

Nov. 5, 1968

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3,408,889

FILE FOLDER PUNCH

Filed Aug. 25, 1965

2 Sheets-Sheet 1

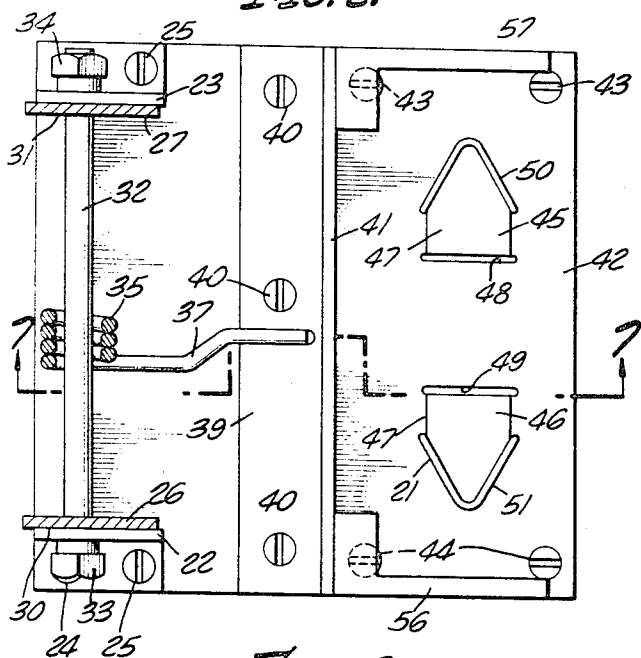
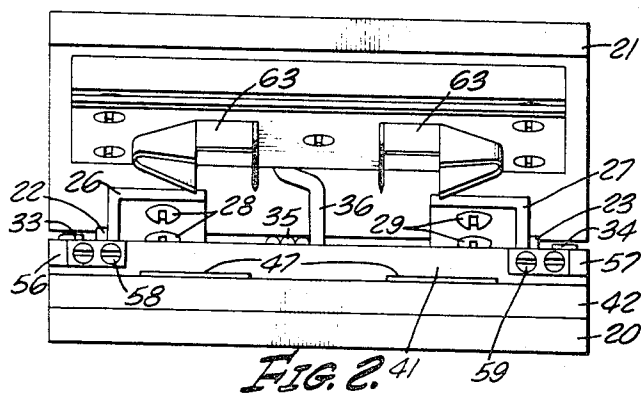
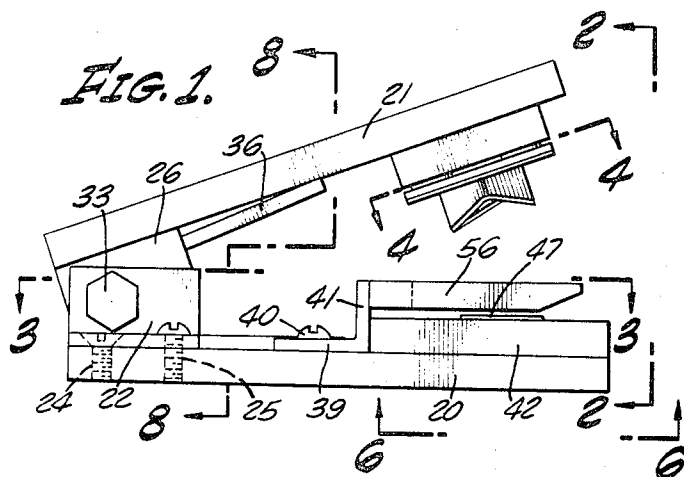


FIG. 4.

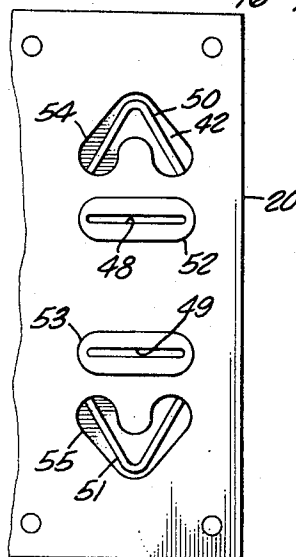
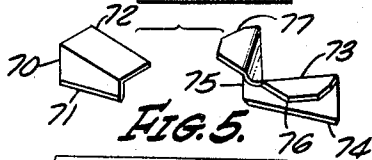
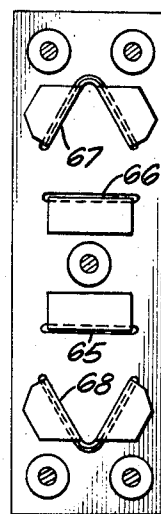


FIG. 6.

