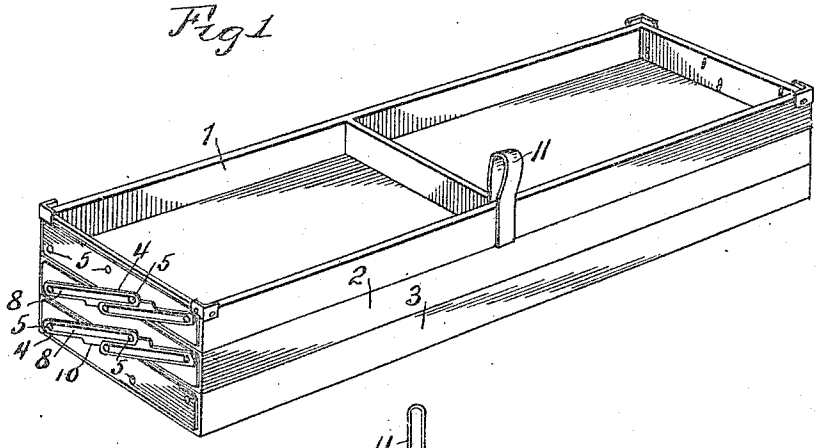
M. M. HAMMOND.

TRAY MECHANISM.

APPLICATION FILED OCT. 2, 1914.

1,229,447. Patented June 12, 1917.

Fig 1



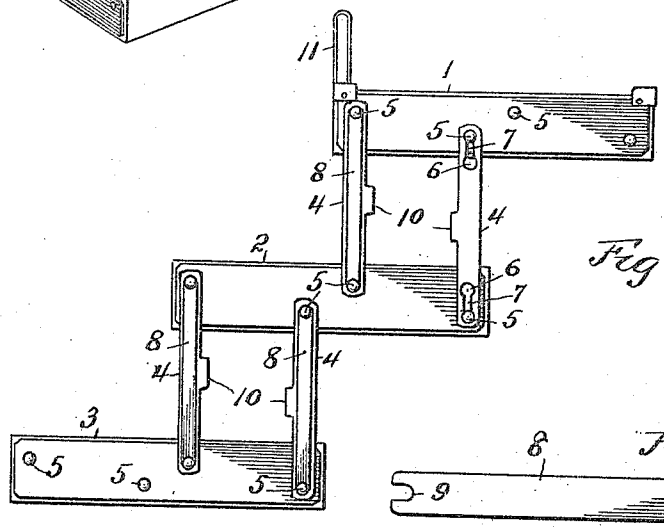
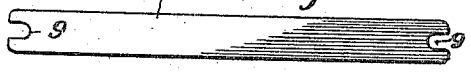


Fig 2

Fig 4



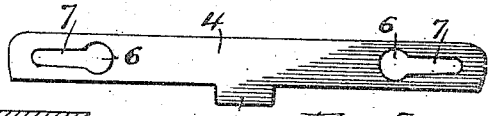


Fig 5

Fig 3

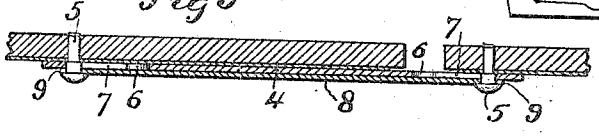




Fig 6

WITNESSES:

R. Hamilton

E. B. House.

INVENTOR.

Mary M. Hammond

BY Warren D. House

HER ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MARY M. HAMMOND, OF KANSAS CITY, MISSOURI.

TRAY MECHANISM.

1,229,447. Specification of Letters Patent. Patented June 12, 1917.

Application filed October 2, 1914. Serial No. 864,591.

To all whom it may concern:

Be it known that I, MARY M. HAMMOND, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Tray Mechanisms, of which the following is a specification.

My invention relates to improvements in tray mechanisms.

It relates particularly to tray mechanisms in which a plurality of trays are pivotally connected together so as to be swung from a position superposed one above the other to a position in which they will be disposed side by side in the same plane or one higher than the other.

The object of my invention is to provide such a pivotal connection between the trays that the trays may be readily detached from each other or as readily connected together.

By means of my improvement any number of the improved trays may be assembled together, with little labor and without the use of tools, or a number of trays may be quickly reduced to the number required for the particular purpose in view.

In the accompanying drawings, which illustrate the preferred embodiment of my improvement,

Figure 1 is a perspective view of the trays in the superposed position.

Fig. 2 is an end elevation of the trays shown in the intermediate position.

Fig. 3 is an enlarged longitudinal sectional view through one of the links and parts connected therewith.

Fig. 4 is a plan view of one of the locking plates.

Fig. 5 is a plan view of one of the links.

Fig. 6 is an end elevation showing the trays in the stretched out position.

Similar characters of reference designate similar parts in the different views.

1, 2, and 3 designate respectively the top, intermediate and bottom tray, the trays, preferably being of substantially the same dimensions and of rectangular form.

4 designates parallel links arranged in pairs, each tray being connected with the one immediately below with a pair of links at each end of the tray.

The links 4 are pivotally connected with the trays by means of pivot pins 5, preferably shouldered and secured to the trays, and provided, preferably, at their outer ends with heads.

Each link is provided adjacent to its ends respectively with two longitudinal slots, each having at its inner end an enlargement 6 adapted to permit the passage therethrough of the head of the pivot pin 5 which extends through said slot. The outer end of each slot is narrower than the diameter of the head of the pin, so that as long as the pin is in the narrower portion, designated by 7, of the slot, the link will be retained on the pin.

