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|---|--|---------------------------------------|-----------------|--|
| [54] MEDICINE TRAY FOR CABINET DRAWER | 895,640 | 8/1908 | Hullhorst | 312/209 X |
| [75] Inventors: Robert B. Morrison, North Muskegon, Mich.; Lewis C. Wyman, Norwalk, Conn. | 1,586,111 1,754,128 2,530,220 3,428,383 | 5/1926 4/1930 11/1950 2/1969 | Osborn | 211/126 312/209 312/209 X 312/209 |
| [73] Assignee: E. H. Sheldon and Company, Muskegon, Mich. | 3,501,018 3,656,786 3,708,709 | 3/1970 4/1972 1/1973 | Solo | 211/60 R 211/184 312/209 |

[22] Filed: Dec. 6, 1972

[21] Appl. No.: 312,581

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 109,823, Jan. 26, 1971, Pat. No. 3,708,709.

[52] U.S. Cl. 312/209, 211/126, 312/330

[51] Int. Cl. A47b 88/00, B011 3/00

[58] Field of Search 312/209, 350, 250, 122, 312/330; 211/60, 69, 126, 184; 206/72

[56] **References Cited**

UNITED STATES PATENTS

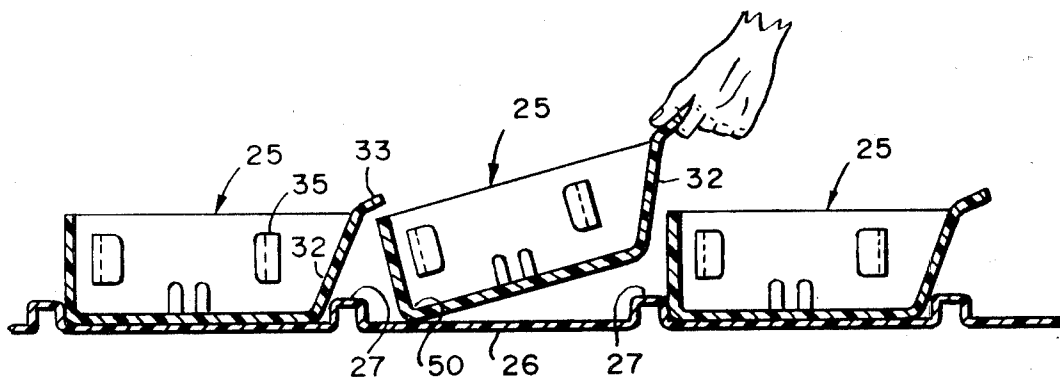
723,661 3/1903 Evans..... 312/209

Primary Examiner—James T. McCall
Attorney, Agent, or Firm—Dawson, Tilton, Fallon & Lungmus

[57] **ABSTRACT**

A plastic liner tray is removably carried in a nurse's cabinet cart and is provided with integral raised and spaced ribs supporting individual patient medicine trays and a hypodermic needle tray.