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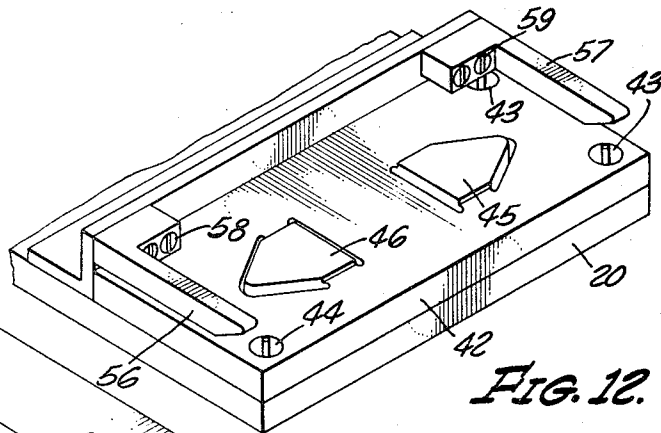
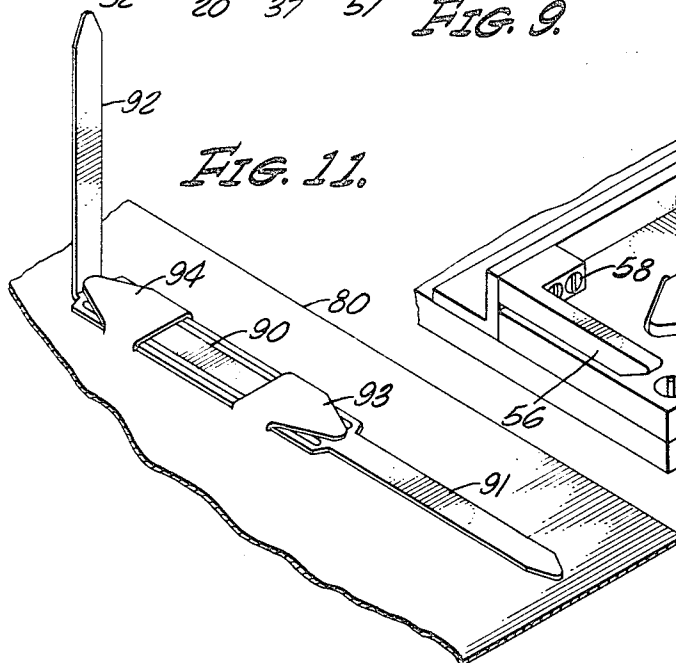
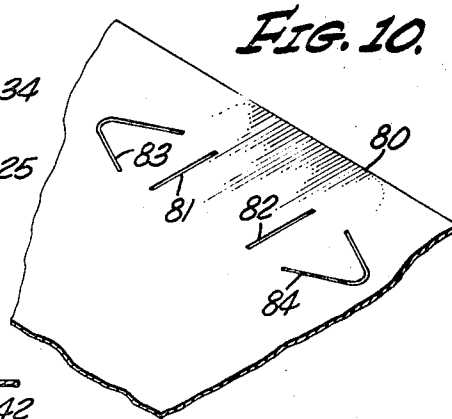
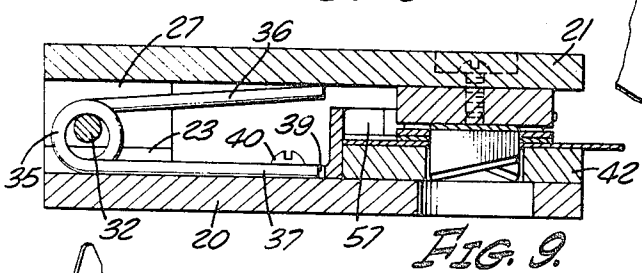
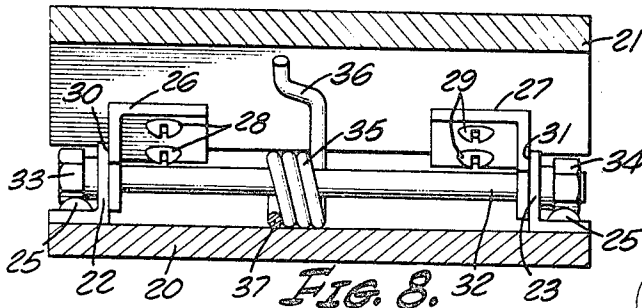
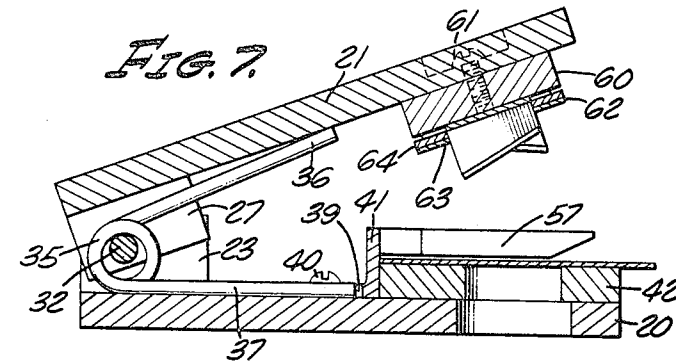
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FILE FOLDER PUNCH

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FILE FOLDER PUNCH

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4 Claims. (Cl. 83-599)

This invention relates to a file folder punch and more particularly to a device for piercing the cardboard or similar backing plate for a file of documents which differs from the conventional punch type devices in that it does not result in waste paper, which, of course, occurs in the event round holes are punched out for this purpose.

