Nov. 5, 1940. E. HANO 2,220,842

CONTINUOUS SHEET DUPLICATE FORM

Filed July 29, 1938

Fig. 1.

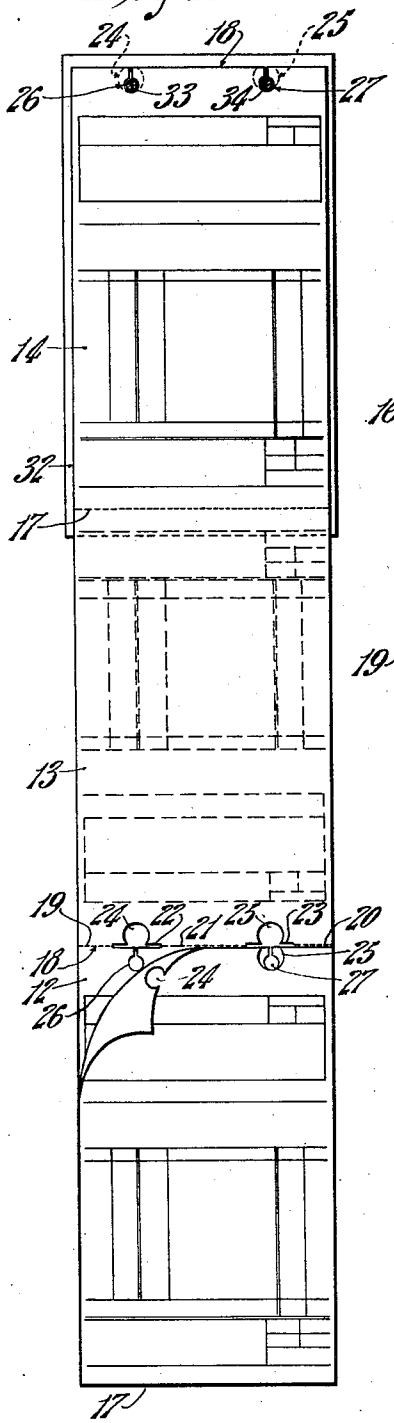


Fig. 2.

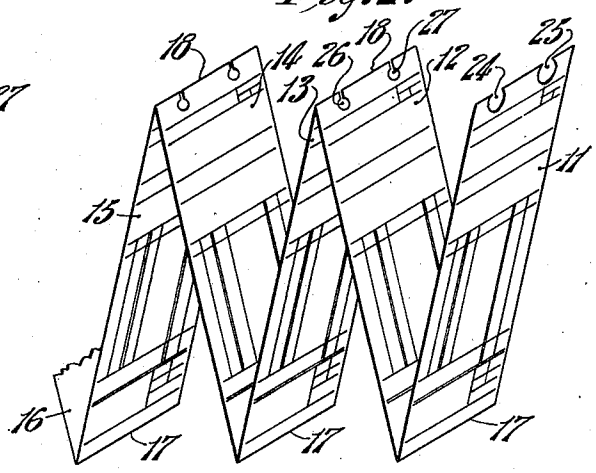


Fig. 3.

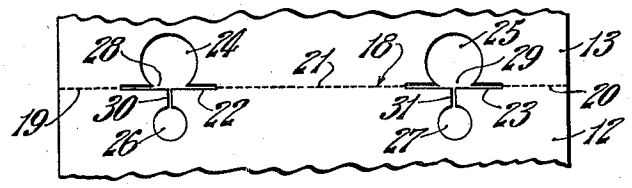
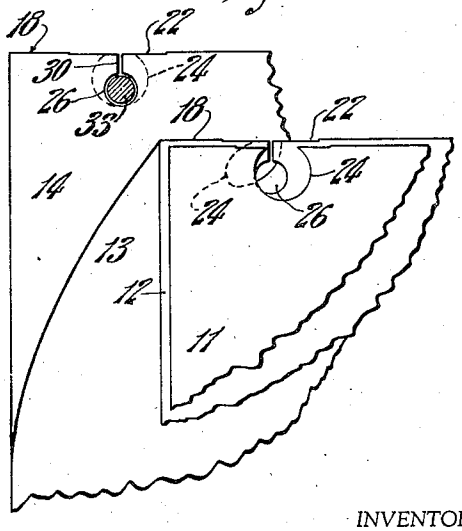


Fig. 4.



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Patented Nov. 5, 1940 2,220,842

UNITED STATES PATENT OFFICE

2,220,842

CONTINUOUS SHEET DUPLICATE FORM

Edward Hano, Holyoke, Mass.

Application July 29, 1938, Serial No. 222,033

1 Claim. (Cl. 282—12)

This invention relates to duplicating books such as the sales books commonly used by clerks in department stores where both the original and a carbon copy are required. More specifically the invention relates to fillers for use with a permanent cover or holder. The general type of device in which the invention is employed is shown and described in a patent issued to the present inventor on July 13, 1937, No. 2,087,144, to which reference is made for the purpose of showing the state of the prior art.

