April 24, 1934. A. WAGNER 1,956,261

FOLDING TEA CART

Filed Oct. 5, 1932

Fig. 1

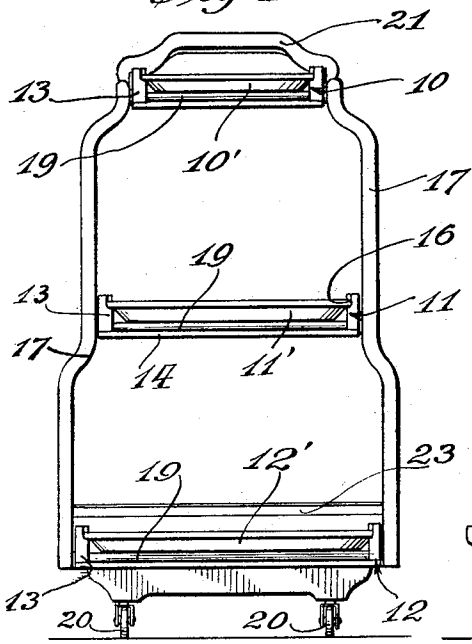


Fig. 2

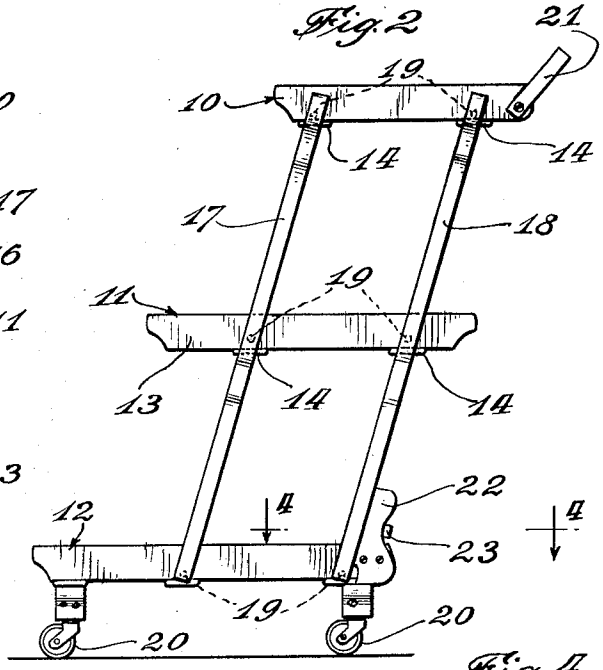


Fig. 3

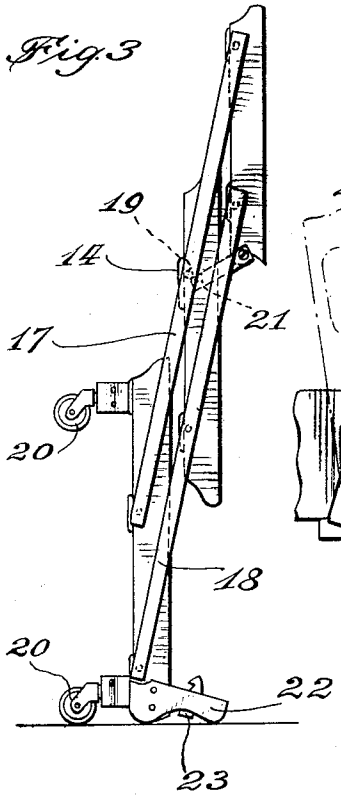


Fig. 5

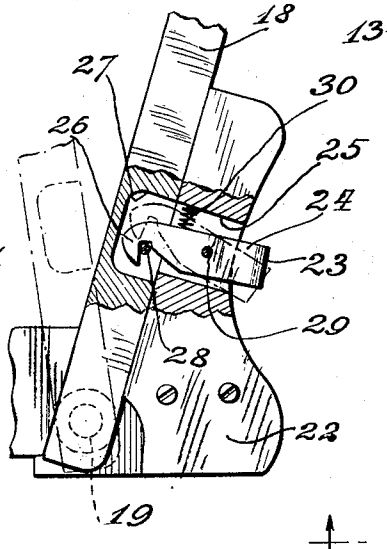
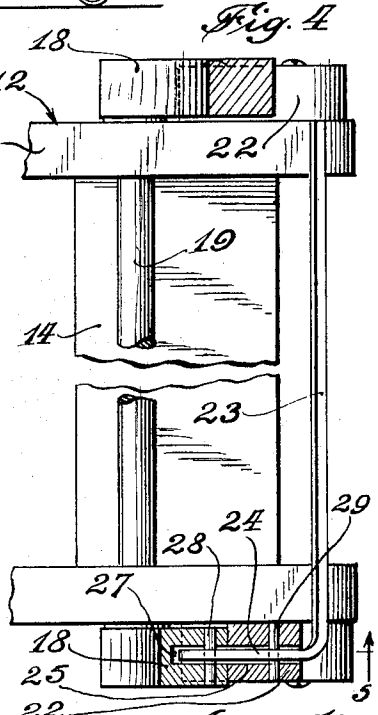


Fig. 4



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1,956,261

FOLDING TEA CART

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Application October 5, 1932, Serial No. 636,260

5 Claims. (Cl. 280—35)

My invention relates to folding tea carts or tray carriages of the type disclosed in the patent application of Paul A. Rothe, Serial No. 548,377, filed July 2, 1931.