It is also a feature of this invention in that it is capable of being manufactured in a smaller size of less costly material and due to the sharpness of the blades more easily penetrates the backing plate.

It is also an object of this invention to provide a device of the type described adapted to use conventional fastening means but so arranged that a protecting strip of the backing plate covers the metallic fastener on the backside of the backing plate at the mid portion thereof which would prevent the hanging up or interference of adjacent files due to the interlocking of adjacent file members.

It is a further feature of this invention that due to the interlocking of the metallic fastener in the backing plate this fastener cannot fall out in use but remains at all times securely fastened in the backing plate.

These and other objects, features and advantages will be apparent from the annexed specification in which:

FIGURE 1 is a side view of the device embodying the present invention;

FIGURE 2 is an end view taken along line 2-2 of FIGURE 1;

FIGURE 3 is a section taken along line 3-3 of FIGURE 1;

FIGURE 4 is a section taken along line 4-4 of FIGURE 1;

FIGURE 5 is a perspective elevation of the cutting blades utilized in this invention;

FIGURE 6 is a view taken along line 6-6 of FIGURE 1;

FIGURE 7 is a section taken along line 7-7 of FIGURE 3;

FIGURE 8 is a section taken along line 8-8 of FIGURE 1;

FIGURE 9 is a view similar to FIGURE 7 showing the punch in perforating position;

FIGURE 10 is a fragmentary perspective elevation of a backing plate cut in accordance with the mechanism of this invention;

FIGURE 11 is a fragmentary elevation of a backing plate provided with the base member of a conventional file clasp; and

FIGURE 12 is a fragmentary elevation of the bottom plate of the mechanism showing particularly the die portion.

Referring now more particularly to the drawings, the device of this invention includes a punch having a base members 20 and a top member 21. Mounted on the base member 20 is an L-shaped member 22 at one side of the base member and a similar L-shaped member 23 directly opposite the L-shaped member 22, both of which are secured to the base plate 20 by a pair of cap screws 24 and 25. A pair of similar L-shaped members 26 and 27 are secured to the top plate 21 as by means of cap screws 28 and 29 with the legs of the two L-shaped members 22 and 23 engaging the legs of the L-shaped members 26 and 27 as shown at 30 and 31. Aligned holes (not shown) are provided in these legs and a shaft 32 extends across the

2

back of the device through the holes and is threaded on its end to receive retaining nuts 33 and 34. A coil spring 35 is coiled about the shaft 32 adjacent the mid-portion thereof and has an arm 36 engaging the top plate 21 and another arm 37 engaging the bottom plate 20 tending to force the plates 20 and 21 apart. A stop plate 39 is secured to the bottom plate 20 by means of screws 40 and has an upstanding leg 41. A die plate 42 is secured to the bottom plate 20 as by screws 43 and 44 and is generally rectangular in form.

A pair of die sections 45 and 46, the top of which is raised as at 47 from the top surface of the die plate 42 are provided, each of which die sections 45 and 46 are provided with laterally extending slots 48 and 49 and V-shaped slots 50 and 51. It will be noted that each laterally extending slot 48 or 49 and each corresponding V-shaped slot 50 or 51 defines a five-sided figure represented by the included raised area 47. The bottom plate 20 is routed out as shown in FIGURE 6 at 52 and 53 to expose the slots 48 and 49 and similarly the bottom plate 20 is routed out as at 54 and 55 to expose the V-shaped slots 50 and 51. A pair of L-shaped arms 56 and 57 may be attached to the upstanding leg 41 in spaced relationship from the top of the die plate 42 by means of screws 58 and 59.

A punch holder 60 is attached to the top plate 21 by screws 61 and a retaining plate 62 is cut out as at 63 and attached by any suitable means to a plate 64 which is slotted as at 65 and 66 transversely and is also slotted as at 67 and 68 with V-shaped slots as shown in FIGURE 4. Knives 70 which have sharpened bevelled edges 71 and laterally extending legs 72 are provided with the portion 70 extending through the slots 65 and 66 and a portion 72 lying behind the plate 64. Similarly knives 73 having bevelled sharpened edges 74 and 75 to form the V-shaped cuts and laterally extending portions 76 and 77 are provided with the laterally extending portions 76 and 77 positioned behind the plate 64 and the sharpened edges 74 and 75 extending through the V-shaped slots 67 and 68.