1 Claim, 14 Drawing Figures



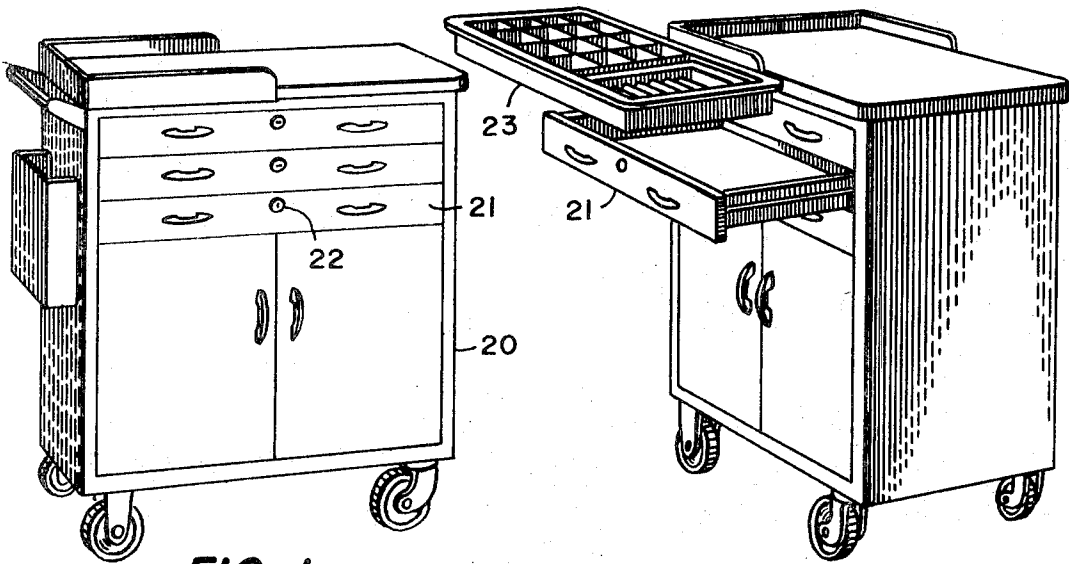


FIG. 1

FIG. 2

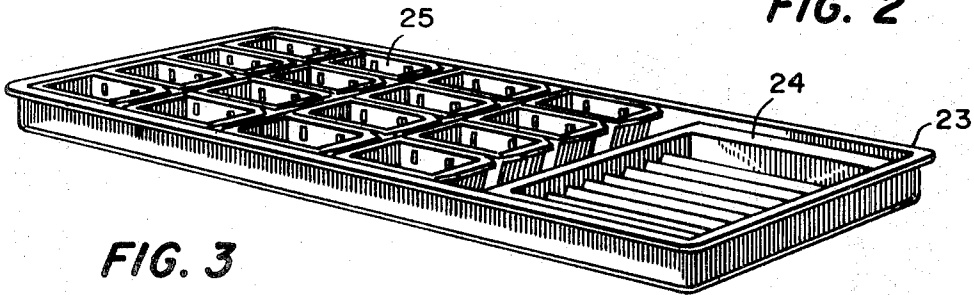


FIG. 3

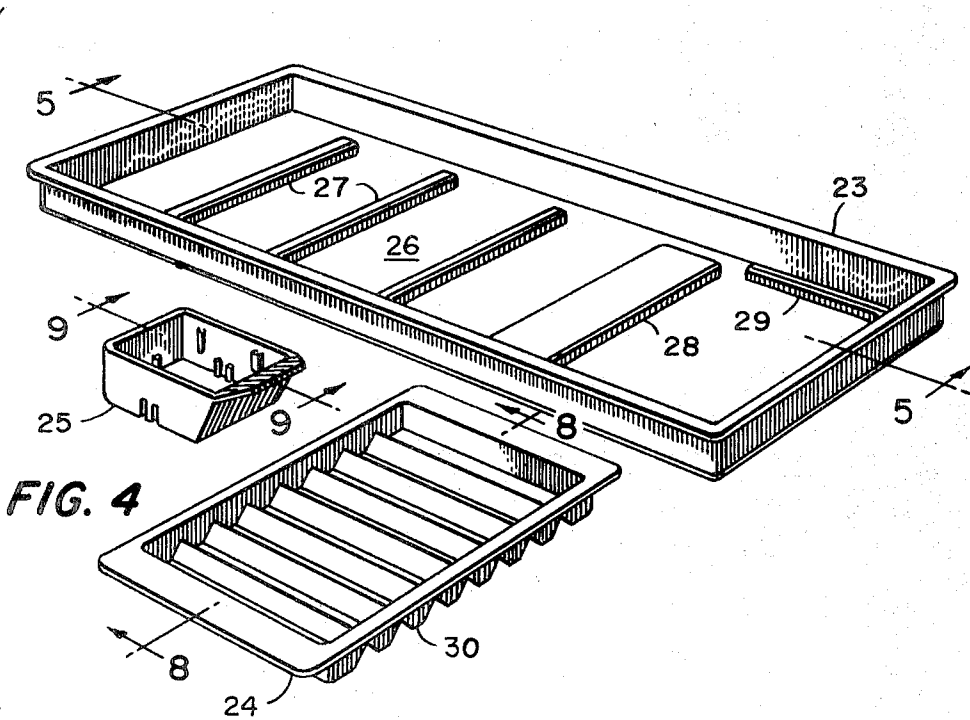


FIG. 4

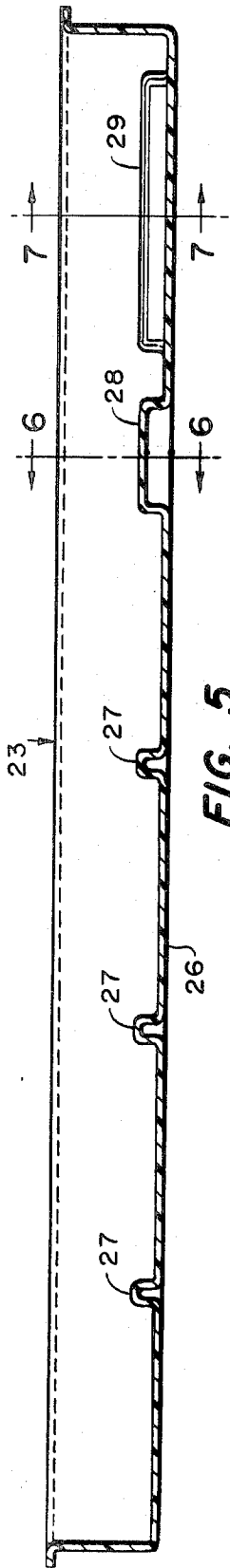


FIG. 5

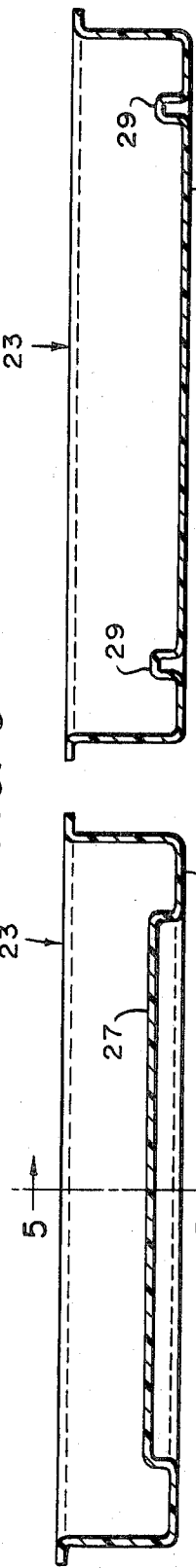


FIG. 6

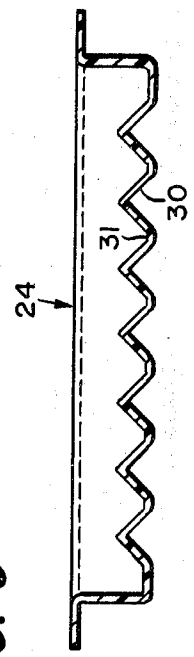


FIG. 8

FIG. 7

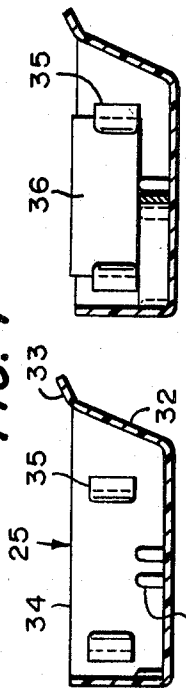


FIG. 9

FIG. 10

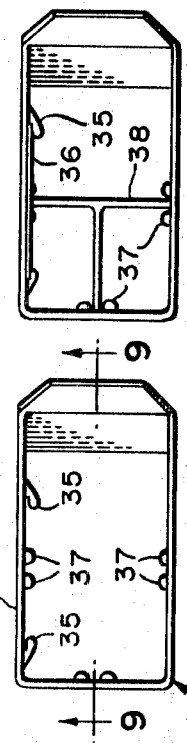
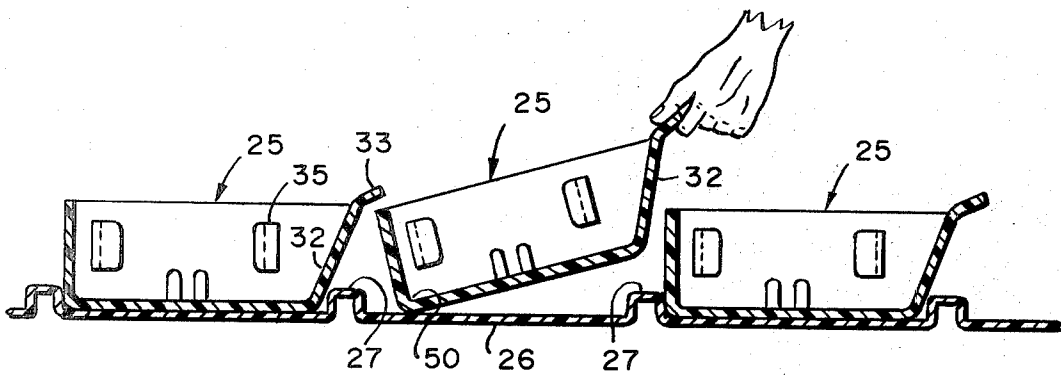
