

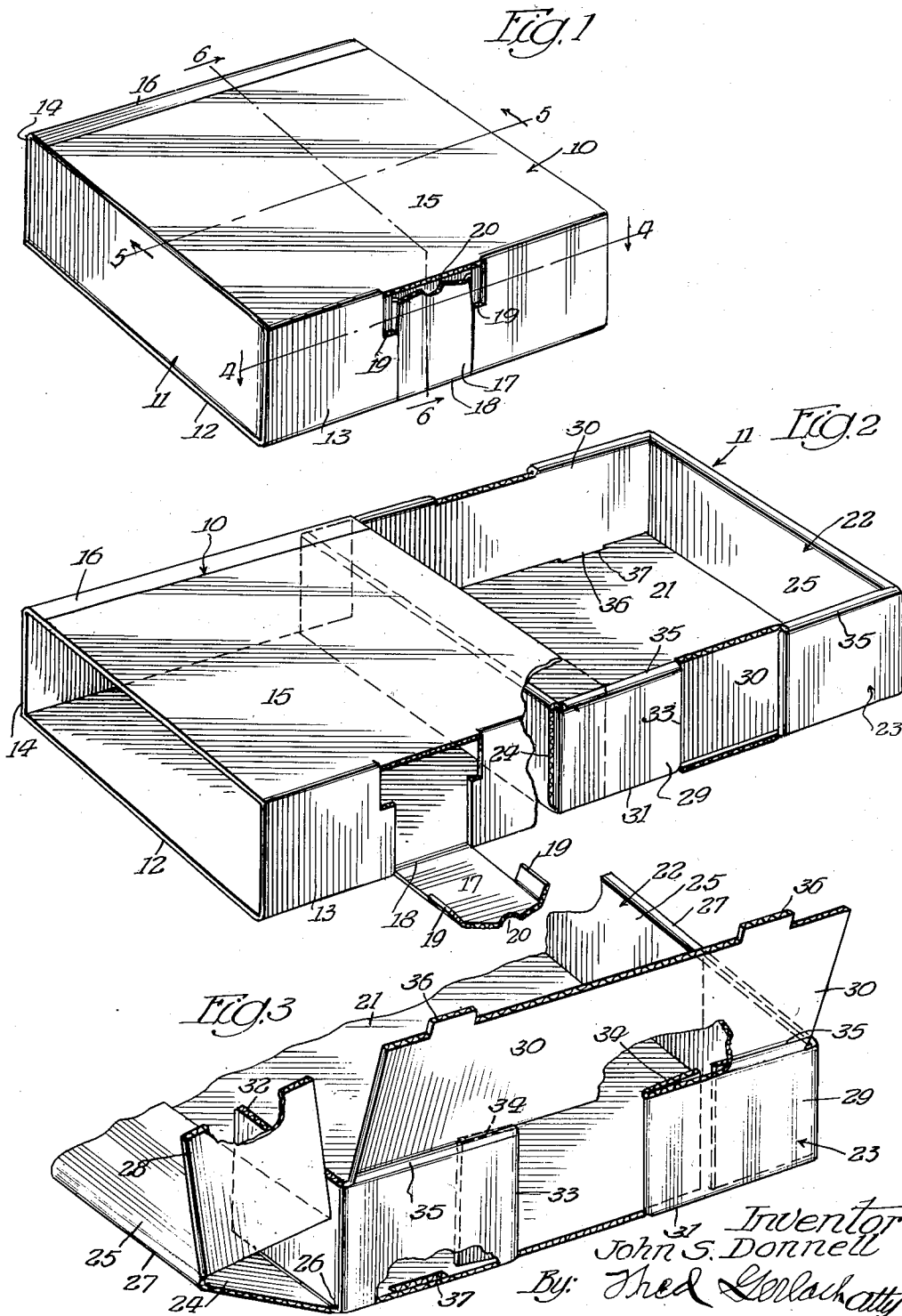
Jan. 8, 1952

J. S. DONNELL
CONTAINER

2,581,944

Filed Aug. 9, 1950

2 SHEETS—SHEET 1



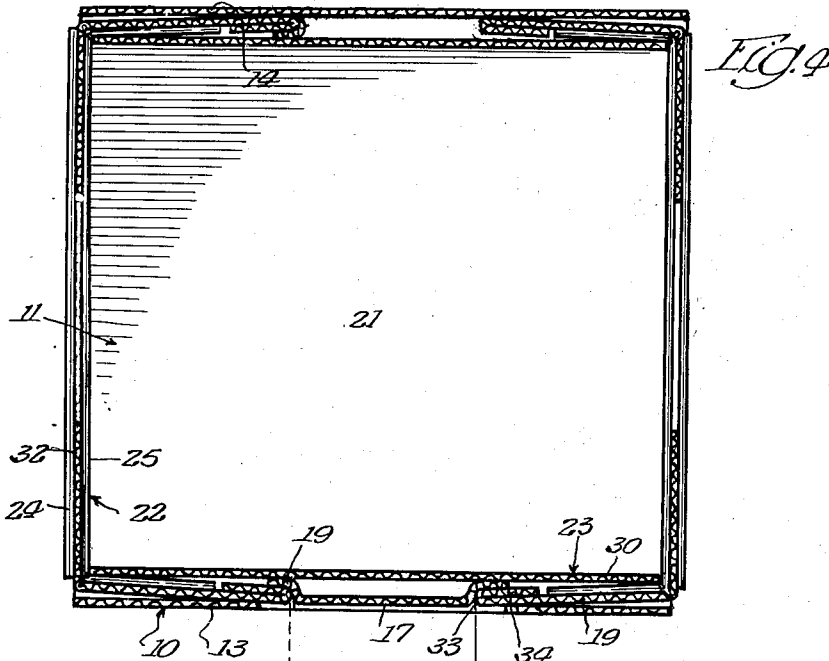
