Jan. 23, 1934. M. RITTER 1,944,757

COMBINED SERVICE TRAY AND STAND

Filed April 3, 1931

Fig. 1

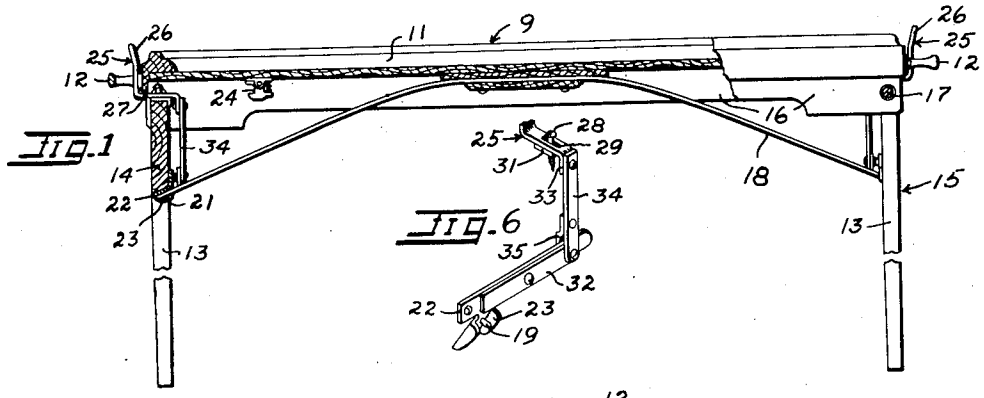


Fig. 6

Fig. 2

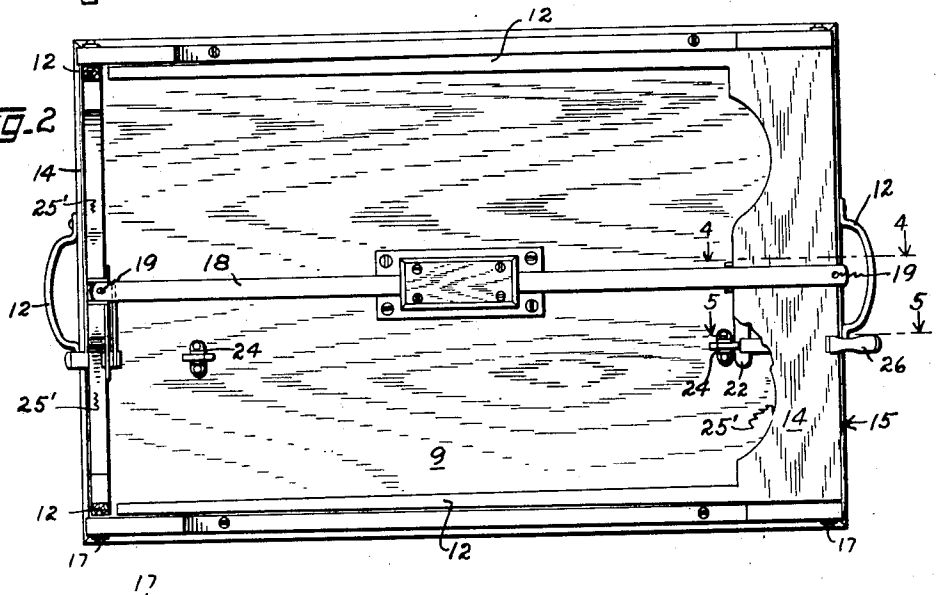


Fig. 3

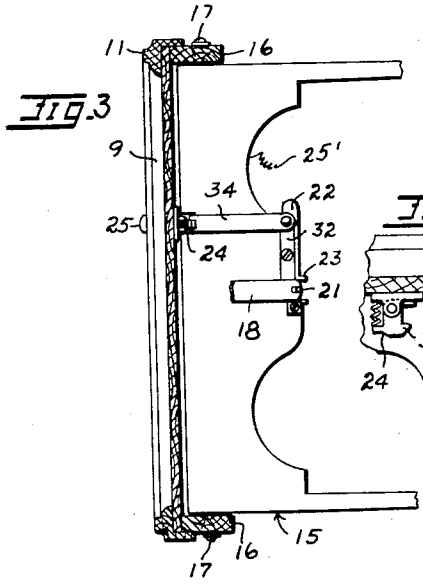


Fig. 4

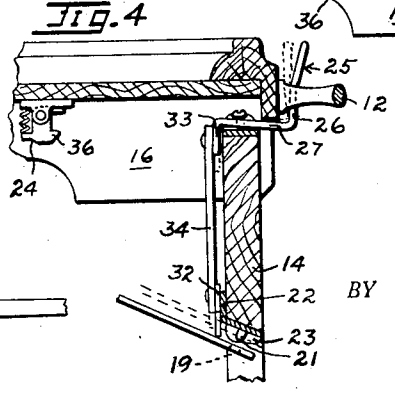
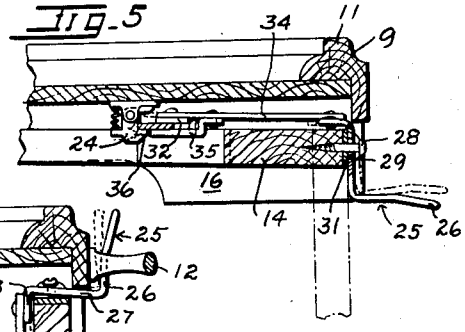


