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(54) A BINDER FOR SECURING AND SUSPENDING A PACK OF SHEETS

(71) I, HRATCH BOYADJIAN, a citizen of Syria, of Seestrasse 19, CH-8703 Erlenbach, Switzerland, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement: —

This invention relates in general to the construction of binders and in particular to a new and useful binder device for securing and suspending a pack of sheets.

Binder devices, for example, for calendars or the like are known. Such devices are constituted by two or more comb-like ring structures of plastic, which are disposed at both sides of slots of the pack of sheets and comprise teeth which project from a web at regularly spaced locations and which are bent in to ring loops and engage into respective slots or apertures which extend in parallel relation to the back of the pack of sheets. The suspension member or members of these prior art devices are usually wire bows with outwardly extending legs which engage the ring loops located close to the back recess of the pack of sheets of the ring structures adjacent these back recesses, in a manner such that in the area of the back recess, the bow- or eye-like middle portion of the suspension member projects upwardly. The ring structures are stamped out of a strip of a plastics material and then rolled into an annular shape.

The devices of the prior art are relatively expensive because of their multipart structure.

The present invention is directed to a binder device formed as a single part structure making the manufacture and mounting of the binder device much easier than in the case of prior art devices.

To this end, in accordance with the invention, a binder device for securing and suspending a pack of sheets comprises a single member in the form of a comb-like ring element of a plastics material having a web portion with a common edge and an opposite edge, a plurality of comb-like teeth each connected to said web portion at spaced portions along its common edge and extending in a ring to at least the opposite edge, and at least one separate comb tooth having an opening therethrough for suspending said sheets.

The main advantage of this binder device is that the ring element and the suspension member are made as a single piece construction. The manufacture may start from a flat strip of a plastics material and the opening for suspension may be punched out simultaneously with the stamping of the teeth, or in a following operation. In the subsequently necessary rolling of the comb into a ring like form, the tooth provided with the opening and intended to serve as the suspension member may be rolled along therewith. Since during the mounting of the binder device, this tooth is not to be engaged in an aperture of the row of apertures of the pack of sheets, the tooth may easily be straightened again. Since the comb teeth forming the ring loops are relatively long, because of the necessary overlapping in the area of the web, it may be advantageous to make the holed tooth forming the suspension member shorter relative to the teeth forming the ring loops. Such a shortening of the suspension tooth of the comb may again be effected in the first, common, stamping operation, or in immediate succession. It will be understood that the holed tooth serving as the suspension member may be wider than the other teeth of the comb. Also, two or more holed teeth serving as suspension members may be provided for each ring part. Further, the binder device may extend over the entire width of the pack of sheets, or over only a

portion, for example, the middle portion thereof, or, for example, two or more of such binder devices may be provided along the back of the pack of sheets.

The invention will now be further described, by way of example, with reference to the accompanying drawings, in which: —

Fig. 1 is a partial top plan view of one embodiment of a comb punched out of a strip of a plastics material which includes a single shorter suspension tooth; and

Fig. 2 is a front top partial perspective view of a binder device formed from the comb of Fig. 1 for securing and suspending a pack of sheets in accordance with the invention.

Referring to the drawings, a binder device for suspending and securing a pack of sheets 7, is formed from a unitary comb member 1 (Fig. 1) which is stamped out, for example, of a flat strip of a plastics material. The comb 1 has a plurality of comb teeth 2 of substantially equal length which extend outwardly from a common edge 3*a*, and they are formed into a loop or ring so that they contact or overlap an opposite edge 3*b* of the web 3, as shown in Fig. 2.

At least one separate comb tooth 2*a* is also formed on web 3 and extends outwardly from the common edge 3*a* and is provided with a hole or aperture 4 for a suspension device for suspending the sheets of the sheet pack 7.

In the roll form, the comb 1 forms a ring part 5 whereby the comb teeth engage into slots 6 formed adjacent an end of each of the sheets of the pack 7. The separate tooth 2*a* is advantageously formed so that it extends upright and not in a looped fashion and overlies a slot 8 which opens upwardly to an edge of the pack of sheets 7. In the embodiment shown, tooth 2*a* extends substantially straight upwardly in a position for hanging the pack of sheets up, for example, on a wall. It is also possible to roll the tooth 2*a* along with the other teeth or to leave it stretched. The slot 8 is not absolutely essential.

Particularly for larger packs of sheets, binder devices with a plurality of separate teeth 2a forming suspension members are provided. In such cases, the binder device comprises the ring part 5 which is made of a single piece of a plastics material piece. The mounting and handling of such a single part ring binder 5 is considerably simplified over the multi-part binder devices of the prior art and it facilitates a construction in which the device may have a separate suspension member, such as the tooth 2a.

WHAT I CLAIM IS:

1. A binder device for securing and suspending a pack of sheets, comprising a single member in the form of a comb-like ring element of a plastics material having a web portion with a common edge and an opposite edge, a plurality of comb-like teeth each connected to said web portion at spaced locations along its common edge and extending in a ring to at least the opposite edge, and at least one separate comb tooth having an opening therethrough for suspending said sheets.

2. A binder device according to claim 1, wherein said at least one separate comb tooth is shorter than said ring-like comb teeth.

3. A binder device according to claim 1 or 2, wherein said separate comb teeth is bent in the same direction as said looped comb teeth.

4. A binder device according to claim 1 or 2, wherein said separate comb tooth comprises a straight tooth member projecting straight outwardly from said common edge.

5. A binder device according to any preceding claim, wherein said separate comb tooth is wider than said looped comb teeth.

6. A binder device according to any preceding claim, wherein a plurality of separate comb teeth are provided each having a suspension opening therethrough.

7. A binder device for suspending and securing a pack of sheets substantially as hereinbefore described with reference to the accompanying drawings.

8. In combination, a binder device, as claimed in any one of the preceding claims, and a pack of sheets suspended from and secured by said binder device.

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1 SHEET This drawing is a reproduction of the Original on a reduced scale

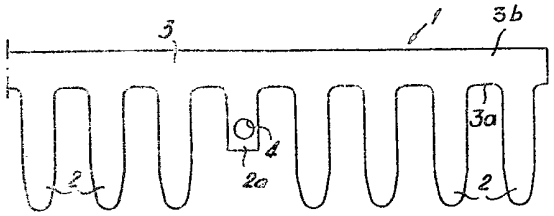

Fig. 1

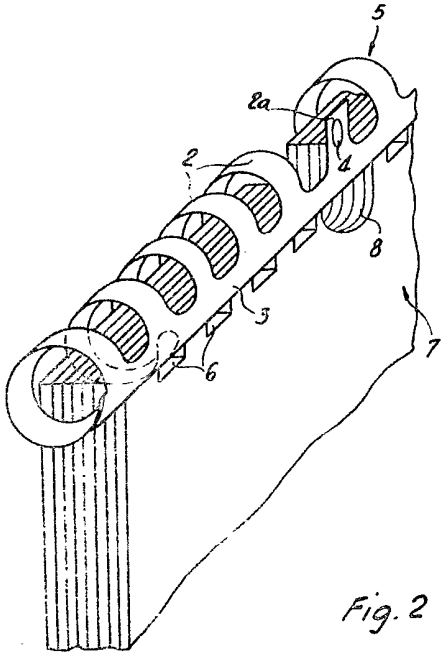

Fig. 2