project for substantially two-thirds of its length beyond the rack, in which position two or even more attendants may secure a firm hold on opposite sides of the tray for effecting transfer as well as for transporting a heavily laden tray about the establishment. It will be understood, however, that the carriage and tray may be mounted upon or removed from the rack as a unit should this be desired as, for example, when both of these parts are to be removed and the tray is empty.

To mount the carriage upon the rack either with or without the tray, the wheeled end of the carriage is passed over the transverse channel 42 with the lower flanges of the side channels 21, 22 of the carriage frame riding on the wheels 50, the carriage being pushed into the rack and tilted about these wheels to guide the carriage wheels 28 into and along the ways provided by the rack channels 12 and 13. As this movement is continued the depending lug 48 strikes the upper end of the movable abutment member 46 and causes the latter to swing in a counterclockwise direction to permit the lug 48 to pass, after which this movable abutment returns to its normal or upright position. Further movement of the carriage in this direction brings the transverse end member thereof against the fixed abutment means provided by the transverse rack angle 16 and the bumpers 17. As the carriage is thus brought to rest, the levers 33, 34 on being released are caused to swing in a clockwise direction to drop the lugs 39 behind the lugs 41, thus releasably locking the carriage in this position.

With parts arranged in this manner it will be observed that the outer member 37, which constitutes a handle or handle portion at least for the levers, is disposed downwardly or slightly to one side of the direction of

movement of the carriage. As this handle is grasped to pull out the carriage the former tends normally to swing the levers upwardly about their pivots a sufficient distance to permit the lugs 39 to clear the lugs 41, thus instantly releasing the carriage for movement. After having traveled along the rack to project therefrom for the desired distance determined by the relative positions of the lug 48 and the movable abutment 46, engagement of the latter parts causes the movable abutment to become lodged against the stop means 45 provided by the closed end of the slot in which it is mounted, and further outward movement of the carriage is thus effectively prevented. It will be evident that the abutment may be released to provide for removal of the carriage by reaching under the transverse channel 42 and holding the abutment out of the path of the lug 48 as the carriage is being moved outwardly.

In mounting the tray the end portion thereof may be lodged in the bend of the levers 33, 34 so that the latter may function as a pivotally mounted cradle for balancing the end of a tray while a better or a different grip thereon is being obtained. During this operation, as at other times, the stops or abutments 38 prevent excessive counterclockwise movement of the levers and thus assure dependable operation of the levers for performing this function. This construction also makes it possible by pushing the tray, when so disposed, to return the carriage fully onto the rack, in which position, or when the carriage is extended, the end of the tray is passed over the rollers 23 and 36 and while riding on these rollers may be tilted to guide the brim thereof beneath the retaining upper flanges of the side channels 21 and 22 of the carriage. It will be evident that when advanced along the carriage in this manner V-shaped depressions 25 and 25' in the bottom of the tray will ride over the transverse rollers 23 which provide an antifriction support therefor.

As the tray is moved fully onto the carriage the roller 36, carried by the levers, being no longer depressed by the bottom of the tray, is caused to swing upwardly behind the latter due to the normal unbalanced condition of the levers in which position this roller effectively prevents movement of the tray outwardly. It is this movement of the levers which also drops the lugs 39 behind the lugs 41 and releasably locks the carriage to the rack when properly positioned thereon. Preferably as the tray arrives at this position an end portion thereof is adapted to abut against rubber bumpers 55 carried by the transverse member or angle 54 of the carriage to prevent over-travel. Hence on grasping the handle roller 37 to pull out the carriage both the tray and the carriage are auto-

atically released for movement relative to each other and to the rack. Due to the relatively close proximity of the tray handle 43 to the roller handle 37 these handles may readily be grasped together so that movement of the tray relative to the carriage may conveniently be controlled while the latter is being moved along the rack.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. Apparatus of the class described comprising a rack for supporting a carriage for movement therealong, a carriage movable along the rack, a tray movable along the carriage and supported thereby, releasable means for concomitantly locking the tray and the carriage from movement relative to the rack, relatively fixed and movable abutments spaced along the rack at approximately the length of the carriage, the fixed abutment being engageable with the carriage for positioning the latter on the rack, and means on the carriage intermediate the ends thereof for engagement with the movable abutment after the carriage has been moved away from the fixed abutment for normally limiting movement of the carriage in this direction, the movable abutment being movable to a position out of the path of the carriage to provide for removal of the latter from the rack.

2. Apparatus of the class described comprising a rack for supporting a carriage for movement therealong, a carriage movable along the rack, a tray movable along the carriage and supported thereby, releasable means for concomitantly locking the tray and the carriage from movement relative to the rack, relatively fixed and movable abutments spaced along the rack at approximately the length of the carriage, the fixed abutment being engageable with the carriage for positioning the latter on the rack, and means on the carriage intermediate the ends thereof for engagement with the movable abutment after the carriage has been moved away from the fixed abutment for normally limiting movement of the carriage in this direction, the movable abutment being movable automatically out of the path of the carriage when engaged thereby as the carriage is being moved onto the rack.