It is an object of the invention to provide a filler of the character described which will permit rapid manipulation by the user and which will also be of such a construction that the filler is retained by the cover throughout the use of the book without danger of slipping out of place.

More specifically the filler is of the type which comprises continuous duplicate forms having lines of weakness at their upper edges whereby successive pairs of forms may be separated from the rest of the strip of continuous forms and removed from the cover and which have openings or apertures near their upper edges, that is near the lines of weakness, through which the posts of the cover pass and whereby the filler is held in place in the cover. One of the undesirable features commonly encountered in such a construction is the tendency for the pairs of sheets to separate or tear apart along a path different from the line of weakness. This deviation is caused by the apertures or openings which provide an opportunity for the path of tearing to jump across the aperture and continue at the other side of the aperture along a path neither intended nor desired. It is therefore a further object of the invention to provide means for insuring the proper separation of the sheets even with the necessary apertures positioned near the edges. More specifically it is an object of the invention to modify the line of weakness for a substantial distance at each side of the aperture by slitting the paper or severing it completely so that there will be no tendency for the tear to deviate from the intended line of severance.

It is also an important object of the invention to provide a filler having the general characteristics and advantages already set forth which shall be inexpensive to manufacture and which can be sold at prices competitive with devices of the same general character but not having the advantages of the present invention.

The foregoing and other objects of the invention will readily appear to those skilled in the art to which it appertains by a consideration of the following description of one embodiment thereof taken in connection with the accompanying drawing in which

Fig. 1 is a plan view of a continuous duplicate form sales book showing three of the sheets withdrawn from the book preparatory to detaching two of them;

Fig. 2 is a perspective view of several of the sheets in zigzag folded arrangement preparatory to being placed in a holder;

Fig. 3 is a plan view to an enlarged scale showing the type of separation used at the top of the sheets; and

Fig. 4 is a plan view of the book drawn to an enlarged scale and shows the appearance of the sheets just after one set of the forms has been withdrawn from the holder and while the sheets are still not far from their original position in the holder.

Referring to the drawing more in detail the reference character 11 indicates the top sheet of a packet of forms and since it carries on its face the original copy of the record rather than a carbon copy it may hereinafter be referred to as an original form. The next form is designated by the reference character 12 and since its record is only a carbon copy or duplicate record it may hereinafter be referred to as a duplicate form or duplicate sheet. The original form 11 and the duplicate form 12 are joined together at their bottom edges. The next form or sheet is another orginal form 13 and is joined at its top edge to the duplicate form 12. The original form 13 is joined at its bottom edge to the bottom edge of its duplicate form 14. In like manner the top edge of sheet 14 is joined to the top edge of an original form 15 and the bottom edge of original form 15 is joined to the bottom edge of form 16 only a small part of which can be seen in Fig. 2.

The manner in which the different sheets or forms are joined together at their lower edges, the junction in each instance being indicated by the reference character 17, is by means of a line of weakness such as a series of perforations or a dash line which in this case extends uniformly from one side of the sheet to the other. The manner in which the tops of the different sheets are joined together, such junctions being indicated by the numeral 18, is somewhat different, there being a line of weakness at each edge indicated at 19 and 20 and also in the middle indicated at 21 with a slit extending between each side portion and the middle portion and indicated by the reference characters 22 and 23 respectively.

While, for the sake of clearness in the drawing, the slits 22 and 23 are shown as being of a very small but nevertheless of a very definite width it is to be understood that these slits may be merely a slitting or severing of the paper without actually removing any material or giving to the slit any definite width.

Both the original forms and the duplicate forms are provided at their upper edges with apertures for engagement with posts in the book or holder in which the packet of forms is carried. Each of the original forms 11, 13, 15, etc., is provided with an aperture 24 near its upper edge and near the left-hand edge of the form for engagement with the left-hand post of the holder and with an aperture 25 near the right-hand edge of the form for engagement with the right-hand post of the holder. Each of the duplicate forms is also provided near its upper edge with apertures 26 and 27, near the left-hand edge and near the right-hand edge of the form respectively.

It will be observed that the left-hand apertures 24 and 26 are positioned with their centers the same distance from the left-hand edge of the form as the middle of the left-hand slit 22. Similarly the right-hand apertures 25 and 27 are positioned with their centers the same distance from the right-hand edge of the form as the middle of the right-hand slit 23.

While the apertures in the original forms and the apertures in the duplicate forms are not just alike they both have the common characteristic of being directly connected with their respective slits so that they can be pulled away from the posts of the holder without the necessity of any tearing. The apertures 24 and 25, in the original forms, are somewhat larger in diameter than the apertures 26 and 27 and are positioned closer than tangential to the slits 22 and 23 respectively, i. e., the slit 22 cuts across the circular aperture 24 segmentally rather than touching it tangentially thereby leaving an opening 28 between the aperture 24 and the slit 22 fully as wide as the post in the holder which engages the apertures. A similar construction and corresponding opening 29 are to be found between the right-hand aperture 25 and right-hand slit 23.