Fig. 5



INVENTOR.
MATTHEW RITTER
BY Henry N. Young
ATTORNEY

Patented Jan. 23, 1934 1,944,757

UNITED STATES PATENT OFFICE

1,944,757

COMBINED SERVICE TRAY AND STAND

Matthew Ritter, Oakland, Calif.

Application April 3, 1931. Serial No. 527,427

2 Claims. (Cl. 45—11)

The invention relates to a service tray and stand combination.

An object of the invention is to provide an article of the class described wherein an article-supporting tray portion thereof is provided with supporting legs for operative or inoperative disposal while articles are supported on the tray.

A more specific object is to provide for either an extension or withdrawal of the legs while the tray is supported by and from the hands of a person.

Another object is to provide for a manual and positive manipulation of the legs by the use of the person's hands without requiring a shifting of the hands from tray-supporting position.

A further object of the invention is to bring about a new combination or correlation of parts in a device of the class described whereby marked economies in manufacture will be effected and the use of the device will be facilitated.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth or be apparent in the following description of a typical embodiment of the invention which is illustrated in the accompanying drawing, in which,

Figure 1 is an elevation of a structure embodying the invention, supporting legs thereof being shown in operative position, and portions of the structure being broken away.

Figure 2 is an underneath view of the structure, the legs at one end thereof being shown as extended, while those at the other end are folded against a tray portion of the structure.

Figure 3 is a transverse section through the tray portion and looking toward a tray end having the legs thereat extended.

Figure 4 is an enlarged fragmentary section at 4—4 in Figure 2.

Figure 5 is an enlarged fragmentary section at 5—5 in Figure 2.

Figure 6 is a perspective view of an assembly of leg manipulating elements of the structure.

As particularly disclosed, the features of the present invention are incorporated with the structure of a service tray 9 provided with a raised rim 11 around its periphery and having handles, or grips, 12 mounted at its opposite ends. The tray 9 is arranged for optional support by means of legs 13 pivotally mounted thereon whereby it may function as the top of a table or stand. As particularly illustrated, pairs of the legs 13 are fixed at opposite ends of cross-members 14 whereby to provide leg-assemblies 15 at opposite ends of the tray. Longitudinal side rails 16 are fixed to and depend from the tray 9, and the leg assemblies 15 are hingedly fixed to and between the rails 16 at the tray ends by means of pivot screws 17. The arrangement is such that the leg assemblies may be folded beneath and against the tray as indicated in Figures 2 and 4, or extended for use in the manner shown in Figures 1, 2, 3 and 5.

Means are provided for releasably securing the leg assemblies 15 in their extended position, and said means are particularly shown as comprising an elongated leaf spring member 18 intermediately fixed to and beneath the tray and having the extremities thereof engageable with the outer edges of the members 14 and perforated at 19 to receive detent pins 21 extending laterally from the members 14. The arrangement of the spring 18 is such that its free ends are arranged to be pressed outwardly of the tray by the members 14 as the leg assemblies are swung to their extended positions. When the tray and leg structures are of wood, as in the present case, each pin 21 may be provided on a special plate element 22 mounted on the member 14 and having outstanding and opposed ears 23 between which the engaged spring end is arranged to be guided as the leg assembly is moved to and from its extended position. It will be obvious that the spring perforations 19 may be disengaged from the pins 21 by displacing the spring ends laterally outwardly from the members 14, this condition being illustrated in Figure 5.

Spring catches 24 are mounted at the under side of the tray 9 for such engagement with the leg assemblies 15 as to releasably secure the legs against the tray bottom when they are disposed in fully withdrawn position. As particularly shown, the catches 24 are arranged to engage end portions of the elements 22, said end portions extending into notches 25 provided in the cross members 14. A rocking of a movable catch element from its normal position is arranged to disengage it from the element 22 thereat for permitting a disposal of a leg assembly in extended position. It is to be noted that the ends of the spring 18 may constantly engage the member 14 at the plate 22 whereby to resiliently hold the legs in folded position independently of the catches 24, the omission of said catches being entirely practicable for trays of smaller size.

It will now be noted that the present tray is particularly designed for use in supporting articles for carriage from one place to another, and that when the legs are disposed in extended position, the tray becomes a stand beneath a load of articles thereon. Means are accordingly provided whereby, with the legs in withdrawn position thereof and released for movement, a person carrying the tray may manually and positively move the legs to an extended position to make a stand of the tray without requiring an unloading thereof. Furthermore, if the tray is loaded and in use as a stand, it may be reconverted for handling as a tray by lifting it clear of a supporting surface and effecting a withdrawal of the

legs while the tray is manually supported. The present invention particularly concerns the aforesaid alternative use of the structure as a tray or stand.