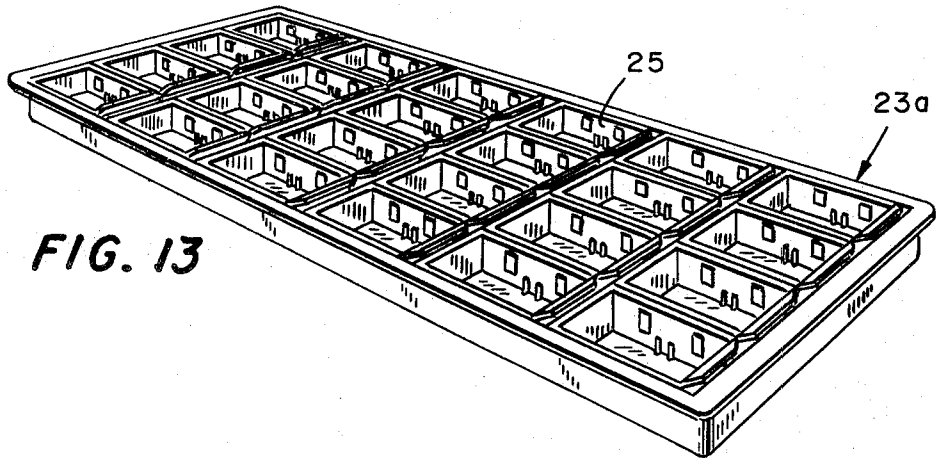


FIG. 11

FIG. 12



MEDICINE TRAY FOR CABINET DRAWER**RELATED APPLICATION**

This is a continuation-in-part application of our co-pending application for "Medicine Tray for Cabinet Drawer", Ser. No. 109,823, filed Jan. 26, 1971, now U.S. Pat. No. 3,708,709.

BACKGROUND AND SUMMARY

In a hospital or nursing home, many types of medicine must be dispensed to many patients at intervals during the day and there is a great demand upon a nurse's time and accuracy in presenting the proper medicine to the proper patient each time and without touching the pills or other medicine. We have discovered that a plastic liner can be provided for the nurse's cart cabinet drawer and so fashioned and contoured as to provide support for patient and needle trays and wherein integral ribs in the structure not only make the thin plastic liner self-supporting so that it can be removed from the drawer, but also provides the necessary retaining means for the patient and needle trays.