For releasably holding the links 4 with the pins 5 extending through the narrow portions 7 of the slots, there is provided at the outer side of each link 4 a spacing locking plate 8, the ends of which are respectively provided with notches or recesses 9 adapted to respectively receive the adjacent pins 5, the said notches or recesses being of less width than the diameters of the adjacent heads of the pins 5, so that the locking plates will be held in operative position against the links 4 by said heads.

The plates 8 have the notches 9 so spaced apart that, when in operative position, as shown in Fig. 3, the pins 5 will be held disposed in the extreme outer ends of the narrow portions 7 of the slots in the links.

The plates 8 are flexible, so that they may be bent outwardly between the ends, thereby shortening them, so that they may be released from the pins 5, when it is desired to detach the links 4 from said pins. The plates 8 are also, preferably resilient, so that they will re-assume and normally retain their straight unbent form.

The distances between the pins 5 are such that the trays may be swung from the superposed position shown in Fig. 1 to the stretched out position shown in Fig. 6.

Adjacent edges of each pair of links 4 may be respectively provided with projections 10 adapted to engage adjacent ends of the adjacent links, when the trays are in either the superposed or stretched out positions. In these positions, the projections 10 serve to brace the trays against lateral movement relatively to each other.

A finger hold 11 may be secured to the tray 1, for assisting in swinging the trays to and from the superposed position.

Each end of each tray is provided with two sets of pins 5, each set being used when the tray is an intermediate one.

When it is desired to reduce the number of trays of a set of trays, the spacing members or plates 8, which connect the bottom tray with the one next above, are bent outwardly at their middle portions to positions in which the plates will be released from the pins 5, after which, the links previously held by said plates may be moved to positions in which the heads of the pins 5 will pass through the enlarged portions 6 of the slots in the links. The links 4 connecting the bottom tray with the one next above may then be removed from the pins 5, thereby detaching the bottom tray from the set.

Another tray may be attached to the bottom tray by reversing the operation just above described.

I do not limit my invention to the structure described and shown, as modifications, within the scope of the appended claims, may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin, a link having means for detachably pivotally engaging said pins, and releasable means for retaining said link engaged with said pins.

2. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin, a link having means for detachably pivotally engaging said pins, and a flexible member having means for engaging said pins for retaining said link engaged with said pins, said flexible member being adapted to be flexed from a position in which it operatively engages said pins to a position in which it will be released from the pins.

3. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin provided at its outer end with a head, a link pivotally and detachably engaging said pivot pins at the inner sides of said heads, and a locking member releasably engaging said pins between said link and said heads for retaining the link in engagement with said pins.

4. In a tray mechanism, two trays each having at one end an outwardly extending pivot pin, a link pivotally and detachably engaging said pivot pins and a flexible locking member which in the operative position engages said pins and retains the length in operative engagement with said pins, the ends of said member having notches for receiving said pins when the member is in the extended operating position, the pins having heads at the outer sides of said link and said member for retaining said member engaged with said pins, the flexible member being adapted to be bent to a position in which it will be released from said pins.

5. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin provided at its outer end with a head, a link having two longitudinal slots adjacent to the respective ends of the link, the slots being provided at their inner ends with enlargements through which said heads may be passed, the outer ends of said slots being of less width than the respective diameters of said heads, and releasable means for engaging said pins for retaining the pins in the narrow outer ends of said slots.

6. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin provided at its outer end with a head, a link having two longitudinal slots adjacent to the respective ends of said link, said slots having enlarged inner ends adapted to permit the passage therethrough of said heads respectively, the outer ends of said slots having a width less than the respective diameters of said heads, and a flexible spacing member having means for engaging said pins for holding the pins from being moved inwardly in said slots to positions in which the heads of the pins can pass through said slots, said spacing member being adapted to be bent into a position in which it will be released from said pins.

7. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin provided at its outer end with a head, a link having two longitudinal slots respectively adjacent to the ends thereof, said slots having enlarged inner ends adapted to permit the passage therethrough of said heads respectively, and a flexible spacing member at the outer side of said link and provided with notches in its respective ends for respectively receiving said pins at the inner sides of said heads, said notches being of less width than the respective diameters of said heads, the flexible member in the normal extended position holding said pins from moving inwardly in said slots to positions in which said heads may pass through said enlarged inner ends.

8. In a tray mechanism, two trays, two pairs of parallel connecting links, each pair having its ends respectively detachably pivoted to adjacent ends of said trays, the distance between the pivots of said bars being such as to permit one tray to swing to a position directly above and resting upon the other tray to a position at one side of and in the same plane as the other tray, and releasable means for retaining said links in pivotal engagement with said trays.

9. In a tray mechanism, two trays, and means for pivotally and releasably connecting the trays together, the pivotal connection being such as to permit one tray to

swing from a position directly above to a position at one side of and in the same plane as the other tray.

10. In a tray mechanism, two trays, each having at one end an outwardly extending pivot pin, a link having means for releasably pivotally engaging said pins, and a resilient member having means for releasably engaging said pins, and normally held by its resiliency engaged therewith and arranged to hold said link from disengagement with said pins.

In testimony whereof I have signed my name to this specification in presence of two subscribing witnesses.

MARY M. HAMMOND.

Witnesses:
WARREN D. HOUSE,
W. F. HAMMOND.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."