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(54) Hole punch

(57) A hole punch (1) has a base (2) pivotally supporting an actuating handle (4). A sole plate (6) is mounted beneath the base plate. The sole plate is provided with a pivotally mounted tubular spout (8) through which the "holes" or "chads" generated by the punch may be discharged from the space. The spout is pivotally connected to the sole plate for movement between the closed position and an open position.

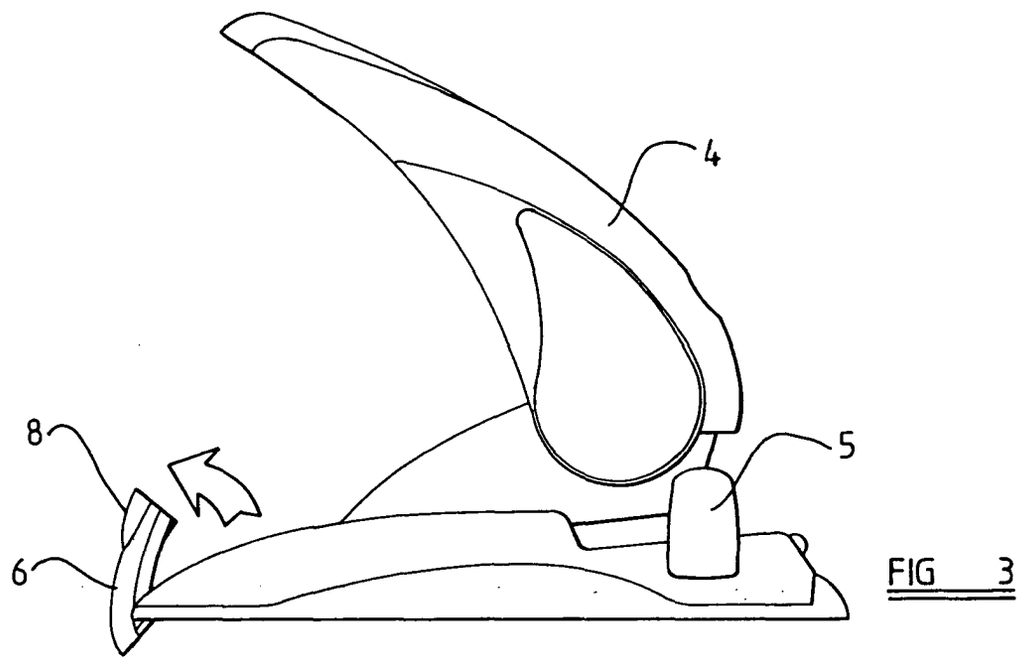

FIG 3

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Description

[0001] **THE PRESENT INVENTION** relates to a hole punch, and more particularly relates to a desk top hole punch for punching sheets of paper.

[0002] Many different designs of hole punch have been proposed for use in punching holes in paper so that the paper may be mounted in a file such as, for example, a ring binder or lever arch file. The "holes" or "chads" that are produced by the punching process are frequently trapped beneath the base of the hole punch by a releasable sole plate that form the underpart of the base. The sole plate is totally or partially peeled away from the base of the hole punch from time to time so that the "holes" or "chads" can be discarded, but even if the space defined between the base and the sole plate to catch the "holes" or "chads" is only part full it may be difficult to control the "holes" or "chads" so that they all enter a wastepaper bin or the like. Frequently the "holes" or "chads" become dispersed and create a mess.

[0003] The present invention seeks to provide an improved hole punch.

[0004] According to this invention there is provided a hole punch for punching holes in paper, the hole punch having a base plate supporting an actuating handle which is movable to actuate the hole punch, and having a sole plate mounted beneath the base plate, the base plate and the sole plate defining between them a space to receive "holes" or "chads" created when paper is punched, the hole punch having a tubular spout through which the "holes" or "chads" may be discharged from said space, the spout being pivotal, and being adapted to move from a closed position to an open position.

[0005] Conveniently, the spout is provided with a finger grip.

[0006] Preferably, the spout is pivotally connected to the sole plate for movement between a closed position, in which the spout is received in a recess in the upper part of the base plate, and an open position in which one end of the spout is communicating with same space, and the other end of the spout is spaced from said base plate.

[0007] In a preferred embodiment the space defined between the base plate and the sole plate has a region which converges towards said spout.

