Oct. 27, 1964 W. G. LEWIS ETAL 3,154,356

PAPER CATCH TRAY

Filed Sept. 9, 1963 3 Sheets-Sheet 1

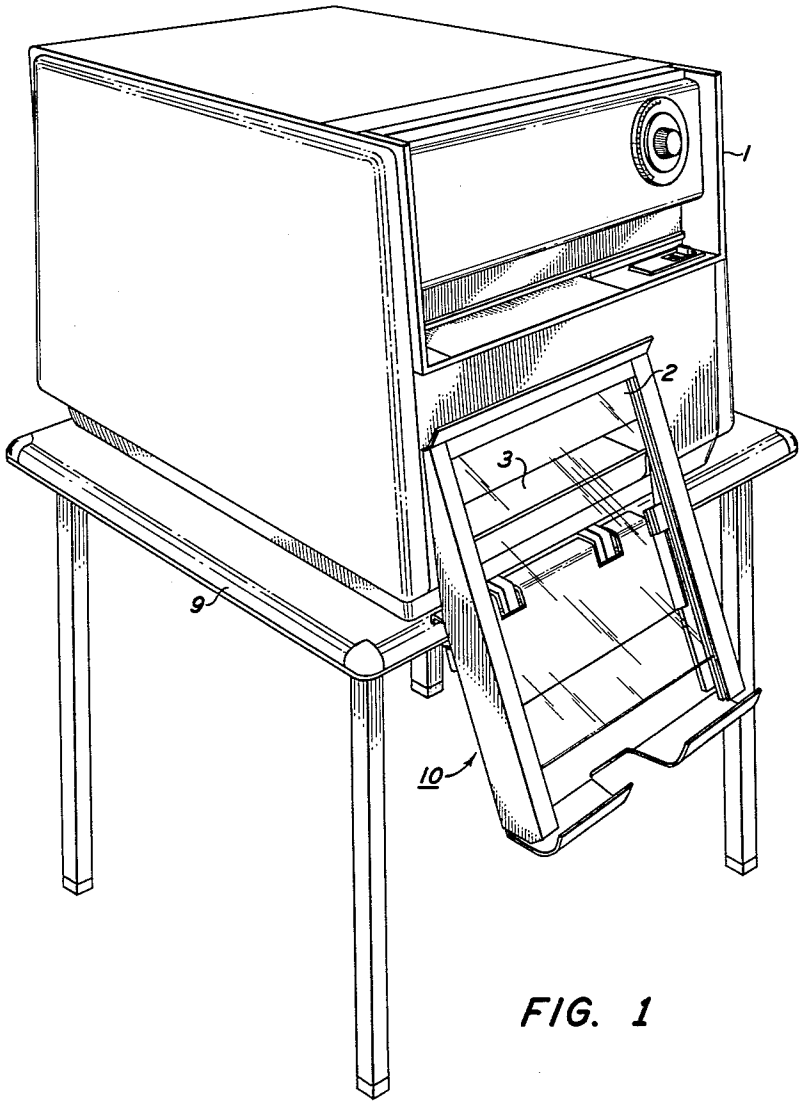