3. Apparatus of the class described comprising a rack for supporting a carriage for movement therealong, a carriage movable along the rack, a tray movable along the carriage and supported thereby, releasable means for concomitantly locking the tray and the carriage from movement relative to the rack, relatively fixed and movable abutments spaced along the rack at approximately the length of the carriage, the fixed abut-

ment being engageable with the carriage for positioning the latter on the rack, means on the carriage intermediate the ends thereof for engagement with the movable abutment
 5 after the carriage has been moved away from the fixed abutment for normally limiting movement of the carriage in this direction, the movable abutment comprising a member mounted to pivot intermediate its ends to
 10 balance normally in a position for limiting movement of the carriage, and stop means for limiting movement of the abutment about its pivot from this position when engaged by the carriage as the latter is moving off the
 15 rack, this abutment being movable about its pivot in the opposite direction out of its balanced engaging position to provide for transfer of the carriage to and from the rack.

4. Apparatus of the class described comprising a carriage, a tray movable along the carriage, a lever mounted to pivot on one of these members and movable from a position to clear the other of these members to a position to hold the latter member from movement relative to said one of these members,
 25 a rack for supporting these members, and means cooperating with the lever when in the latter position for holding both of these members from movement relative to the rack.

5. Apparatus of the class described comprising a carriage, a tray movable along the carriage, a lever mounted to pivot on one of these members and movable between a position to clear the other of these members and
 35 a position to hold the latter member from movement relative to said one of these members, a rack for supporting these members, means cooperating with the lever when in the latter position for holding both of these
 40 members from movement relative to the rack, and means tending to move the lever to the latter position.

6. Apparatus of the class described comprising a carriage, a tray movable along the carriage, a lever mounted to pivot on one of these members and movable between a position to clear the other of these members and
 45 a position to hold the latter member from movement relative to said one of these members, a rack for supporting these members, means cooperating with the lever when in the latter position for holding both of these members from movement relative to the
 50 rack, means tending to move the lever toward the latter position, and means for limiting movement of the lever in this direction at a point slightly beyond said latter position.

7. In an apparatus comprising a rack and
 60 an extensible carriage and tray mounted thereon, the carriage and tray being movable relatively to each other along the rack, the combination of a lever mounted to pivot on the carriage, and means providing for interlocking engagement of the lever with the

tray and with the rack when the lever is in one position, the lever being movable to another position to release these members for relative movement.

8. In an apparatus comprising a rack and
 70 an extensible carriage and tray mounted thereon, the carriage and tray being movable relatively to each other along the rack, the combination of a lever mounted to pivot on the carriage, means providing for interlocking engagement of the lever with the tray and with the rack when the lever is in one position, the lever being movable to another position to release these members for relative movement, and means tending to move
 80 the lever to the former position.

9. In an apparatus comprising a rack and an extensible carriage and tray mounted thereon, the carriage and tray being movable relatively to each other along the rack, the combination of a lever mounted to pivot on the carriage, and means providing for interlocking engagement of the lever with the tray and with the rack when the lever is in one position, the lever being movable to another position to release these members for relative movement, the lever having a handle and being so mounted that when in the latter position the handle is disposed approximately in the direction of movement of the carriage along the rack, whereby the tray and the carriage may be released automatically by grasping and moving the handle to said latter position and pulling outwardly thereon to move the carriage along the rack.

10. Apparatus of the class described comprising a rack for supporting a carriage for movement thereon, a carriage movable along the rack, a tray movable along the carriage and supported thereby, and a bent lever mounted to pivot intermediate its ends on the carriage about an axis disposed transversely of the direction of movement of the carriage, the pivotal mounting of the lever being disposed along the path of movement of the tray, the upper sides of the lever substantially from end to end thereof being unobstructed and accessible for embracing and supporting an end of the tray so that the bent lever is adapted to function as a cradle to receive and support the end of the tray as the latter is being transferred to and from the carriage.

11. Apparatus of the class described comprising a rack for supporting a carriage for movement thereon, a carriage mounted on the rack, a tray movable along the carriage and supported thereby, a lever mounted to pivot on the carriage, a roller carried by the lever on one side of its pivotal mounting for engagement with the tray in one position of the lever to hold the tray from movement relative to the carriage, and a handle on the lever on the other side of its pivotal mounting, the parts being so constructed and ar-

ranged that when the lever occupies said one position the handle is disposed to one side of the direction of travel of the carriage and is adapted when grasped and moved toward the tray to move to a position approximately in the direction of travel of the carriage, this movement being effective for releasing the tray.