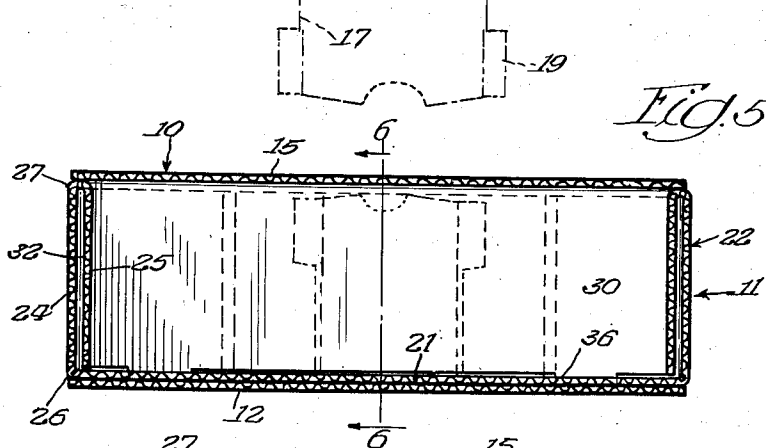
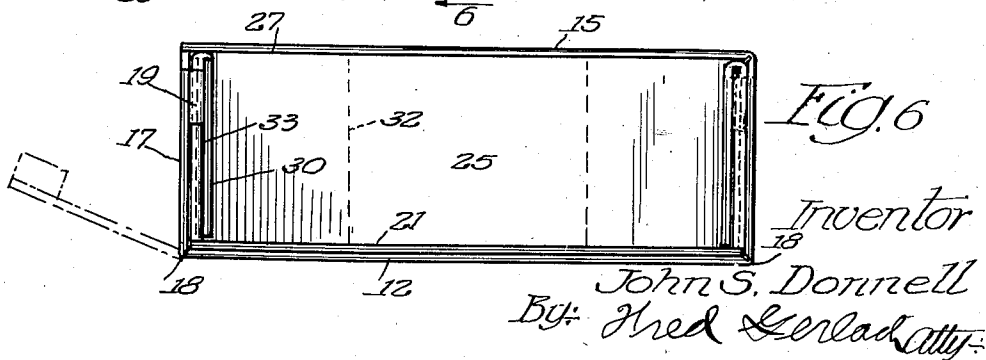
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2 SHEETS--SHEET 2