FIG. 1

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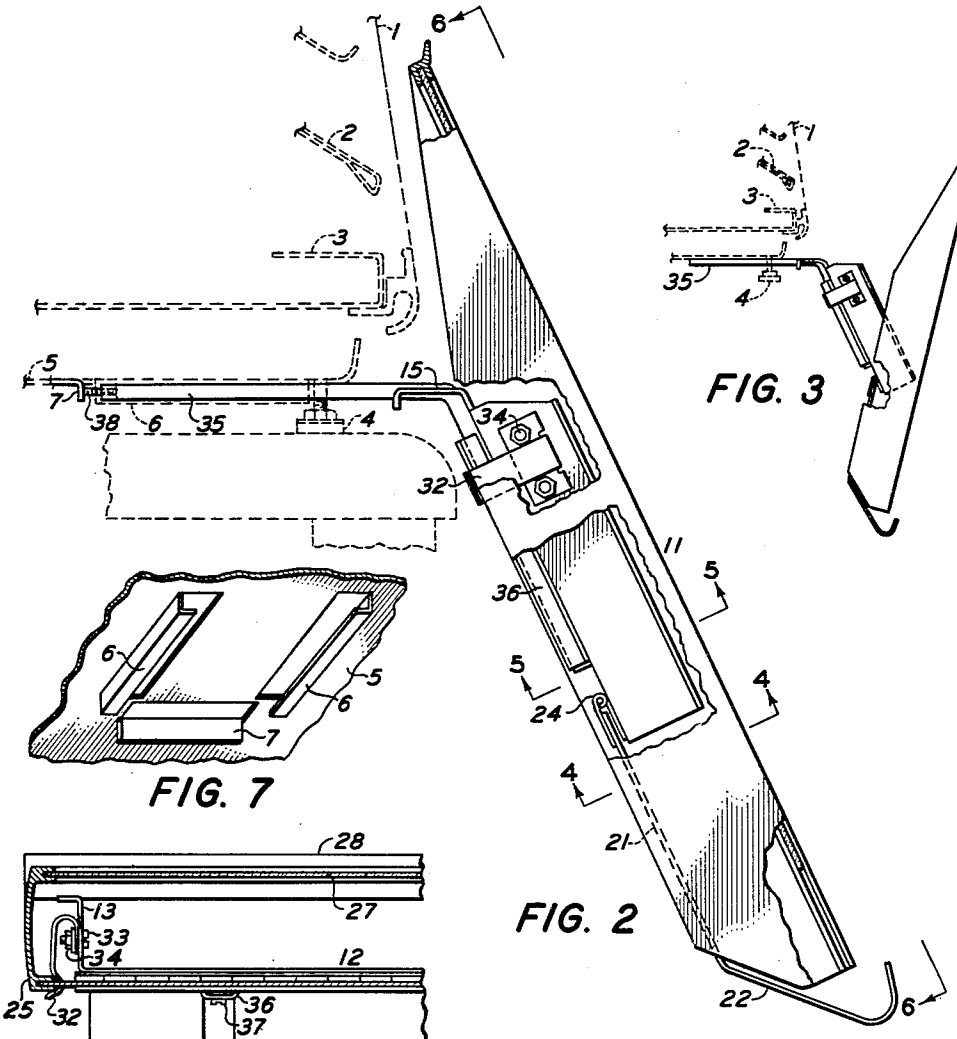