[0008] Conveniently, the converging region is defined between two upstanding walls provided on the sole plate.

[0009] In order that the invention may be more readily understood, and so that further features thereof may be appreciated, the invention will now be described, by way of example, with reference to the accompanying drawings, in which:

FIGURE 1 is a side view of a hole punch in accordance with the invention in a first condition,

FIGURE 2 is a perspective view of part of the hole punch of Figure 1,

FIGURE 3 is a side view of the hole punch of Figure 1 in a second condition,

FIGURE 4 is a side view of the punch of Figure 1 in a third condition,

FIGURE 5 is a perspective view of the punch of Figure 1 in the third condition, and

FIGURE 6 is a perspective view of the sole plate of the hole punch of Figures 1 to 5.

[0010] A hole punch in accordance with the invention has a base structure 1 constituted by a base plate 2 and a sole plate 3 that is connected to the underside of the base plate 2. A space is defined between the base plate 2 and the sole plate 3 to receive "holes" or "chads" from the hole punch. As is conventional the base plate 2 supports an actuating handle 4 which can move relative to the base the drive plungers through dies to punch holes in sheets of paper located between the plungers and the dies. The base plate 2 is also provided with a paper guide 5 to locate an edge of a sheet of paper which is to be punched, so that the holes produced by the hole punch are correctly positioned in the paper.

[0011] In the described embodiment of the invention the sole plate 3 is not releasably fastened to the base plate 2 to facilitate disposal of the "holes" or "chads", but instead the sole plate 3 has a hollow tubular spout 6 which is pivotally connected to the sole plate, and which is initially in a closed position, as shown in Figures 1 and 2. The spout 6, in this position, is closed, and is folded up to lie within a recess 7 provided in the upper part of the base plate 2.

[0012] The spout has a finger grip 8 which can be grasped to pule the spout upwardly, relative to the base plate 2, with a hinging action relative to the edge part of the sole plate 3 to which the spout 6 is connected. The spout passes through an intermediate position, as shown in Figure 3, to a final, fully open position, as shown in Figures 4 and 5.

[0013] The spout has a lower end communicating with the space defined between the base plate 2 and the sole plate 3 where the "holes" or "chads" produced by operation of the hole punch are located, and the other end spaced away from the base plate 2. The hole punch may then be inverted over a waste paper bin, and the "holes" or "chads" will flow out through the spout, and can be directed accurately into the bin. Thus the hole punch can be emptied without any mess being created.

[0014] To facilitate complete emptying of the hole punch it is preferred that the sole plate 3, as shown in Figure 6, is provided with upstanding side walls 9, 10 which converge towards the base of the spout, so that the space which is defined between the base plate 2 and the sole plate 3 has a converging region which leads

to the base of the spout. This helps to ensure that all, or substantially all, of the "holes" or "chads" initially within the hole punch when it is to be emptied flow readily through the spout.

[0015] In the present specification "comprises" means "includes or consists of" and "comprising" means "including or consisting of'.

[0016] The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately, or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

Claims

1. A hole punch for punching holes in paper, the hole punch having a base plate supporting an actuating handle which is movable to actuate the hole punch, and having a sole plate mounted beneath the base plate, the base plate and the sole plate defining between them a space to receive "holes" or "chads" created when paper is punched, the hole punch having a tubular spout through which the "holes" or "chads" may be discharged from said space, the spout being pivotal, and being adapted to move from a closed position to an open position.

2. A hole punch according to Claim 1, wherein the spout is provided with a finger grip.

3. A hole punch according to any one of the preceding claims wherein the spout is pivotally connected to the sole plate for movement between a closed position, in which the spout is received in a recess in the upper part of the base plate, and an open position in which one end of the spout is communicating with said space, and the other end of the spout is spaced from said base plate.

4. A hole punch according to any one of the preceding claims wherein the space defined between the base plate and the sole plate has a region which converges towards said spout.

5. A hole punch according to Claim 4, wherein the converging region is defined between two upstanding walls provided on the sole plate.