Among the objects of my invention are:

Locking means for holding the device against accidental collapsing especially when it is being pushed by the upper corner of the frame and the wheels strike an obstruction, the locking mechanism preferably being releasable by the operator's foot; provision for so collapsing the device that it can be stood on edge for convenient storage or carrying; and an adjustable handle which can be swung out of interference with the use of the upper tray when desired and which is so disposed as to permit convenient carrying when the device is folded without tendency of the device to open itself.

The foregoing and further objects, features and advantages of my invention are set forth in the following description of a specific embodiment thereof wherein reference is made to the accompanying drawing wherein:

Fig. 1 is a front elevation of a tea cart;

Fig. 2 is a side elevation thereof;

Fig. 3 is a side elevation thereof when in folded position and set on edge for convenient storage or carrying;

Fig. 4 is a fragmentary plan section taken on the line 4—4 of Fig. 2; and

Fig. 5 is a fragmentary vertical longitudinal section of the latch or locking mechanism taken on the line 5—5 of Fig. 4.

The tray carriage here shown comprises a set or series of three frame-like supports for trays—a top support 10, an intermediate support 11 and a bottom support 12—for the respective trays 10', 11' and 12'. Each support comprises a pair of side members or rails 13 and forward and rear cross rails 14. The inner or opposed faces of the side rails carry grooves 16 for the reception of the edges of the trays. Starting at the bottom, the trays and their supports are of successively less breadth and length. The tray supports are supported and interconnected at each side by forward and rearward stays 17 and 18 which pass along the outsides of the side rails 13 and are pivotally connected thereto preferably by dowel-like rods 19 extending the width of the tray supports just above the respective cross rails 14 and into the adjacent edges of the stays. By this pivotal interconnection of the parallel tray supports by the parallel stays, swinging of the stays will cause the trays to move together or apart in parallelism between the open position of Figs. 1 and 2 and the closed position of Fig. 3.

The cross rail 14 and the auxiliary cross rail 15 of the bottom tray support 12 preferably carry caster wheels 20 whereby the device may be pushed about the floor in the manner characteristic of tea trays. For pushing or pulling the device, a handle 21 spans the rearward ends of the side rails of the top tray support 10. The handle 21 is pivotally mounted, with its grip portion radially offset from the pivot, and can be swung from its oblique position of Fig. 2 where it abuts the beveled end of the top side rails to the alternate position of Fig. 3.

The parallelogrammatic frame constituted by the tray supports and the stays is preferably arranged so that in its normal open position the stays are swung somewhat rearwardly of vertical or dead center position. When in this position, the lower regions of the rearward stays 18 lie in flat-wise engagement with the somewhat obliquely disposed forward faces of abutment arms 22 which are rigidly secured at the outer sides of, and adjacent the rearward ends of, the side rails 13 of the bottom tray support 12. The weight of the tray supports, tray and contents thus tend to hold the rearward stays against the abutment arms when in normal open position.

When the operator pushes the tray by the handle or either of the upper tray supports, there would be a tendency to swing the frame over its dead center and accidentally collapse it should the caster wheels encounter any undue resistance such as the upturned edge of a carpet or a table leg, baseboard or the like. To overcome this objection I have provided means for locking the frame in its open position. This locking or latching mechanism comprises a metal strap or bar 23 extending crosswise of the device between the abutment arms 22 and having forwardly bent latch portions 24 extending through slots 25 in the abutment arms 22 and extending forwardly therebeyond where they are profiled as latch hooks 26. Each latch hook portion 26 extends into a registering slot cut into but not through the associated rearward stay 18 from its rearward face and hook-wise engages a pin 28 which extends across the slot. Each latch portion 24 is pivotally mounted in its associated abutment arm 22 by a pin 29 extending across the slot 25. The latch bar 23, thus pivotally mounted, is urged to its latching position by a spring 30. To release the latching mechanism, the operator has but to conveniently place his foot on the latch bar 23 and rock it against the light pressure of

the spring 30 to disengage the latch hooks 26 from the latching pins 28, whereupon a forward push on the handle will collapse the frame. Should the several pivot points on the frame tend to bind, the operator is in a favorable position to force the collapsing of the frame in an orderly manner because his foot, by its engagement with the latch bar 23, is holding the rearward end of the bottom tray support 12 down and against forward movement. It will be observed that when the device is opened up in its normal position, the latch engaging portions and the slots of the latching mechanism are all concealed, save the rearward opening of the slots 25 through which the latch bar ends pass.