FIG. 2

FIG. 3

FIG. 7

FIG. 4

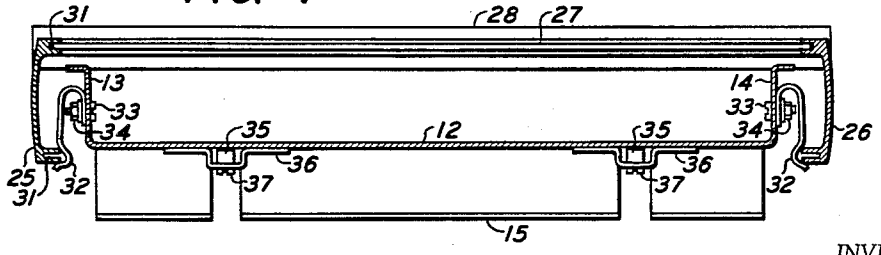


FIG. 5

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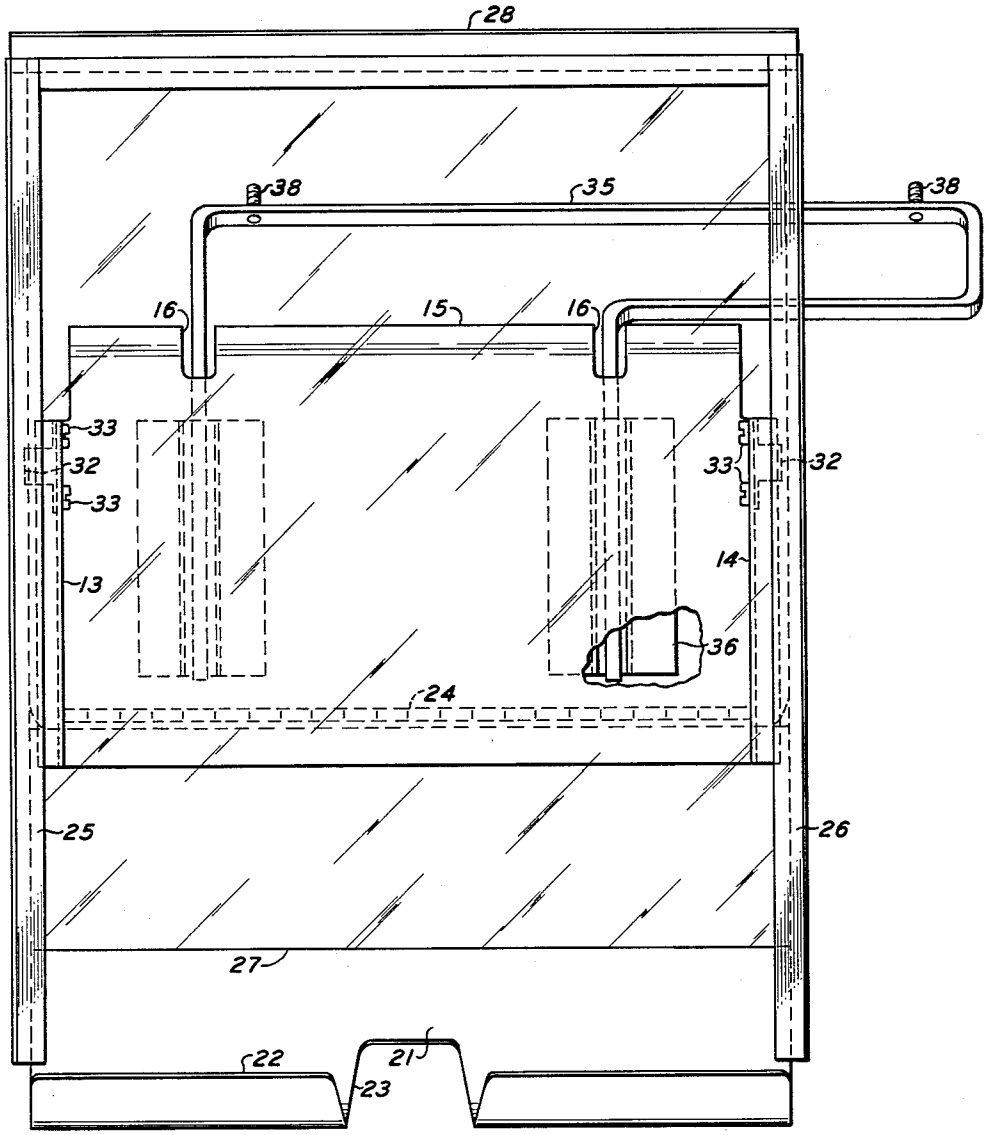


FIG. 6

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PAPER CATCH TRAY

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2 Claims. (Cl. 312—60)

This invention relates to a paper receptacle, and in particular, to a catch tray for receiving sheets of paper discharged from a xerographic reproducing apparatus.

More specifically, this invention relates to a paper catch tray adapted to be mounted on a xerographic reproducing apparatus to receive documents and reproductions discharged from the xerographic reproducing apparatus.

A number of modern day copiers are constructed to permit them to be placed on a table or desk. These copiers are commonly referred to as desk copiers, although it is apparent that they may also be mounted on a suitable table, cabinet, or small stand. One such type of copier is disclosed in Eichorn et al. Patent 3,099,943, issued August 6, 1963. In this application there is disclosed a desk top xerographic reproducing apparatus capable of making single reproductions of successive documents or multiple reproductions of a document. In the particular apparatus disclosed in the above referred to Eichorn et al patent, both the original document and the reproductions are discharged from the front of the machine. To limit the size of the xerographic reproducing apparatus, no catch tray or other suitable receptacle is formed as an integral part of the xerographic reproducing apparatus.

It is therefore the principle of this invention to improve paper catch trays for use in receiving documents and reproductions discharged from a xerographic reproducing apparatus or similar type reproducing machine.

Another object of this invention is to improve paper catch trays for use on xerographic reproducing apparatus, the paper catch tray being readily detachable from the xerographic apparatus and being suitable for an operator to take paper out from either the top or bottom of the paper catch tray.