12. Apparatus of the class described comprising a rack for supporting a carriage for movement thereon, a carriage mounted on the rack, a tray movable along the carriage and supported thereby, a lever mounted to pivot on the carriage, a roller carried by the lever on one side of its pivotal mounting for engagement with the tray in one position of the lever to hold the tray from movement relative to the carriage, and a handle on the lever on one side of its pivotal mounting, the lever being movable to another position in which the roller is approximately aligned with the base of the tray, so that the tray may ride on the roller as it is being transferred to and from the carriage, the lever when in the latter position having its handle disposed approximately in the direction of travel of the carriage, the parts being automatically adjusted to this position when the handle is grasped and moved upwardly preparatory to pulling outwardly thereon to pull out the carriage.

13. In an apparatus comprising a rack and an extensible carriage and tray mounted thereon, the carriage and tray being movable relatively to each other along the rack, the combination of a lever mounted to pivot on the carriage, means providing for interlocking engagement of the lever with the tray and with the rack when the lever is in one position, the lever being movable to another position to release these members for relative movement, the lever having a handle and being so mounted that when in the latter position the handle is disposed approximately in the direction of movement of the carriage along the rack, and a handle on the tray disposed adjacent the handle on the lever when the latter has interlocking engagement with the tray, whereby the tray and the carriage may be released and relative movement of these members may be controlled by grasping both handles so as to move the handle on the lever toward the handle on the tray and to move the carriage along the rack.

14. In an apparatus of the class described, a rack, a carriage for movement along the rack, the carriage comprising longitudinally disposed channel members arranged face to face, these members being spaced to receive a tray therebetween, the upper flanges of the channel members being adapted to retain the tray on the carriage, the lower portions of the webs of the channel members being off-

set toward each other, wheels mounted on the carriage outside the channel members and adjacent the offset lower portions of the webs of these members, means extending between the channel members for supporting a tray for movement longitudinally between these members, and releasable means mounted on the carriage and operable for concomitantly locking the tray and the carriage from movement along the rack.

15. In an apparatus of the class described, the combination of a carriage for supporting a tray for movement thereon and along a rack, the carriage comprising longitudinally disposed side members and transversely disposed end members forming a movable frame, means extending between the longitudinally disposed side members for supporting a tray, and rotary elements on the movable frame for supporting the latter for movement along a rack, a tray disposed on the movable frame and comprising a substantially flat bottom and upwardly disposed side and end walls, a rack for supporting the carriage, the rack comprising longitudinally disposed side members spaced to receive and to provide a track for the rotary elements of the movable frame, and releasable means for concomitantly locking the tray to the carriage and the carriage to the rack for holding these members from relative longitudinal movement.

16. In an apparatus of the class described, the combination of a carriage for supporting a tray for movement thereon and along a rack, the carriage comprising longitudinally disposed side members and transversely disposed end members forming a movable frame, means extending between the longitudinally disposed side members for supporting a tray, and rotary elements on the movable frame for supporting the latter for movement along a rack, a tray disposed on the movable frame and comprising a substantially flat bottom and upwardly disposed side and end walls, a rack for supporting the carriage, the rack comprising longitudinally disposed side members spaced to receive and to provide a track for the rotary elements of the movable frame, releasable means for concomitantly locking the tray to the carriage and the carriage to the rack for holding these members from relative longitudinal movement, and movable abutment means on the rack and engageable with the carriage, this abutment means being effective on engagement with the carriage when the latter is moved in one direction for limiting movement in this direction, the abutment means being movable out of the path of the carriage on engagement therewith during movement in the opposite direction to provide for transfer of the carriage.

17. In an apparatus of the class described, the combination of a carriage for supporting

a tray for movement thereon and along a rack, the carriage comprising longitudinally disposed side members and transversely disposed end members forming a movable frame, means extending between the longitudinally disposed side members for supporting a tray, and rotary elements on the movable frame for supporting the latter for movement along a rack, a tray disposed on the movable frame and comprising a substantially flat bottom and upwardly disposed side and end walls, a rack for supporting the carriage, the rack comprising longitudinally disposed side members spaced to receive and to provide a track for the rotary elements of the movable frame, fixed and movable abutment members on the rack for limiting movement of the carriage, one of the abutment members being disposed directly in the path of the carriage for engagement therewith, the other abutment member being disposed to clear the carriage, and a projection on the carriage for engagement with the latter abutment member, the movable abutment member being effective for limiting movement of the carriage off of the rack and being movable out of its engaging position when engaged by the carriage as the latter is moved onto the rack to provide for transfer of the carriage.

Signed by me at Boston, Massachusetts,
this 6th day of May 1931.

LOUIS I. BECKWITH.

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