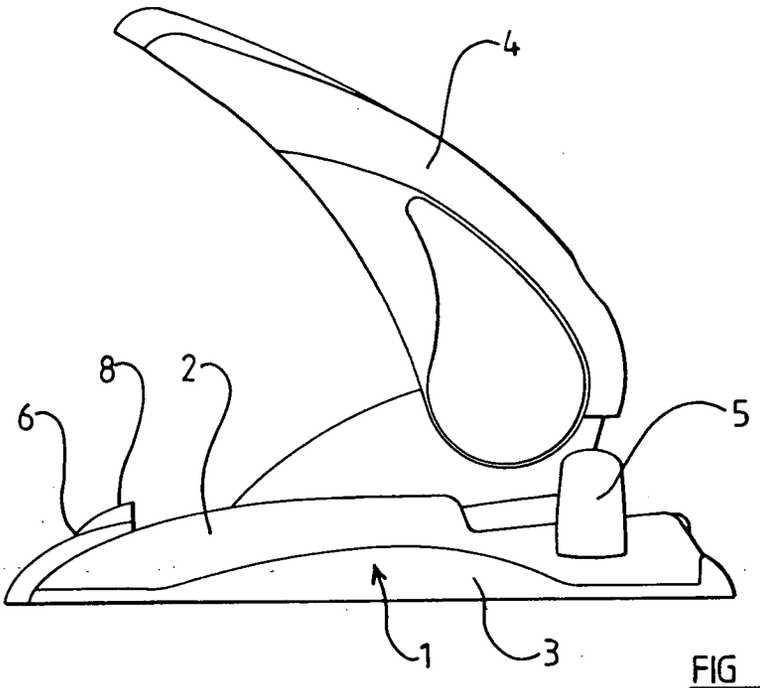

FIG 1

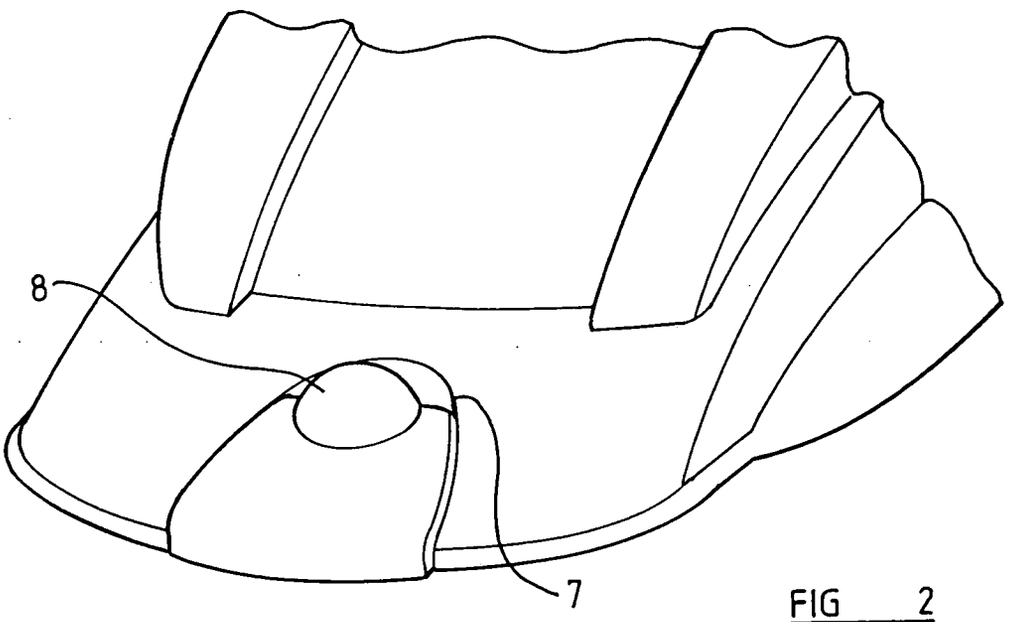

FIG 2

