April 1, 1952 G. E. LUNDINE 2,591,172

CABINET

Filed April 15, 1947 3 Sheets-Sheet 1

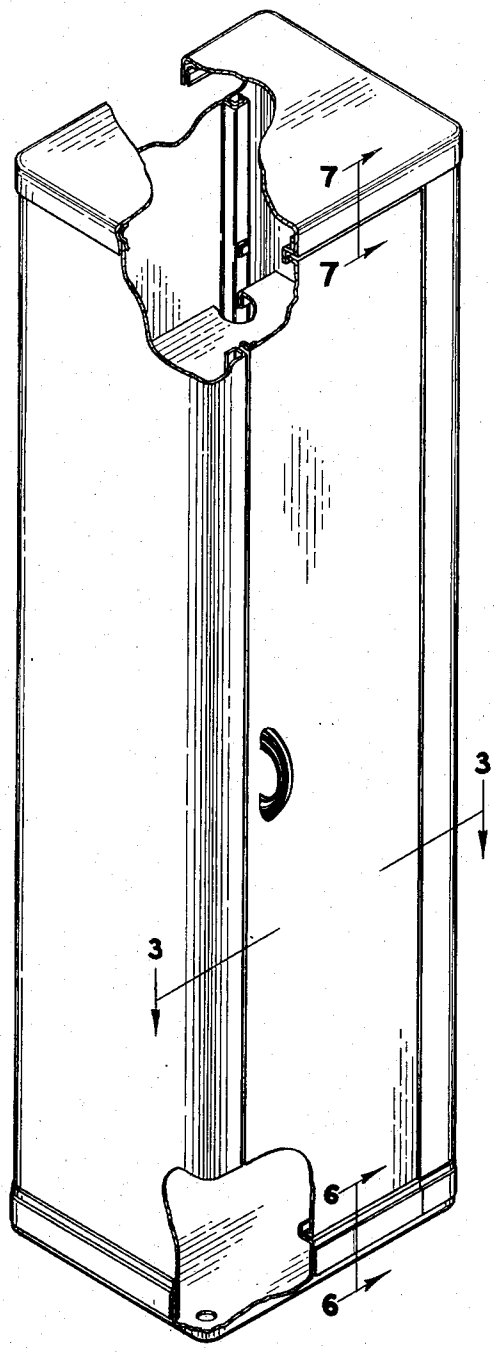


Fig. 1

Inventor
G. Elving Lundine
By Richmond B. Hayes
Attorney

April 1, 1952 G. E. LUNDINE 2,591,172

CABINET

Filed April 15, 1947 3 Sheets-Sheet 2

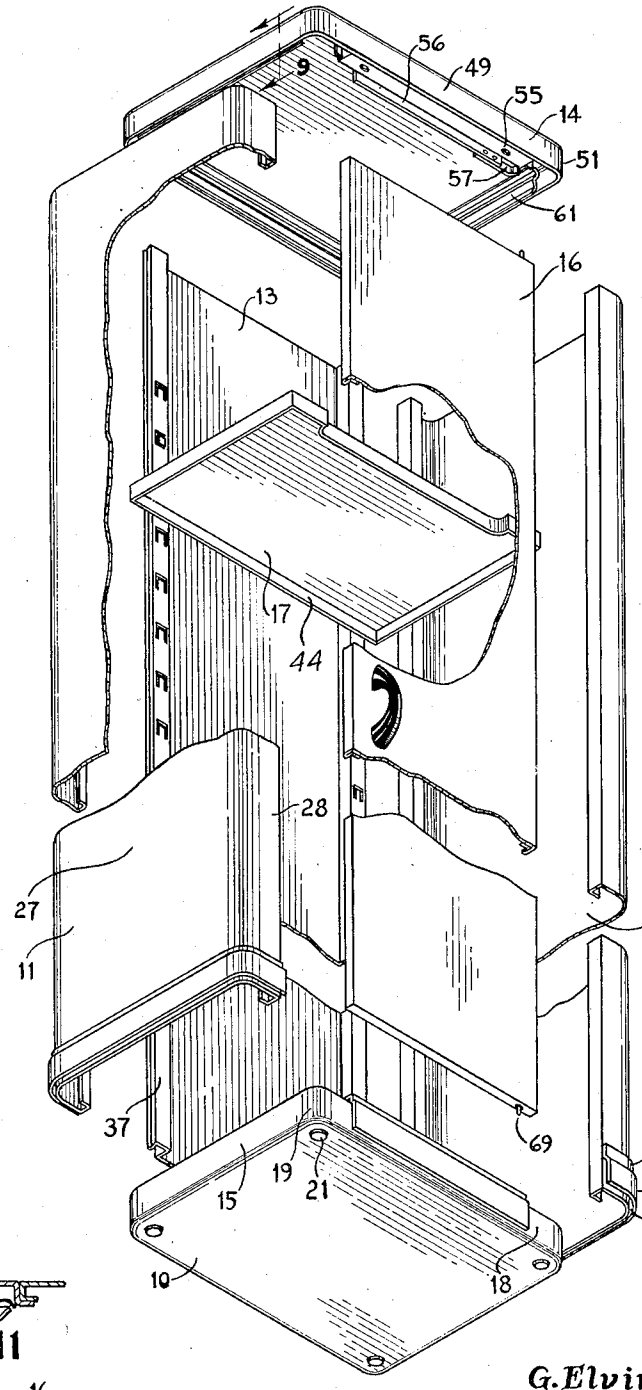


Fig. 2

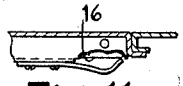


Fig. 11

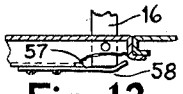


Fig. 12

Inventor

G. Elving Lundine

By

Richmond S. Hayes

Attorney

April 1, 1952 G. E. LUNDINE 2,591,172

CABINET

Filed April 15, 1947 3 Sheets-Sheet 3

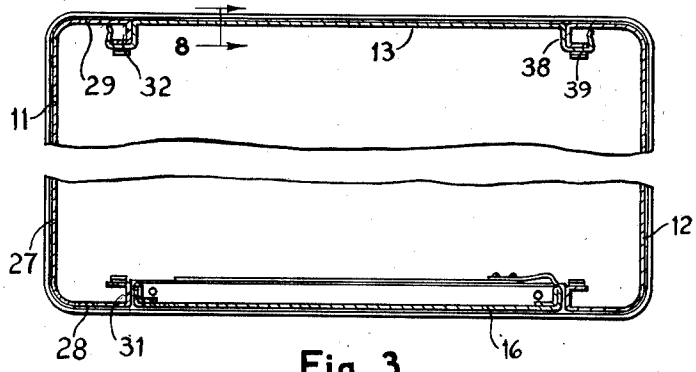


Fig. 3

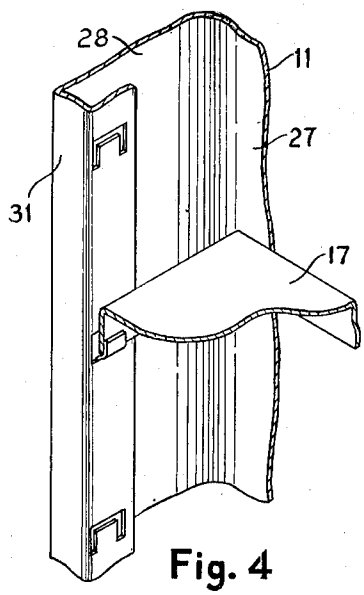


Fig. 4

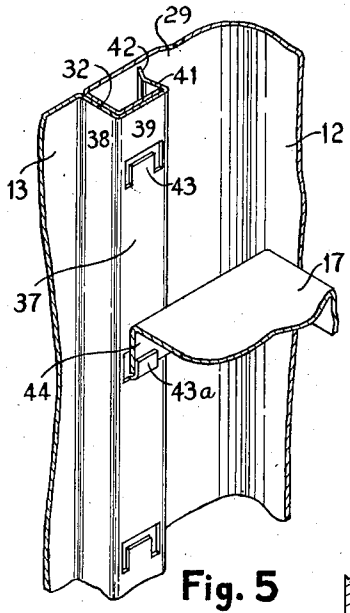


Fig. 5

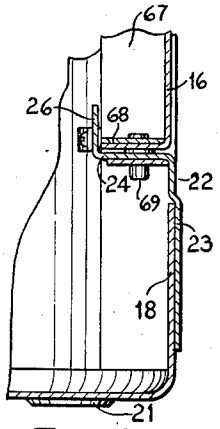


Fig. 6

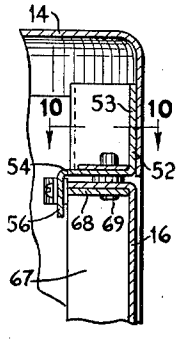


Fig. 7

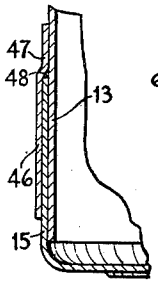


Fig. 8

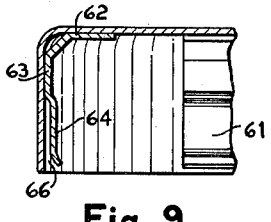


Fig. 9

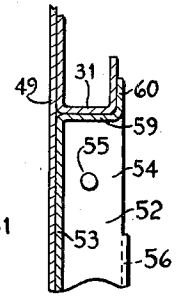


Fig. 10

Inventor

G. Elving Lundine

By *Richmond S. Hayes*

Attorney

Patented Apr. 1, 1952 2,591,172

UNITED STATES PATENT OFFICE

2,591,172

CABINET

Gustav Elving Lundine, Jamestown, N. Y., assignor to Jamestown Steel Partitions, Inc., Falconer, N. Y., a corporation of New York

Application April 15, 1947, Serial No. 741,568

5 Claims. (Cl. 312—263)

1

This invention relates to improvements in a cabinet and more particularly to a cabinet having a number of shelves adapted for the storage of articles, and a door movable into a position to close the access opening thereof.