UNITED STATES PATENT OFFICE

2,581,944

CONTAINER

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5 Claims. (Cl. 229-19)

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The present invention relates generally to containers. More particularly the invention relates to that type of container which is designed for use in shipping various articles, is formed of comparatively stiff material, such, for example, as double faced corrugated board, and comprises a normally horizontal open ended sleeve of rectangular cross section and an open top box-like article receiving and retaining tray which is adapted to slide into the sleeve in order to close its open top and seal the articles and also to slide out of the sleeve for article exposing purposes and has the sides thereof of multi-wall construction, i. e., plural thickness.

One object of the invention is to provide a shipping container of this type which is an improvement upon, and has certain advantages over, previously designed containers of the same general construction and is characterized by the fact that it includes a simple and novel readily releasable latch arrangement for preventing sliding movement of the tray with respect to the sleeve when it is disposed in its closed position in the sleeve.

Another object of the invention is to provide a shipping container of the last mentioned character in which the releasable latch arrangement for securing the box-like tray within the normally horizontal open ended sleeve consists of a locking tongue which is formed as an integral part of the central portion of one of the sides of the sleeve and is hinged so that it is capable of being swung inwards into a latched position wherein it is in interlocked or interfitting relation with an opening in the outer wall of the adjacent side of the tray and also outwards into an unlatched position wherein it is free of the opening and hence permits the tray to be slid out of the sleeve.

A further object of the invention is to provide a shipping container of the type and character under consideration in which the distal or free end portion of the hinged locking tongue constituting a part of the latch arrangement is provided with laterally extending ears which when the tongue is in its latched position within the opening in the central portion of the outer wall of the adjacent side of the tray are adapted to be bent inwards and then inserted between the inner wall of said adjacent side and the portions of the outer wall that define the tongue receiving opening in order that they serve firmly but releasably to secure the locking tongue in its latched position.

A still further object of the invention is to

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provide a shipping container which is generally of new and improved construction and is so designed and constructed that the releasable latch arrangement for securing the tray in the sleeve does not add to the cost of the container as a whole.

Other objects of the invention and the various advantages and characteristics of the present container will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like numerals of reference denote corresponding parts throughout the several views:

Figure 1 is a top perspective showing a shipping container embodying the invention with the locking tongue in its latched position wherein it serves to hold the box-like tray in the sleeve;

Figure 2 is a top perspective showing the locking tongue in its unlatched position and the tray after it has been slid partially out of the sleeve;

Figure 3 is a fragmentary perspective of the tray illustrating in detail the manner in which it is formed or constructed;

Figure 4 is a horizontal section taken on the line 4-4 of Figure 1, showing the locking tongue in its locked position and illustrating the manner in which the laterally extending ears on the distal or outer end portion of the tongue serve firmly but releasably to secure the tongue in such position;

Figure 5 is a vertical longitudinal section taken on the line 5-5 of Figure 1; and

Figure 6 is a vertical transverse section on the line 6-6 of Figure 5.

The container which is illustrated in the drawings constitutes the preferred form or embodiment of the invention. It is primarily designed as a medium or instrumentality for retaining or shipping various articles and as its components comprises a sleeve 10 and an open top box-like tray 11. These components are preferably formed of comparatively stiff, double faced corrugated board in order that the container as a whole possesses the desired rigidity and strength. Generally speaking, the container is rectangular and its height is materially less than its width and length. Each of the two aforementioned components is formed of a one-

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piece blank in order that the container is capable of being produced at a low cost.