For a better understanding of the invention, as well as other objects and further features thereof, reference is had to the following detailed descriptions of the invention to be read in connection with the accompanying drawings, wherein:

FIG. 1 is a perspective view of a xerographic reproducing apparatus positioned on a table with a paper catch tray, constructed in accordance with the invention, mounted on the xerographic reproducing apparatus;

FIG. 2 is a left-hand side view of the paper catch tray of the invention, with parts broken away to show details of construction of various elements of the paper catch tray, the paper catch tray being mounted in position to receive documents and reproductions discharged from the xerographic apparatus, which is shown in outline only;

FIG. 3 is a view similar to FIG. 2 but with the paper catch tray opened for removal of sheets of paper from the top thereof;

FIG. 4 is a broken off sectional view taken along line 4—4 of FIG. 2;

FIG. 5 is a sectional view taken along line 5—5 of FIG. 2;

FIG. 6 is a view taken in the direction of line 6—6 of FIG. 2; and,

FIG. 7 is a perspective view of the underside portion of the xerographic reproducing apparatus of FIG. 1.

As shown in FIGS. 1 and 2, a paper catch tray, constructed in accordance with the invention, is releasably mounted on a desk type xerographic reproducing apparatus 1 positioned on top of a small table, such as a card table 9. As usual in desk type equipment, the xerographic apparatus shown is provided with adjustable support legs 4, suitably secured, as to the base 5 of the xerographic reproducing apparatus.

The paper catch tray, generally referred to by reference character 10, is mounted in position on the front of the xerographic apparatus in position to receive documents discharged through guide 2 and to receive reproductions discharged across guide 3 of the apparatus. The paper catch tray overhangs the edge of the card table thereby permitting the xerographic reproducing apparatus to be located adjacent to an edge of the card table for operator convenience.

The paper catch tray 10 includes a hanger panel, generally referred to by reference character 11, which consists of a base 12 terminating at its side in upright side plates 13 and 14, and at its upper edge in a deflector plate 15, the major portion of which is bent over, so that, when the paper catch tray is mounted on the xerographic apparatus, the major portion of the deflector plate is in a plane substantially parallel to the bottom of the xerographic reproducing apparatus and the top of the card table. The deflector plate 15 is also provided with cutout portions 16 for a purpose to be described.

To retain paper discharged into the paper catch tray, there is provided a chute 21 which is pivotally secured to the bottom and underside surface of the base 12 by means of a flap hinge 24. The flap hinge 24 extends substantially across the full width of the base. The chute 21, which is wider than the hanger panel, for a purpose to be described, terminates at the opposite end from which it is secured to a flap or flap hinge 24, as by welding, in a curved end wall 22 or paper retainer which partly closes the bottom of the paper catch tray.

The chute 21 supports a window and frame assembly which consists of a left-hand frame 25, a right-hand frame 26, a window 27 and an edge trim 28. As shown in FIGS. 4 and 5, the left-hand frame 25, formed in the embodiment disclosed of an aluminum extrusion, is substantially C-shaped, each of the leg extensions of the frame having a longitudinally formed slot 31 therein. The slot of the bottom leg extension of the left-hand frame 25 is adapted to receive the left-hand portion of the chute 21, after which the chute is swaged set to this frame. The right-hand frame 26 is formed complementary to the left-hand frame 25 and is secured to the opposite side of chute 21 in a similar manner. Since the chute 21 is wider than the hanger panel 11, the left-hand frame 25 and right-hand frame 26 are supported outboard of the upright side plates 13 and 14 and out of interference therewith.

The window 27, made of glass or other suitable material, and the trim 28 are also swaged to the upper leg extension of the left-hand frame 25 and right-hand frame 26 and to each other. The trim 28 is provided with a slot to receive one end of the window, as shown in FIG. 2. The surfaces of the left-hand frame and right-hand frame which contact the chute and the surfaces of these frames and the surfaces of the trim which engage the window are provided with serration to facilitate bonding of these elements together during swaging.

This assembly of the chute, and window and frame assembly, is normally maintained in a paper receiving position, as shown in FIG. 2, by means of spring latches 32. The spring latches are secured outboard of the side plates 13 and 14 of the hanger panel by screws 33 extending through the side plates and one end of the spring latches to receive nuts 34. The free end of each of the spring latches is curved to slidably receive and engage the bottom leg extensions of the frames 25 and 26.

The paper catch tray is supported on the exterior of the xerographic reproducing apparatus by a hanger yoke **35**. The unjoined ends of the hanger yoke **35** are received in channel members **36**, secured, as by welding, in spaced relation to each other on the underside of base **12** of the hanger panel **11**. Screws **37** extending through suitable apertures in the channel are threaded into the hanger yoke **35**.