More specifically the invention is directed to the provision of a utility cabinet of such proportions and construction as to lend itself as a storage container for such relatively small articles as food products, cleaning equipment, tools, etc., and to this end it is an important object of the invention to provide a cabinet that is inexpensive to manufacture and sufficiently rugged to stand alone and thus be locatable at any spot the user thereof may find most suitable.

It is another important object of the invention to provide a storage cabinet constructed from very few, easily assembled parts.

Another object of the invention lies in the provision of a storage cabinet constructed from parts that may be assembled without the aid of special tools or other equipment and which thus lends itself to being packed and shipped to the place of use in a knocked down condition.

A further object of the invention lies in the provision of a storage cabinet constructed from parts that are either identical, or so related as to facilitate their being interchanged, substituted, or reversed.

A further object of the invention lies in the provision of a storage cabinet constructed from parts that enable the assembly of a cabinet with the optional location of a number of shelves, as well as the optional swing of the door that closes the access opening.

A still further object of the invention lies in the provision of a storage cabinet that is assembled from parts having such interfitting relationship as to produce a strong, rigid, self-sustaining, and attractive appearing structure.

Other objects and advantages of the invention will be more fully understood from a consideration of the following specification, taken in conjunction with the accompanying drawings; and in which

Fig. 1 is a perspective view of a storage cabinet embodying one form of the invention, parts being broken away and sectioned to disclose certain of the structural details;

Fig. 2 is an exploded perspective view of the cabinet shown in Fig. 1, parts being broken away to show certain of the structural and assembly details;

Fig. 3 is an enlarged horizontal sectional view taken substantially on the line 3—3 of Fig. 1;

Fig. 4 is a greatly enlarged fragmentary perspective view showing the manner of engaging a shelf with the front portion of one of the cabinet side walls;

Fig. 5 is an enlarged fragmentary perspective view showing the manner of engaging a shelf with the rear cabinet wall;

Fig. 6 is an enlarged fragmentary vertical sectional view of structure that includes the lower

2

pivot for the cabinet door, being taken substantially on the line 6—6 of Fig. 1;

Fig. 7 is an enlarged fragmentary vertical sectional view of structure that includes the upper pivot for the door, being taken substantially on the line 7—7 of Fig. 1.

Fig. 8 is an enlarged fragmentary vertical sectional view, being taken substantially on the line 8—8 of Fig. 3;

Fig. 9 is an enlarged fragmentary vertical sectional view taken substantially on the line 9—9 of Fig. 2;

Fig. 10 is a fragmentary horizontal sectional view taken substantially on the line 10—10 of Fig. 7;

Fig. 11 is a fragmentary view, partly in section, showing means for springing the cabinet door into a closed position; and

Fig. 12 is a view similar to Fig. 11 showing the means springing the cabinet door into open position.