The sleeve 10 of the container is adapted normally to extend horizontally and consists of a bottom 12, a pair of upstanding sides 13 and 14 and a top 15. The two sides are formed integrally with, and extend upwards from, the side margins of the bottom 12 and serve to support the top 15 in spaced relation with the bottom 12. One side margin of the top is joined to, and formed integrally with, the top margin of the side 13 and the other side margin of the top is formed separately from the top margin of the other side but is joined thereto by a strip 16 of adhesive tape. The central portion of the side 13 of the sleeve 10 is die cut in order to form a locking tongue 17. The latter is substantially the same in height as the side 13 and has the lower margin thereof joined to the central portion of the adjacent side margin of the sleeve bottom 12 by a hinge variety fold 18 in order that it is free to swing inwards and outwards relatively to the side 13. The distal or free end portion of the hinged locking tongue is provided at the sides thereof with integral laterally extending ears 19 and these, as described more in detail hereafter, serve firmly but releasably to secure the locking tongue in its latched position with respect to the box-like tray 11. The central part of said distal or free end portion of the locking tongue is provided with a substantially semi-circular notch 20 in order that the tongue may be readily gripped in connection with swinging thereof into and out of its latched position. The ears 18 are capable of being bent inwards with respect to the locking tongue 17.

The open top box-like tray 11 is shaped conformably to, and is adapted to slide into and out of, the interior of the normally horizontal open ended sleeve 10. It is of unitary design or construction and consists of a bottom 21, ends 22 and sides 23. The ends and sides of the tray extend upwards at right angles to the bottom 21 and define with the latter an open top compartment for articles. The tray 21 is the same in shape and substantially the same in size as the bottom 12 of the sleeve 10. The ends of the tray are of uniform height from end to end and consist of outer walls 24 and inner walls 25. The bottom margins of the outer walls 24 are formed integrally with the end margins of the bottom 21 and are connected thereto by right angle folds or bends 26. The inner walls 25 of the tray ends 22 are the same in shape as the outer walls 24 and have the top margins thereof joined to the top margins of the outer walls by inverted U-shaped folds 27. The end margins of the inner walls 25 of the tray ends 22 are provided with integral flaps 28 and these extend inwards from, and at right angles to, said inner walls 25. The sides 23 of the tray 11 are the same in height as the ends 22 and consist of outer walls 29 and inner walls 30. The bottom margins of the outer walls 29 are formed integrally with the side margins of the bottom 21 and are connected thereto by right angle folds or bends 31. The end margins of the outer walls 29 are provided with integral inwardly extending right angle flaps 32 which fit between the end portions of the outer and inner walls of the tray ends 22. The outer walls 29 of the tray sides 23 have full height rectangular openings 33 formed therein. The portions of the outer walls 29 that define the sides of the openings 23 are provided with integral flaps 34 which are bent or folded

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inwards and then outwards so that they extend in lapped relation with the inner surfaces of the outer walls 29. The openings 23 are of such size and shape that they are adapted to receive the locking tongue when the latter is swung inwards into its latched position. When the tray 11 is disposed wholly within the sleeve 10 it may be locked or latched in place by swinging the locking tongue 17 inwards so that it is in interlocked or inter-fitting relation with the rectangular opening in the central portion of the outer wall 29 that is directly adjacent the side 13 of the sleeve. To release the tray so that it may be slid outwards it is only necessary to swing the locking tongue 17 outwards as shown in Figure 2 of the drawings. The outer walls of both sides of the tray are provided with central tongue receiving openings in order that it is immaterial which side of the tray is adjacent the side 13 of the sleeve. The inner walls 30 of the tray sides 23 are substantially the same in shape as the outer walls 29 and have the top margins thereof joined to the top margins of said outer walls by inverted U-shaped folds 35. The bottom margins of the inner walls 30 are provided with integral downwardly extending tongues 36 and these, as best shown in Figures 2 and 5 fit within slots 37 in the side margins of the tray bottom 21. The flaps 27 on the end margins of the inner walls 25 of the tray ends 22 fit between the end portions of the outer and inner walls of the tray sides 23 and are disposed in alignment with, and directly outwards of, the flaps 34 on the portions of the outer walls 29 that define the sides of the openings 33.