In use, a backing plate 80, preferably of stiff cardboard or the like, is placed on top of the die plate 42 and pushed forward until it engages the upstanding leg 41 which serves as an indexing mechanism. The punch will, of course, be in its open position as shown in FIGURES 1, 2, 7 and 8. Thereafter pressure is applied to the top plate 21 overcoming the pressure of the spring 35 forcing the knives 70 and 73 through the respective slots 65, 66, 67 and 68 piercing the backing plate 80 and entering the slots 48, 49, 50 and 51 in the die plate 42. This performs the desired cutting operation after which pressure is released on the top plate 21 which causes the device to open and the L-shaped members 56 and 57 catch the upper surface of the backing plate 80 and remove the cut backing plate 80 from the knives 70 and 73.

As indicated in FIGURES 10 and 11, a pair of laterally extending slots 81 and 82 are cut in the backing plate 80 and a pair of V-shaped slots 83 and 84 are also cut in the backing plate 80. This places the backing plate 80 in condition to receive a conventional fastener which normally consists of a metallic mechanism having a body portion 90 and two end portions 91 and 92. The fastener is placed in operating condition by running the ends of either of the portions 90 and 91 under one of the projections 93 or 94 formed by the V-shaped cuts and passing the mechanism therethrough until the other end extends out from the backing plate 80 in position for the ends to be bent upwardly as shown at 92 in FIGURE 11. It will be appreciated that a piece of the backing plate 80 extends between the cuts 81 and 82 and when the fastener is installed as shown in FIGURE 11 underlies the body portion 90 and provides a smooth surface which prevents

the fastener from contacting or hanging up on an adjacent fastener or any other material which may be filed along side thereof.

It will also be appreciated that the material between the slots 81 and 82 in the backing plate 80 forms a locking member which prevents the fastener from falling out even when both of the ends 91 and 92 may be bent upwardly, which is not the case in respect to the conventional punches utilized with this type of fastener. This results in fastener such as shown in FIGURE 11, which may have both ends 91 and 92 bent upwardly, to enter the holes punched in papers to be filed after which the conventional locking plate used with this type of fastener may be used to lock the ends 91 and 92.

While there has been described what is at present considered a preferred embodiment of the present invention, it will be appreciated by those skilled in the art that various changes and modifications can be made therein without departing from the essence of the invention and it is intended to cover herein all such changes and modifications as come within the true spirit and scope of the appended claims.

I claim:

1. A file fastener punch comprising: a lower plate having a pair of parallel straight die slots, and a pair of V-shaped die slots located laterally from said parallel die slots with their apex ends pointing laterally away from said straight die slots; said die slots defining a pair of five-sided figures, each figure having a first side defined by a straight die slot, sides perpendicular to said first side, between said straight and V-shaped die slots; and an apex end defining two sides and formed by a V-shaped die slot; a top plate; a pair of parallel straight punch blades extending from said top plate for cooperation with said straight die slots; a pair of V-shaped punch blades extending from said top plate for cooperation with said V-shaped die slots; and means mounting said plates for relative movement to effect cooperation of said die slots and punch blades.

2. A file fastener punch comprising: a lower plate having a pair of parallel straight die slots, and a pair of V-shaped die slots located laterally from said parallel die

slots with their apex ends pointing laterally away from said straight die slots; said die slots defining a pair of five-sided figures, each figure having a first side defined by a straight die slot, sides perpendicular to said first side, between said straight and V-shaped die slots; and an apex end defining two sides and formed by a V-shaped die slot; the area defined by said figure being raised; a top plate; a pair of parallel straight punch blades extending from said top plate for cooperation with said straight die slots; said punch blades defining an area corresponding to said figure and said area being depressed to accommodate said figure; and means mounting said plates for relative movement to effect cooperation of said die slots and punch blades.

3. A file fastener punch comprising: a lower plate having a pair of parallel straight die slots, and a pair of V-shaped die slots located laterally from said parallel die slots with their apex ends pointing laterally away from said straight die slots; said die slots defining a pair of five-sided figures each figure having a first side defined by a straight die slot, sides perpendicular to said first side, between said straight and V-shaped die slots; and an apex end defining two sides and formed by a V-shaped die slot; a punch structure including a retainer plate having cutouts corresponding to said five-sided figures; die blades fitting the margins of said cutouts in correspondence with said die slots, said die blades having lateral flanges; a backing plate; said flanges being clamped between said retainer plate and backing plate; and means mounting said lower plate and said punch structure for relative movement thereby to effect cooperation of said die slots and die blades.

4. A file fastener punch, as defined in claim 3, wherein: the areas defined by said five-sided figures are raised, to enter said cutouts.

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