Referring more particularly to the drawings, a cabinet embodying the invention is shown to comprise a base 10, side walls 11 and 12, rear wall 13, top 14, door 16, and one or more shelves 17. The base 10 may be formed from a single sheet of metal to have upstanding sides 15 with integral, rounded, meeting edges such as the corners 19. Stamped into the bottom of the base may be four shallow lugs 21 that serve to slightly elevate the base from the floor or the surface on which it is mounted. Fitted to the front wall 18, and extending the full width of the cabinet access opening, as defined by the side walls 11 and 12, is a sill plate 22. This plate, for convenience of assembly, includes a vertical flange 23 that is permanently attached to the exterior face of wall 18. Above the upper edge of the wall 18 the flange is offset inwardly into the same plane as said wall and then bent into a horizontal sill 24. From the rear edge of the sill 24 is an upstanding door-strike flange 26.

The side walls 11 and 12 are identical reversed parts of the structure and, therefore, only one will be described in detail, it being understood that the identifying reference numerals will apply to the corresponding parts of both walls. The wall 11 comprises a flat panel 27 that terminates along its vertical edges in right angle flanges 28 and 29. Flange 28 forms a shallow or short front panel, and flange 29 becomes a portion of the rear wall of the cabinet. Each of these flanges has a spaced, return-bent flange by which to form edge reinforcing channels 31 and 32 that will lie within the cabinet when the various parts are assembled. Channel 31 constitutes one vertical wall of the access opening of the cabinet. The lower edge of each of the walls 11 and 12 is provided with a finish strip 33 that is attached along its flange 34 somewhat above the lower edge of the wall. Below the flange 34, the strip is laterally offset to provide a narrow vertical opening 36, formed jointly by the strip and the lower portion of the wall. Of course, each of the finish

strips for the side walls extends completely across the panels 27 to the edges of the front and rear flanges 28 and 29. It will be noted that these strips, when the cabinet is assembled, are in the same plane with the flange 23 of the sill plate 22.

The rear wall 13 of the cabinet terminates along its vertical edges in inwardly set channels 37. Each of these channels includes flanges 38, 39, and 41. The first two mentioned flanges are plain surfaced. However, flange 41 is bent slightly inwardly toward flange 38 and terminates in a lip 42. The disposition of flange 41 somewhat narrows the mouth of the channel opening and this flange acts as a spring clip to hold two walls of the channel 32 in place. At suitable intervals, flange 39 of the edge channel 37 is slotted to provide a plurality of free-ended tongues or tabs 43. These tabs may be bent inwardly of the cabinet from the plane of flange 39, as suggested at 43a (Fig. 5) to provide a seat for one of the depending flanges 44 of the shelf 17. The lower edge of the wall 13 is fitted with a finish strip 46, similar to the strip 33. This strip is attached along an upper flange portion 47 and spaced from the wall to provide a narrow vertical recess 48. When the side and rear walls are assembled, the strips 33 and 46, together with flange 23 of the base, provide an attractive trim extending completely around the base 10.

The top 14 may be formed from a single sheet of metal to produce down-turned flanges 49 which meet in integral rounded corners 51. The flange 49 at the front of the cabinet mounts, on its inner face, a plate 52. Beneath the secured portion 53 of this plate is a horizontal flange 54 which includes end located apertures 55. A depending flange 56 serves as a stop for the door 16 at the top of the cabinet opening. As indicated in the drawing, the ends of this flange are cut away. A spring 57 is so located and attached to this flange that the free curved end 58 thereof projects into the cut away area beyond the end of the flange and, as hereinafter brought out, is intended to serve as a means for urging the door 16 into a fully opened or fully closed position. As indicated in Fig. 10, the ends of the portion 53 of plate 52 are formed with inwardly extending flanges 59 that terminate in short, right-angle flanges 60. Each pair of flanges 59 and 60, with a portion of the flange 49, provides a shallow channel in which to receive a portion of the channel 31 that defines the front vertical edges of the side walls 11 and 12. The side and rear flanges 49 of the top 14 are each provided with an elongated clip or securing bracket 61. Each of these brackets, as suggested in Fig. 9 of the drawing, may include securing flanges 62 and 63, joined respectively to the flat portion of the top and flange 49. Beneath flange 63, the bracket is spaced somewhat from the flange 49 of the top to serve as a spring clip 64. The space 66, between clip 64 and flange 49, is adapted to receive a substantial portion of the upper edge of the plane portions of the side walls 11 and 12 and rear wall 13 when the cabinet is all assembled.