In assembling the tray 11 the outer walls 29 of the tray ends are swung upwards with respect to the bottom 21 while the inner walls 30 are in substantially coplanar relation therewith. Thereafter the outer walls 24 of the tray ends are swung upwards with respect to the tray bottom while the inner walls 25 are in substantially coplanar relation therewith. After this operation the flaps 32 on the end margins of the outer walls 29 are swung outwards into lapped relation with the inner surfaces of the end portions of the outer walls 24 of the tray ends. Thereafter the inner walls 25 of the tray ends are swung inwards and downwards and the flaps 27 are swung outwards into lapped relation with the inner surfaces of the end portions of the outer walls 29. At the conclusion of this step or operation the inner walls 30 of the tray sides are swung inwards and downwards. During such swinging of the inner walls 30 the tongues 36 move into interlocked relation with the slots 37. After assembly the tray is slid into the sleeve 10. When it is desired to lock or latch the tray in the sleeve the locking tongue 17 is swung inwards into interlocked or interfitting relation with the opening in the outer wall 29 that is disposed directly adjacent the side 13 of the sleeve. In connection with swinging of the locking tongue into its latched position the laterally extending ears 19 are bent inwards and are inserted between the inner wall 30 of the adjacent tray sides and the portions of the outer wall of said adjacent tray side that define the opening with which the locking tongue is interlocked. When access to the articles in the tray is desired the locking tongue 17 is swung outwards into its unlocked position. In connection with outward swinging of the locking tongue the ears 19 slide out of their seated position between the inner and outer walls of the adjacent side of the tray. As soon as the locking tongue is swung

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into its unlocked position the tray is free so that it may be slid out of the sleeve 10 as shown in Figure 2.

The herein described shipping container effectively and efficiently fulfills its intended purpose and is characterized by the fact that it includes the aforementioned novel latch arrangement whereby it is possible to lock or latch the tray in the sleeve. In view of the particular manner in which the latch arrangement is formed the container as a whole may be produced at a reasonable cost.

The invention is not to be understood as restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. As a new article of manufacture, a shipping container consisting of a normally horizontal open ended sleeve formed of comparatively stiff material, embodying a bottom, a top in spaced relation with the bottom and a pair of sides between the side margins of said bottom and top, and having on a portion of one of its sides a locking tongue which is hinged so that it is free to swing inwards and outwards with respect to the one side, and an open top box-like tray formed of comparatively stiff material, shaped conformably to, and adapted to slide into and out of, the interior of the sleeve and embodying a bottom and upstanding ends and sides, the side of the tray that is normally in sliding engagement with said one side of the sleeve comprising an inner wall and an outer wall and having in its outer wall an opening that is positioned opposite to, and is shaped to receive, the locking tongue when the tray is slid fully into the sleeve, said locking tongue being adapted when the tray is slid fully into the sleeve to be swung inwards into a latched position wherein it is interlocked with said opening and secures the tray against the sliding movement relatively to the sleeve and being also adapted to be swung outwards into an unlatched position wherein it releases the tray so that it may be slid with respect to the sleeve.

2. As a new article of manufacture, a shipping container consisting of a normally horizontal open ended sleeve formed of comparatively stiff material, embodying a bottom, a top in spaced relation with the bottom and a pair of sides between the side margins of said bottom and top, and having the central portion of one of its sides cut to form an integral locking tongue which is hinged so that it is free to swing inwards and outwards with respect to the one side, and an open top box-like tray formed of comparatively stiff material, shaped conformably to, and adapted to slide into and out of, the interior of the sleeve and embodying a bottom and upstanding ends and sides, the side of the tray that is normally in sliding engagement with said one side of the sleeve comprising an inner wall and an outer wall and having in the central portion of its outer wall an opening that is positioned opposite to, and is shaped to receive the locking tongue when the tray is slid fully into the sleeve, said locking tongue being adapted when the tray is slid fully into the sleeve to be swung inwards into a latched position wherein it is interlocked with said opening and secures the tray against sliding movement relatively to the sleeve and

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being also adapted to be swung outwards into an unlatched position wherein it releases the tray so that it may be slid with respect to the sleeve.