Other features and advantages of the present invention will be apparent to persons skilled in the art from the following detailed description of a preferred embodiment accompanied by the attached drawing wherein identical reference numerals will refer to like parts in the various views.

THE DRAWING

In the accompanying drawings,

FIG. 1 is a front perspective view of a nurse's prescription cabinet cart shown in closed position and ready to be wheeled down the patient corridor;

FIG. 2, a similar perspective view of the cabinet with one drawer open and the plastic liner tray shown being removed or replaced;

FIG. 3, a perspective view of the liner tray and patient and needle trays;

FIG. 4, an exploded perspective view of the structure shown in FIG. 3, the liner tray being empty and the other trays shown in separated relation;

FIG. 5, a longitudinal sectional view of the liner tray, the section being taken as indicated at line 5-5 of FIGS. 4 and 6;

FIG. 6, a sectional view, the section being taken at line 6-6 of FIG. 5;

FIG. 7, a sectional view across the ends of the tray, the section being taken as indicated at line 7-7 of FIG. 5 and showing the limiting stops or ribs for preventing sliding of the needle tray while the cabinet cart is in motion;

FIG. 8, a longitudinal sectional view of the hypodermic needle tray, the section being taken as indicated at line 8-8 of FIG. 4 and showing the serrated or saw-toothed contour of the tray bottom, designed to hold several hypodermic needles in place without permitting movement of the needles during the movement of the cabinet cart;

FIG. 9, a longitudinal sectional view of the patient tray, the section being taken at line 9-9 of FIGS. 4 and 11 and showing the back half of the empty tray;

FIG. 10, a sectional view similar to that shown in FIG. 9 but showing the patient identification card in the card holder and the pill dosage dividers in place;

FIG. 11, a top plan view of the empty patient tray;

FIG. 12, a view similar to FIG. 11 but showing the patient identification card and the divider in place;

FIG. 13 is a perspective view of a modification of the invention showing only patient trays in the liner tray; and

FIG. 14 is a cross sectional view taken transversely of the patient trays showing the removal of the patient trays from a liner tray.

DETAILED DESCRIPTION

By way of general description, we have provided for use with a cabinet drawer a removable plastic liner tray having integral side walls and a bottom wall with raised ribs reinforcing the bottom wall and providing patient tray compartments, together with individual patient trays which fit within the compartments and having side wall ribs for retaining patient identification cards. The liner tray is also provided at one end with a needle tray having saw-toothed or V-shaped receptacles for receiving hypodermic needles, etc. The liner drawer structure may be formed from any suitable plastic, and preferably in a vacuum-drawing apparatus in which the plastic is drawn within a mold to provide upwardly-raised ribs that not only make the thin plastic bottom sturdy but also serve to hold or locate the patient and needle trays, etc. within the liner tray. The plastic may be a resin plastic, such as polyethylene or polypropylene, or any other suitable type of plastic.

Referring specifically to the drawings, the cabinet cart 20 has several prescription dispensing drawers 21, each with a key lock 22.

Each drawer has a plastic drawer liner tray 23 which holds one plastic hypodermic needle tray 24 and several individual plastic patient trays 25.

The drawer liner tray 23 has a distorted bottom 26 which is raised in several places to form patient tray ribs or separations 27, a wide separation or rib 28 between the last row of patient trays 25 and the hypodermic needle tray 24, and two stops 29 to prevent the hypodermic tray 24 from sliding across the end of the liner tray 23 while the cabinet cart 20 is in motion.

The hypodermic tray 24 has a saw-tooth shaped bottom 30 with a slight flat portion 31 between each rise for easy cleaning. This drastically raised bottom portion 30 holds each hypodermic needle firmly, and prevents it from rolling and coming into contact with the others, which would cause confusion, if not damage.

The plastic individual patient tray 25 is rectangular in shape, making the best usage of the space allotted to it.