All four edges of the door 16 may, as shown, terminate in inturned flanges 67. Corresponding top and bottom flanges, adjacent the pivotal edge, are fitted with reinforcing plates 68 that mount pivot pins 69. These pins are adapted to project through corresponding apertures 25 and 55, formed respectively in a flange of the sill plate 22 and a flange of the top plate 52.

One or more shelves 17 are adapted to be mounted in the cabinet, each consisting of a generally rectangular, article receiving area 71, from which depend reinforcing flanges. For convenience and appearance, the front edge of the area 71 is recessed, substantially as shown, to approximately the width of the door opening.

For a fuller understanding of the advantages of the invention, assembly of the various parts of the cabinet is set out as follows:

The base 10 is set on a flat surface and first one and then the other of the side walls 11 and 12 mounted thereon. In mounting these walls, it will be observed that the upstanding sides 15 of the base are adapted to be received in the narrow opening 36 provided along the lower edges of these walls. When the side walls have been moved downwardly onto the base to a point where they contact the body of the base, assembly of these parts is completed. It will now be noted that the exterior portion of the sill plate 22 bridges the gap between finish strips 33 to provide a continuous trim on three sides of the base. To mount the rear wall 13 it is first so positioned that the lower edge thereof is slightly above the rear flange 15 of the base and the channels 37 are aligned with channels 32 of the side walls. Channels 37 are now snapped into receiving engagement with channels 32. Of course, flanges 41 of the channels 37 serve as full length spring clips to prevent inadvertent lateral disengagement of these parts following assembly. The rear wall may now be forced downwardly to cause the narrow opening 48 to receive the upstanding rear wall 15 of the base. The rear wall is in position of assembly when it top edge is flush with the top edges of the side walls.

The top 14 is next assembled on the side and rear walls by so positioning it that the openings 66 between the clip 64 and flange 49 align with the top edges of the walls. The top is now forced downwardly onto these walls until the upper edges thereof contact the flat portion of the top. It will be noted at this point in the assembly of the cabinet that the side and rear walls may not become laterally displaced from each other by reason of the interfitting engagement therewith of the base 10 and top 14. Thus, the assembled structure, due to the spring action of the clips 64 of the top, the lower portions of the finish strips 33, and the spring action of the channel flanges 41, is extremely rigid and is capable of being handled fully as well as any other storage cabinet in which the parts are permanently joined in any well known manner.

To assemble the door, the front portion of the top 14 is raised from its previously assembled position to an extent to give clearance beneath the top plate 52 for the upper pivot pin 69. The lower door pin is first projected into the opening 25 and the door swung into a position such that when the top is again moved downwardly into fully assembled position, the upper pin will enter aperture 55. It will be observed that by reason of the free ends of springs 57 being exposed, they have pressure contact with the inner top and bottom edges of the door and, consequently, these springs serve to urge the door into fully closed position, wherein the top and bottom flanges thereof contact the door stops, or into ninety degree open position, wherein the inturned flange of the door strikes the edge of the cut out portion of the stop flanges 26 and 56. To mount one or more shelves 17, it is merely necessary to slightly bend inwardly correspondingly positioned tabs 43 in the channels 31 and 37. The edge flanges 44, when interfitted with these tabs, properly locate

the shelf. Inasmuch as many tabs 43 are provided, it is evident that not only any desired number of shelves may be mounted in the cabinet, but also that these shelves may be located as desired by a user for the storage of small or large articles.

Attention is directed to the fact that since both ends of the sill plate 22 and the top plate 52 are formed with identical pivot pin apertures, cut away portions, and locaters for springs, the door 16 may be mounted to operate either right or left handed. If it is desired to reverse the position of the door from that shown in the drawing, it is merely necessary to slightly raise the forward portion of the top 14 to enable removal of the door. Following this, springs 57 are changed from one to the other end of their respective plates. The door is then turned end for end, the lower pin 69 thereof projected into aperture 25 and the upper pin aligned with aperture 55. When the top 14 is again brought into full engagement with the side walls, the door will be secured to function properly from the opposite hand.