The left-hand aperture 26 in each of the duplicate forms, is somewhat smaller in diameter than the aperture 24 and is spaced back away from the slit 22 and is connected thereto by means of a slot 30 giving to the combined aperture and slot a "keyhole" appearance. The right-hand aperture 27 is connected to the slit 23 by means of a similar slot 31. While 30 and 31 have been shown and described as slots it is to be understood that they may be merely slits in the paper.

There is shown in Fig. 1 the backboard 32 of a holder or cover having a left-hand post 33 and a right-hand post 34. Such a cover usually has some sort of clamp engaging the tops of the respective posts 33 and 34 to assist in holding the packet in place but as such clamps are old and no part of the present invention none has been shown in the drawing in order that there may be a clearer view of the sheets in the construction of which the present invention does reside.

In operation the zigzag continuous form, as shown in Fig. 2, is folded up and placed on the holder, the posts 33 and 34 receiving the apertures 24, 26 and 25, 27 respectively. Preferably some type of clamp, not shown, engages the top of the posts 33 and 34 to assist in holding the packet in place. A sheet of carbon paper is understood to be in position between the forms 11 and 12. After a sale has been made and properly recorded on the original form 11 with a corresponding record on the duplicate form 12 the sales person withdraws the two forms 11 and 12 so that the appearance of the device is as shown in Fig. 1. The pair of sheets 11 and 12 are then separated from the succeeding sheets 13, etc., by pulling downwardly and laterally either to the right or to the left whichever is more convenient. The severance takes place along the successive lines of weakness 19, 21 and 20. The close juxtaposition of the apertures 22, 24, 26 and 27 and the slots 30 and 31 to the line of severance does not give rise to any tendency to tear incorrectly since the slits 22 and 23 prevent any such incorrect tearing.

After the sheets 11 and 12 have been removed from the holder they are, either at this time or later, as the case may be, separated from each other and sent along through the channels of the store routine while the original form 13 is folded back along the line 17 into place on top of the packet ready for another sale and record thereof.

It may be well to state that the carbon sheet which is shorter than the sales sheets is usually provided with an apertured reinforcement and is held in place by the posts 33 and 34 so that the withdrawal of the sheets 11, 12 and 13 leaves it in place on top of the packet and on top of the sheet 14 and consequently beneath the original form 13 when that sheet has been folded back onto the top of the packet.

While the apertures 24 and 25 in the sheet 11 could be of the same form as the keyhole apertures in the sheet 12 the form of the apertures 24 and 25 shown in the drawing is considered somewhat more desirable because of the fact that each time the sheets are detached the top sheet, i. e., an original form such as 13, is placed back on top of the packet and the apertures therein reengage the posts 33 and 34. By having a segmental portion of the circle 24 merge with the slit 22 there is provided an opening 28 somewhat larger than the diameter of the post 32 and it can therefore be readily slipped into place without the necessity of lifting up the clamp which engages the top of the posts 33 and 34. Such a type of construction is not necessary for the duplicate sheets beacuse they are not replaced on the holder but remain withdrawn. It is to be noted that the slots 30 and 31 permit the sheets 11, 13 and 15 to be withdrawn readily by the exercise of a slight force which bends or curls the tongues of paper at each side of the slots and yet these same tongues offer enough resistance to such withdrawal to keep the packet as a whole in place even though half the sheets, that is, all the original forms, have apertures so shaped that they afford no aid in keeping the packet in place.

While the hereinbefore described embodiment of the invention has been set forth in more or less detail it is to be understood that various changes may be made therein without departing from the spirit and scope of the invention as defined in the subjoined claim.

I claim:

A continuous strip of duplicate forms folded zigzag into a pack so that the junction between successive sheets occur alternately at the top and the bottom of the sheets, said sheets being in sets of one original form and one duplicate form, the two sheets of each set having a line of junction therebetween at their bottom edges and

successive sets having a line of junction therebetween at their top edges, the original form of each set being positioned on top of the duplicate form of the corresponding set when both forms are in their proper position in the pack, each of said original forms having a plurality of apertures near its top edge in register with a plurality of apertures positioned in the corresponding duplicate form lying beneath and near the edge thereof, each of the apertures in said duplicate form having the shape of a keyhole and so positioned that the larger portion is back away from said junction line and is connected thereto by the slot portion of said keyhole, the apertures in each of said original forms being of somewhat greater diameter than the larger portion of its corresponding keyhole aperture and so positioned as to be intercepted segmentally by the line of junction to afford an opening from said junction line into said aperture as large as said larger portion of the corresponding keyhole aperture, said junction line comprising slits at said apertures and lines of weakness throughout the remainder of said junction line.

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