The right wall 32 is upwardly and outwardly inclined, as illustrated; and it is provided at its top edge with a finger grip 33 which rises obliquely as it projects above the sides of the surrounding trays for easy gripping and raising. The back wall 34 of the tray 25 has two oblique projections 35 for holding the individual patient identification card 36. The tray also has three sets of projections 37 which serve as supports for holding a tray divider 38 in place.

Referring now to FIG. 14, it can be seen that the finger grip or handle is easily accessible by a person even though the trays are in closely stacked relation so as to conserve space. Further, a person does not obscure the reading of the patient cards held in the holder 35 while removing one of the patient trays 25. It will also be observed that the inclination of the oblique wall 32 facilitates removal of a patient tray by rotation about the di-

agonally opposite lower edge, designated by reference numeral 50 in FIG. 14.

As can be seen in FIGS. 5 through 12, all corners are slightly rounded which not only makes the trays easier to manufacture but makes them easier to keep clean.

Turning now to FIG. 13, there is shown a modification wherein the liner is designated 23a, and it is provided only with the parallel narrow ribs 27 so as to accommodate 24 separate patient trays 25, identical to those already described. For certain operations, it is desirable to use a liner such as this without having space for the hypodermic needle trays, as previously disclosed.

By way of illustration, the specific plastic tray and cart structure shown may be used for 48 patients with the day's pill prescriptions for the patients counted out and placed in the 48 plastic patient trays, and 24 hypodermic needles can be filled and placed in three hypodermic trays at one time, thus filling the three drawers shown in FIGS. 1 and 2. The cabinet cart is ready to be pushed down the corridor for the distribution of the contents. The stops or ribs 30 prevent movement of the needles as the cart is pushed down the corridor, while the raised segments and side wall of the liner tray prevent sideways movement of the needle tray, and such sideways movement of the patient trays is also prevented by the raised ribs.

The patient trays have an inclined wall on one side so that the tray can be drawn over other trays and over the ribs, and the side wall is further extended to provide an oblique finger grip for the separation of the patient trays. With the rounded or inclined side wall and the finger grip, the nurse can readily slide the pill or other medication from the tray onto the patient's table or into the patient's hand. The identification card holder on each tray enables both the nurse and the patient to make sure that there is no mistake in the dispensing of the medicine.

With the plastic liner structure, the medication prescriptions can be made up and the trays locked inside the cabinet until time for dispensing them, while also keeping the medication dust-free and in a germ-free environment. The patient tray can be divided into sepa-

rate compartments when it is desired by the use of the dividers and the retainer ribs on the sides of the tray, and the resilient plastic material prevents breaking or chipping if the tray should be accidentally dropped, etc. The light plastic liner tray can be readily removed for filling and for any other use, and the raised rib structure provided renders the relatively large tray self-supporting and useful as a carrier of the contents.

While in the foregoing specification we have set out specific structure in considerable detail for the purpose of illustrating embodiments of the invention, it will be understood that such details may be varied widely by those skilled in the art without departing from the spirit of our invention.

We claim:

1. In combination, a mobile cabinet having a plurality of lockable drawers; a removable plastic liner tray received in each of said drawers and having integral perimeter side walls and a bottom wall, said tray being elongated in a first direction and including a plurality of parallel ribs in the bottom thereof, extending across the width of said tray and spaced apart to receive a plurality of patient trays in side-by-side relation; and a plurality of individual patient trays having a generally rectangular horizontal cross section with rounded corners and each adapted to be received within said sections of said liner tray to rest on the bottom thereof, each patient tray having a bottom, three upright side walls and an inclined side wall extending upwardly and outwardly from the bottom thereof and located adjacent a narrow rib when said patient trays are placed side by side in said sections of said liner tray to facilitate removal of said patient trays by rotation about the lower edge of the side wall opposing said inclined side wall without interfering with one of said ribs or an adjacent patient tray, each patient tray further including an upwardly and outwardly projecting flange forming a finger grip at the upper edge of the inclined side wall thereof to facilitate grasping of said tray when a plurality of said patient trays are aligned within said sections of said plastic liner tray.

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