For effecting the aforesaid manipulation of the legs of the present structure by a person carrying the tray, an element 25 is mounted on each member 14 to dispose an end portion 26 thereof within reach of a digit of a hand which engages the adjacent tray handle 12 for supporting the tray. The elements 25 are also arranged to effect a release of a leg assembly for movement from either limiting position thereof, whereby the person may have complete control of the disposal of the legs while carrying the structure. While the legs are particularly shown as arranged for manipulation in unitarily associated pairs, it will be obvious that the control afforded is essentially that for a single leg.

As particularly illustrated, each operating element 25 is formed of a strip of flat material bent somewhat Z-shaped and having an intermediate portion 27 disposed to bear against the top edge of the member 14 thereat. A screw 28 is engaged through a slot 29 in the portion 27 of the operating element and in the member 14 to permit a limited rocking movement of the element 25 across the edge of the member 14 thereat. As particularly shown, a reenforcing plate 31 is provided at said edge and beneath the element portion 27 whereby, as the element is rocked it will fulcrum on one or the other edge of the plate 31, the head of the screw 28 limiting the degree of rocking permitted, it being noted that it is this rocking of the element 25 which is operative to effect release of the leg assembly and that the element portion 26 thereafter is operative as a rigid extension of the leg assembly.

A lever 32 is pivotally mounted at the inner face of each member 14 for rocking in a plane parallel to said face, an end of said lever engaging the upper, or tray, side of the spring 18. The other end of the lever 32 is connected to the inner portion 33 of the operating element 25 by means of a link 34, the relation of the lever 32 and link 34 and element 25 being such that when said element is rocked for effecting a folding-up movement of the leg assembly, the spring end engaged by the lever 32 is forced from its seat against the plate 22 to release the same from its engagement with the pin 19; this operation of the element 25 to release a leg assembly is indicated in Figure 4. As shown, the lever 32 is pivoted to the plate 22.

Each link 34, it will now be noted, is generally aligned with a catch 24 and is provided with an extension 35 offset therefrom to lie at that side of the plate 22 which is engaged by the catch lip 36 thereat. Normally, the extension 35 of the link 34 is free of any engagement with said lip portion of the catch but is directed generally toward it whereby its longitudinal displacement toward the catch may engage the lip and push it from its operative position behind the plate 22. The aforesaid operation of the link extension 35 to render the catch inoperative is arranged to be effected when an element 25 is rocked in a direction and manner to urge an unfolding disposal of the leg assembly controlled by the element. The result of this preliminary rocking of the element 25 on the member 14 which carries it, whereby a catch 24 is rendered inoperative, while the legs are in folded position is shown in dotted lines in Figure 5.

With the present structure, it will be obvious that a person carrying the same free of any other support is enabled to effect either an extension of the legs for setting down the structure as a stand or folding up the legs for facilitating a carrying-about of the tray. It is noted that the present structure is particularly designed to provide a tray for use in transporting food or dishes from one location to another and that the provision for making a stand top of the tray element eliminates the need for a separate serving table or the support of the tray directly on a table or shelf to or from which articles are to be transferred. The disclosed application of the invention to service trays is not however intended to imply a limitation thereof to such a specific use, as the device is readily applicable to tables generally wherein the present tray element corresponds to a table top.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that such changes may be made, when desired, as fall within the scope of the appended claims.

Having thus described my invention, I claim as new and desire to secure by Letters Patent of the United States the following:

1. In a combination service tray and stand, a tray element, legs hingedly mounted on said tray for alternative disposal in operative or inoperative positions thereof, detent means normally operative to retain a said leg in its operative position, a lever member mounted on said leg for a rocking movement between limiting positions thereof against the leg and about an axis parallel to the axis of hinging of the leg, a free end of said lever member arranged for manual engagement laterally thereof for rocking the lever to a said limiting position thereof whereby the lever is arranged to thereafter function as a rigid extension of the leg for rocking the latter to an inoperative position, and means whereby the rocking of the lever to said last limiting position thereof is arranged to effect the release of the said detent means.

2. In a collapsible table, a top element, legs hingedly mounted on said top for alternative disposal in operative or inoperative positions thereof, detent means normally operative to retain a said leg in its operative position, a lever member arranged for a rocking movement between limiting positions thereof against the leg and about an axis parallel to the axis of hinging of the leg, a free end of said lever member arranged for manual engagement for rocking the lever to a said limiting position thereof whereby the lever is arranged to thereafter function as an extension of the leg for rocking the latter to an inoperative position, and means whereby the rocking of the lever to said last limiting position thereof is arranged to render said detent means inoperative.

MATTHEW RITTER.