3. As a new article of manufacture, a shipping container consisting of a normally horizontal open ended sleeve formed of double faced corrugated board, embodying a bottom, a top in spaced relation with the bottom and a pair of sides between the side margins of said bottom and top, and having the central portion of one of its sides cut to form an integral upstanding locking tongue which is hinged at its lower end so that it is free to swing inwards and outwards with respect to the one side, and an open top box-like tray formed of double faced corrugated board, shaped conformably to, and adapted to slide into and out of, the interior of the sleeve and embodying a bottom and upstanding ends and sides, the side of the tray that is normally in sliding engagement with said one side of the sleeve comprising an inner wall and an outer wall and having in the central portion of the outer wall an opening that is positioned opposite to, and is shaped to receive, the locking tongue when the tray is slid fully into the sleeve, said locking tongue being adapted when the tray is slid fully into the sleeve to be swung inwards into a latched position wherein it is interlocked with said opening and secures the tray against sliding movement relatively to the sleeve and being also adapted to be swung outwards into an unlatched position wherein it releases the tray so that it may be slid with respect to the sleeve.

4. As a new article of manufacture, a shipping container consisting of a normally horizontal open ended sleeve formed of comparatively stiff material, embodying a bottom, a top in spaced relation with the bottom and a pair of sides between the side margins of said bottom and top, and having on a portion of one of its sides a locking tongue which is hinged so that it is free to swing inwards and outwards with respect to the one side, and an open top box-like tray formed of comparatively stiff material, shaped conformably to, and adapted to slide into and out of, the interior of the sleeve and embodying a bottom and upstanding ends and sides, the side of the tray that is normally in sliding engagement with said one side of the sleeve comprising an inner wall and an outer wall in spaced relation with the inner wall and having in its outer wall an opening that is positioned opposite to, and is shaped to receive, the locking tongue when the tray is slid fully into the sleeve, said locking tongue being adapted when the tray is slid fully into the sleeve to be swung inwards into a latched position wherein it is interlocked with said opening and secures the tray against sliding movement relatively to the sleeve, being also adapted to be swung outwards into an unlatched position wherein it releases the tray so that it may be slid with respect to the sleeve, and having on its distal portion a laterally extending ear adapted when the tongue is in its latched position to fit between the inner wall and a part of the opening defining portion of the outer wall in such manner that it serves firmly but releasably to hold the tongue in its said latched position.

5. As a new article of manufacture, a shipping container consisting of a normally horizontal open ended sleeve formed of double faced corrugated board, embodying a bottom, a top in spaced relation with the bottom and a pair of sides between the side margins of said bottom and top,

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and having the central portion of one of its sides cut to form an integral upstanding locking tongue which is hinged at its lower end so that it is free to swing inwards and outwards with respect to the one side, and an open top box-like tray formed of double faced corrugated board, shaped conformably to, and adapted to slide into and out of, the interior of the sleeve and embodying a bottom and upstanding ends and sides, the side of the tray that is normally in sliding engagement with said one side of the sleeve comprising an inner wall and an outer wall in spaced relation with the inner wall and having in the central portion of the outer wall an opening that is positioned opposite to, and is shaped to receive, the locking tongue when the tray is slid fully into the sleeve, said locking tongue being adapted when the tray is slid fully into the sleeve to be

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swung inwards into a latched position wherein it is interlocked with said opening and secures the tray against sliding movement relatively to the sleeve, being also adapted to be swung outwards into an unlatched position wherein it releases the tray so that it may be slid with respect to the sleeve, and having at its upper end a pair of oppositely and laterally extending bendable ears adapted when the tongue is in its latched position to fit between the inner wall and the portions of the outer wall that define the sides of the opening that they serve firmly but releasably to secure the tongue in its said latched position.

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No references cited.