Although applicant has shown and described only one modification of the invention, it will be apparent that variations in the details of the structure may be made and are contemplated insofar as they are within the spirit and scope of the invention as set out in the annexed claims.

Having thus set forth my invention what I claim as new and for which I desire protection by Letters Patent is:

1. In a cabinet of the class described, side and rear panels, angularly disposed portions defining the front and rear edges of said side panels, complementary means on the edges of the rear portions and said rear panel adapted to interfit to form a continuous plane surfaced rear wall of said cabinet of greater width than said rear panel, a rectangular base adapted to be engaged by the bottom edges of said side and rear panels, a rectangular top having a continuous depending rim adapted to enclose the upper edges of said side and rear panels, the front portions cooperating with the front portions of the rims of said base and top to form an access opening, a door in said opening, and means carried by said base and top mounting said door for pivotal movement into opened or closed position.

2. In a cabinet of the class described, side and rear panels, angularly disposed portions defining the front and rear edges of said side panels, complementary interfitting channels extending inwardly from the edges of the rear portions of the side panels and the edges of said rear panel to provide a plane surfaced cabinet rear wall equal to the combined width of the rear side panel portions and said rear panel, a rectangular base adapted to be engaged by the bottom edges of said side and rear panels, a rectangular top having a continuous depending rim adapted to enclose the upper edges of said side and rear panels, the front portions cooperating with the front portions of the rims of said base and top to form an access opening, a door in said opening, means carried by said base and top mounting said door for pivotal movement, and spring means carried by said top operable to urge said door into fully opened or closed position.

3. In a cabinet of the class described, side and rear panels, angularly disposed portions defining the front and rear edges of said side panels, complementary interfitting channels extending inwardly from the edges of the rear portions of the side panels and the edges of said rear panel to provide a plane surfaced cabinet rear wall equal to the combined width of the rear portions of the side panels and said rear panel, a rectangular base having a continuous upstanding rim, finish strips secured to and cooperating with the lower edges of said side and rear panels to provide recesses in which to receive portions of the rim of said base, a rectangular top having a continuous depending rim adapted to enclose the upper edges of said side and rear panels, door stop flanges on the front rim portions of said base and said top, said flanges being set inwardly of the cabinet to provide stops adapted to locate a door flush with the front portions of said side panels, said front portions and said base and top cooperating to provide an access opening, a door in said opening, means carried by said base and top mounting said door for pivotal movement, and spring means carried by said top operable to urge said door into fully opened or closed position.

4. In a cabinet of the class described, side and rear panels, angularly disposed portions defining the front and rear edges of said side panels, complementary interfitting channels extending inwardly from the edges of the rear portions of the side panels and the edges of said rear panel to provide a plane surfaced cabinet rear wall equal to the combined width of the rear portions of the side panels and said rear panel, a rectangular base having a continuous upstanding rim adapted to be enclosed by the lower edges of said side and rear panels, a rectangular top having a continuous depending rim adapted to enclose the upper edges of said side and rear panels, the front panel portions cooperating with the front rim portions of said base and top to define an access opening, shelf mounting means formed in the channels of the front and rear portions of said side panels, and a shelf having flanges engageable with said mounting means.

5. In a cabinet of the class described, side and rear panels, flanges on the rear edges of said side panels cooperating with said rear panel to form a continuous plane surfaced rear wall, complementary means on said flanges and the edges of the rear panel adapted to interfit to secure said side and rear panels in a position to form said plane surfaced rear wall, a rectangular base having a continuous upstanding rim for enclosing the bottom edges of said side and rear panels, a rectangular top having a continuous depending rim for enclosing the upper edges of said side and rear panels, said base and top, when assembled with said side and rear panels, serving to secure the complementary means and prevent relative displacement of all of said panels.

GUSTAV ELVING LUNDINE.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
646,191	Pope	Mar. 27, 1900
1,729,268	Henderson	Sept. 24, 1929
2,014,554	Bulthuis	Sept. 17, 1935
2,222,258	Haveles	Nov. 19, 1940
2,424,217	Bales	July 22, 1947
2,443,515	Rockwell	June 15, 1948
2,486,548	Blazey	Nov. 1, 1949