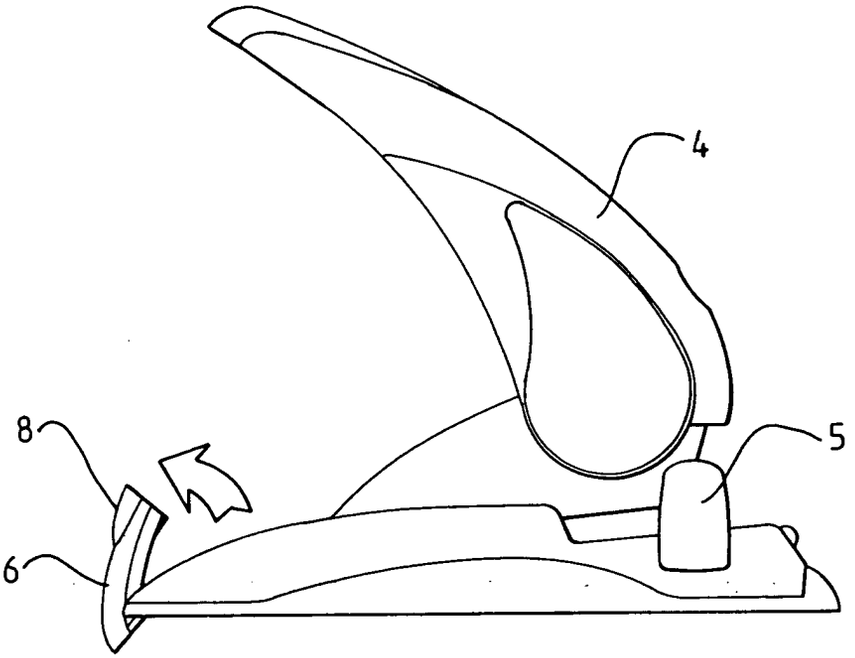

FIG 3

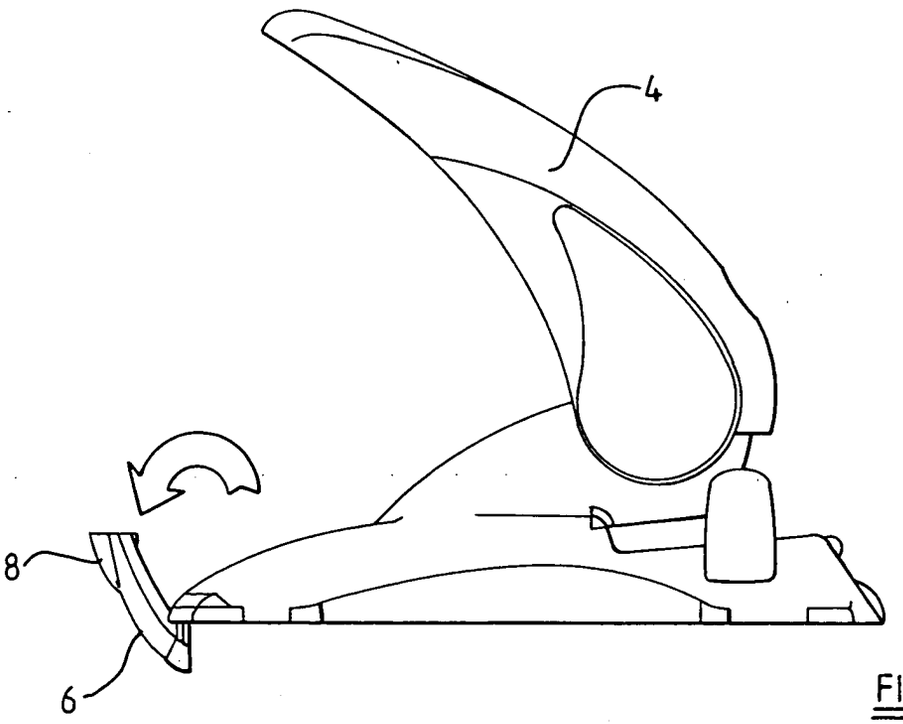

FIG 4