The bottom of the base **5** of the xerographic reproducing apparatus is deformed to provide two depending L-shaped yoke supports **6** and a depending yoke stop **7**. The L-shaped yoke supports **6** are adapted to receive opposite sides of the free end of the hanger yoke, whereby the entire paper catch tray assembly is releasably secured to the xerographic reproducing apparatus. The rear free end of the hanger yoke **35** is threaded to receive adjusting screws **38** which butt against the depending yoke stop **7** when the paper catch tray is mounted on xerographic reproducing apparatus. With this arrangement, the paper catch tray can readily be removed from the xerographic reproducing apparatus. As previously described, the deflector plate **15** is provided with cut-out portions to permit mounting of the hanger yoke **35** to the hanger panel **11**.

Referring again to the chute **21**, this chute is formed with a curved end wall **22**, which substantially curves back upon itself to partly close the container formed by the straight portion of the chute, left-hand frame **25**, right-hand frame **26**, and window **27**. As seen in FIGS. 2 and 6, the window **27** does not extend downwardly the full length of the frames **25** and **26**. As shown, the bottom edge of the window terminates at a position above the curved end wall **22** of chute **21**. The curved end wall **22** of the chute **21** is provided with a deep notch or cutout **23** at its front edge, the notch extending rearwardly below the stack which would be discharged into the paper catch tray so that an operator may insert her fingers into the notch below the stack to withdraw the stack. This arrangement provides a suitable egress opening at the bottom of the paper catch tray to permit an operator to remove a stack of documents and reproductions from the bottom of the paper catch tray. This is a suitable egress opening for the removal of a small stack of papers deposited in the paper catch tray.

However, if the stack of sheets discharged into the paper catch tray is sufficiently large, the entire window frame and chute assembly can be moved to the position shown in FIG. 3 to permit emptying of the paper catch tray from the top. This is readily accomplished by a slight pull forward of the assembly to disengage it from the spring latches **32** whereby this assembly will rotate to the position shown in FIG. 3.

Preferably, as shown, the chute and the window are mounted in substantially parallel relation to each other so that the movable back wall of the paper catch tray is parallel to the window when the paper catch tray is in its operative or sheet receiving position, shown in FIG. 2. As seen in this figure, the hanger yoke is bent at an angle to position the hanger panel and therefore the window is in an inclined plane. In this position, the inside surface of the window is used as a sheet guide to deflect a sheet downward against the chute to allow the sheet to

fall onto the chute and hanger panel or against sheets already accumulated thereon.

While the invention has been described with reference to the structure disclosed herein, it is not confined to the details set forth, and this application is intended to cover such modifications or changes as may come within the purpose or the scope of the following claims.

What is claimed is:

1. A paper receptacle for use on a desk type reproducing apparatus having discharge openings on the front thereof through which documents and reproductions are discharged, the paper receptacle including

a hanger panel,

means connected to said hanger panel and adapted to be attached to the reproducing apparatus for supporting said hanger panel below the discharge opening on the reproducing apparatus,

a chute pivotally attached at one end thereof to the bottom of said hanger panel the opposite end of said chute terminating in a curved paper retainer portion,

a window and frame means secured to said chute to form with said chute and said hanger panel an enclosure for paper, said hanger panel and said chute forming a movable back wall of said enclosure, and

spring catch means connected to said hanger panel to releasably secure said window and frame means to thereby position said chute in a common plane with said hanger panel.

2. A paper receptacle for use on a desk type reproducing apparatus having at least one discharge opening on the front thereof through which sheets of paper are discharged, the paper receptacle including

a hanger panel,

means connected to said hanger panel and adapted to be attached to the reproducing apparatus for supporting said hanger panel below the discharge opening on the reproducing apparatus and at an inclined plane,

a chute pivotally attached at one end thereof to the bottom of said hanger panel the opposite end of said chute terminating in a curved paper retainer portion,

frame means secured to opposite sides of said chute,

a window secured to said frame means to form with said frame means, said chute and said hanger panel an enclosure for paper, the movable back wall of the enclosure being formed by said hanger panel and said chute, and

spring catch means connected to said hanger panel to releasably secure said window and frame means to position said chute in a common plane with said hanger panel whereby said window is positioned to guide sheets onto said chute.

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