As the operator collapses the device—with one hand still on the handle and the foot still resting lightly on the latch bar 23, he swings the handle downwardly about its pivot which brings the grip adjacent the forward cross rail 14 of the intermediate tray support 11. The operator is then conveniently enabled to engage that cross rail also, grasping the handle and cross rail together. Using his foot engagement on the latch bar as an abutment against rearward movement, and using the rear wheels as a fulcrum, the operator pulls up on the cross rail and handle which he is grasping, until the collapsed frame is brought up to the vertical position of Fig. 3 where it rests in well balanced position on the rearward faces of the abutment arms 22 and the rear caster wheels. The operator's hand grip on both the handle and said cross rail forms a convenient means of carrying the collapsed device, at least the intermediate tray having been removed. With this hold, the device cannot accidentally open, because that would involve the handle moving away from the said cross rail, which the operator's hold would prevent. Because the collapsible device will stand on edge, as shown in Fig. 3, it may readily be stored in that position in a closet or other location where floor space is at a premium.

While I have thus described this specific embodiment of my invention, I contemplate that many changes may be made therefrom without departing from the scope or spirit of my invention.

I claim:

1. A collapsible tray carriage comprising a plurality of normally superposed horizontal tray supports and a pair of supporting stays on each side thereof and pivotally connected thereto, whereby the carriage collapses parallelogrammatically, a pair of abutment arms fixed on the lowermost tray support and extending transversely thereof having obliquely disposed forward faces for engaging the rearward faces of adjacent stays when the carriage is in its open position and the stays are swung somewhat backwardly of the vertical, and means for releasably locking the stays against the arms, the rearward faces of the abutment arm constituting a supporting foot for pivotally supporting the carriage when collapsed.

2. A tray carriage comprising a plurality of vertically spaced superposed horizontal frames some of which are adapted to carry trays, a pair of parallel stays disposed on each lateral side of the frames and pivotally interconnected therewith to collapse the frames in parallelism, a pair of arms extending upwardly from the lowermost frame at its rearward edge constituting a foot for vertically supporting the carriage when in its collapsed position and constituting a stop for the rearward stays when the carriage is in its open position and a latch for latching one of the rearward stays to one of the arms.

3. A tray carriage comprising a plurality of vertically spaced superposed horizontal frames some of which are adapted to carry trays, a pair of parallel stays disposed on each lateral side of the frames and pivotally interconnected therewith to collapse the frames in parallelism, a pair of arms extending upwardly from the lowermost frame at its rearward edge, the forward faces of the arms constituting a flatwise abutment for the rearward faces of the rear stays, slots passing forwardly through the arms and registering slots extending forwardly into the adjacent faces of the stays, a latch member vertically mounted within each arm slot and having a hook portion extending into the stay slot, a pin in each stay slot for engagement by the hook, and a transverse foot bar extending between the rearwardly protruding ends of the latch members for rocking them about their pivots to unlatch the stays from the arms to permit collapsing of the carriage.

4. A tray carriage comprising a plurality of vertically spaced superposed horizontal frames some of which are adapted to carry trays, a pair of parallel stays disposed on each lateral side of the frames and pivotally interconnected therewith to collapse the frames in parallelism, a pair of arms extending upwardly from the lowermost frame at its rearward edge constituting stops for the rearward stays when the carriage is in its open position, a latch member pivotally mounted on each arm and having a forwardly extending latch hook, a cooperating pin on each stay for engagement by the hook, and a foot bar interconnecting the latch members for releasing them to permit collapsing of the carriage.

5. A portable tray carriage comprising three horizontal vertically spaced frames adapted to receive and support trays, floor wheels on the lowermost frame, two of the wheels being disposed at the rearward end of the lowermost frame adjacent its respective sides, a pair of spaced parallel stays on each side of the frames and pivotally connected to the frames for parallelogrammatically collapsing the frames and stays, the stays, when the carriage is in its open position, inclining rearwardly of the perpendicular and folding to collapsed position forwardly through and past the perpendicular, an arm carried by the lowermost frame for limiting the backward swinging of the stays when the tray is in its open position, latch mechanism for locking one of the stays against the arm, and a release pedal for the latch mechanism having its foot engaged portion vertically offset from and somewhat rearwardly of the rearward wheels whereby foot pressure on the pedal will release the lock to permit the collapsing of the carriage and continued pressure on the foot will tend to swing the lowermost frame about the rearward wheels and up toward a vertical position for storing the tray when collapsed.

ANDREW WAGNER.