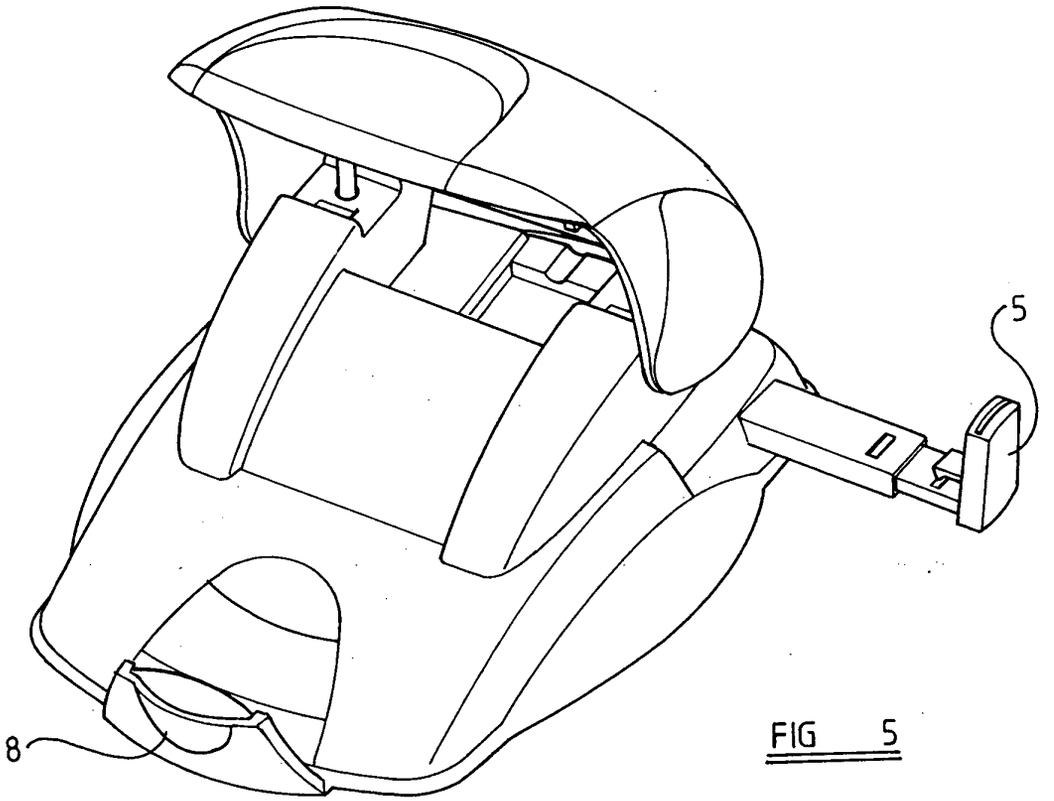

FIG 5

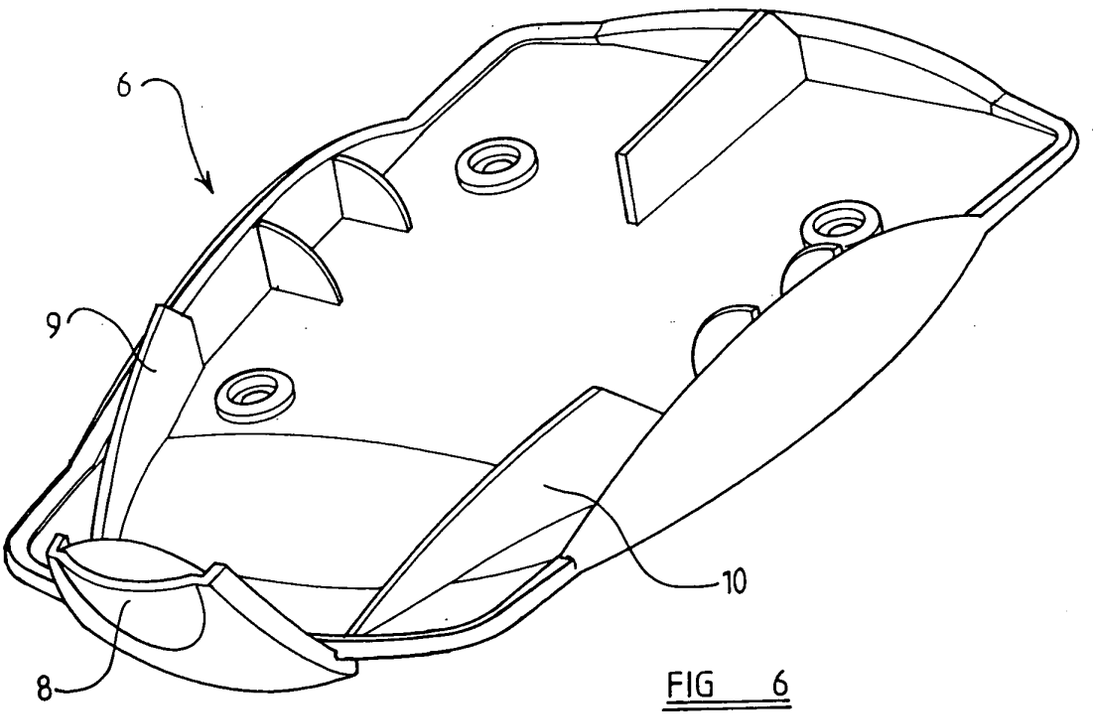

FIG 6