Aug. 9, 1949. J. DE SWART 2,478,376

PLASTIC PAPER CLIP

Filed April 7, 1944

Fig. 1

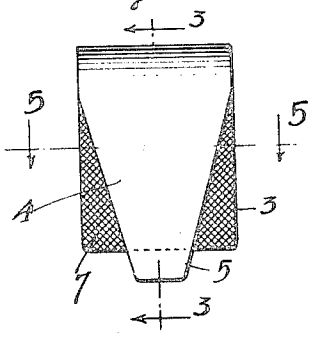


Fig. 3

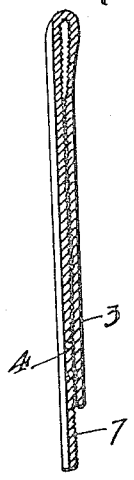
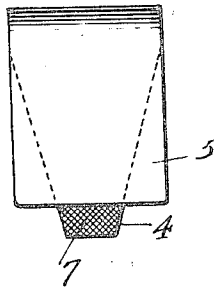


Fig. 2



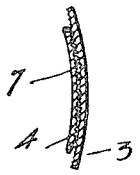


Fig. 4

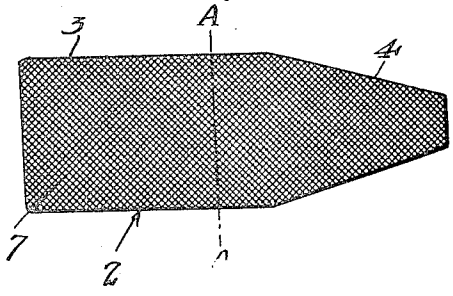


Fig. 5.

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UNITED STATES PATENT OFFICE

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PLASTIC PAPER CLIP

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4 Claims. (Cl. 24—66)

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This invention relates to a paper clip for holding together a number of pieces of paper. The clip of the present invention is characterized by having a structure which particularly adapts the clip to be made of any of the materials generally referred to as modern plastics.

It is the general object of the present invention to provide a paper clip which may be formed in a single piece from plastic material. At present, paper clips are produced principally of metal, usually in the form of wire shaped to provide some spring gripping action for holding different sheets of paper together. These metal clips have the disadvantage that they mar the paper, the form of the clips being frequently indented into the paper. Moreover the paper quite frequently becomes discolored from the use of the metal clips.

By using paper clips made out of plastic material, as in the present invention, papers may be held together without injury and without danger of discoloration by the clips.

In producing a paper clip from plastic material, it is impractical to form the plastic material in the shapes used with metal. The clip is best formed by folding back upon itself a fairly broad sheet of plastic material and then curving the folded sheet. The curve imparted to the bent faces of the plastic material is essential to the development of the gripping powers acquired in the paper clip. Plastic materials now available possess sufficient elastic or spring properties to grip sheets of paper together, when, as in the present invention, a fairly broad sheet of plastic material is given a curvature after having been bent back upon itself.

Further objects and advantages of the present invention are: the clips may be made in a variety of colors for identification; and the broad surfaces of the clips render possible printing on the clips either for the purpose of indexing or for advertising.

The paper clips of the present invention are illustrated in the accompanying drawings, in which

Figure 1 is a front elevation.

Figure 2 is a rear elevation.

Figure 3 is a section on the line 3—3 of Figure 1.

Figure 4 is a plan view of the blank out of which the clip is produced, previous to the bending and curving operation.

Figure 5 is a section along the line 5—5 of Figure 1, showing the transverse curvature of the clip.

Referring to the drawings, the plastic clip of

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the present invention is formed from a single sheet of plastic material 2 of the general shape shown in Figure 4. The sheet of plastic material may be provided on one face with a serrated or grid-like surface to facilitate its gripping action, as illustrated at 7 in the drawings. In Figure 4 the sheet of plastic material is indicated as having a major part of rectangular form, as indicated at 3, with a tapered portion or end 4, or any other desired shape. To form the clip the sheet is folded about the line A—A. The folding operation brings the greater part of the rectangular portion 3 into face-to-face relation with the remainder of the sheet. The line A—A is selected so that when the blank is folded upon itself to form an integral connecting bight, or fold line, the tapered end 4 of the blank will extend somewhat beyond the straight end edge of the rectangular portion 3 of the clip, as indicated at 5 (Fig. 1). The folded over portions 3 and 4 of the clip constitute plate-like members or flap forming portions which are in juxtaposed face-to-face relation. The plate-like members 3 and 4 are joined at one edge by an integral folded portion which has been folded on a line coinciding with the line A—A (Fig. 4) and diverge from each other slightly as they approach the rounded and folded edge into which they merge.

After the folding operation, while the sheets are positioned flat, one against the other, it is found that there is no gripping power between the juxtaposed surfaces of the folded portions of the clip thus produced and the operativeness of the clip of the present invention depends upon molding a slight curvature transversely of the clip, as indicated more particularly in Figure 5 of the drawings. This curvature is along an arc of about an inch in radius. On molding such curvature into the plastic sheet the tapered flap 4 which for convenience in description may be designated the front flap is found to be yieldingly and firmly pressed against the rear rectangular portion or rear flap 3 of the clip.

With the clip of the present invention a number of loose paper sheets may be inserted between the front flap 4 and rear flap 3 of the clip and a relative broad effective gripping surface is then provided by the clip for holding the sheets of paper together. Because of the broad contacting faces of the clip, the paper is not permanently indented by the clip. Moreover there is no danger of the paper being discolored from the use of the clip.

While the particular form of the clip herein described is well adapted to carry out the objects

of the present invention, it is to be understood that modifications may be made thereof within the spirit of the invention.

I claim:

1. A paper clip of plastic material having a substantially rectangular portion and a substantially tapered portion, the tapered portion being positioned in substantial face-to-face relation with the rectangular portion and having its free end extending slightly beyond the free end of said rectangular portion, and a folded bight portion integral with and connecting the tapered portion and the rectangular portion at one edge thereof, said folded bight portion being transversely curved whereby the rectangular and tapered portions are resiliently pressed together.

2. A paper clip of plastic material comprising front and back plate-like members and an integral fold portion joining said members along an edge thereof, said plate-like members being positioned in face-to-face relation for a substantial portion of their area, and said fold portion and adjoining portions of said plate-like members being transversely curved whereby said plate-like members resiliently press against each other, the curvature of said plate-like members being in the same direction.

3. A paper clip of plastic material comprising front and back forming plate-like members and a folded portion integral with and connecting said members along one edge thereof, said members normally having a substantial portion of their opposed faces in contacting relation, the free end portions thereof being separated to permit the members to be sprung apart and said folded connecting portion being transversely curved whereby said members are resiliently urged into contacting relation.

4. A paper clip of plastic material having complementary plate-like members positioned in substantial face-to-face relation with a free edge portion of one member extending beyond the corresponding edge portion of the opposite member, and a folded bight portion integral with and connecting the opposite edges of the members, said folded bight portion and adjoining portions of said members being transversely curved in the same direction about an axis in the general plane of said members whereby said members are resiliently pressed together.

JAN DE SWART.

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