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BINDING DEVICE FOR LEAVES AND
METHOD OF MAKING THE SAME
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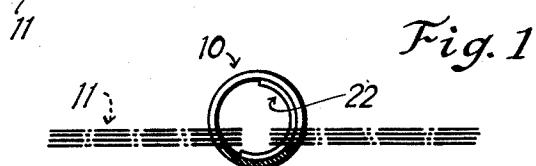
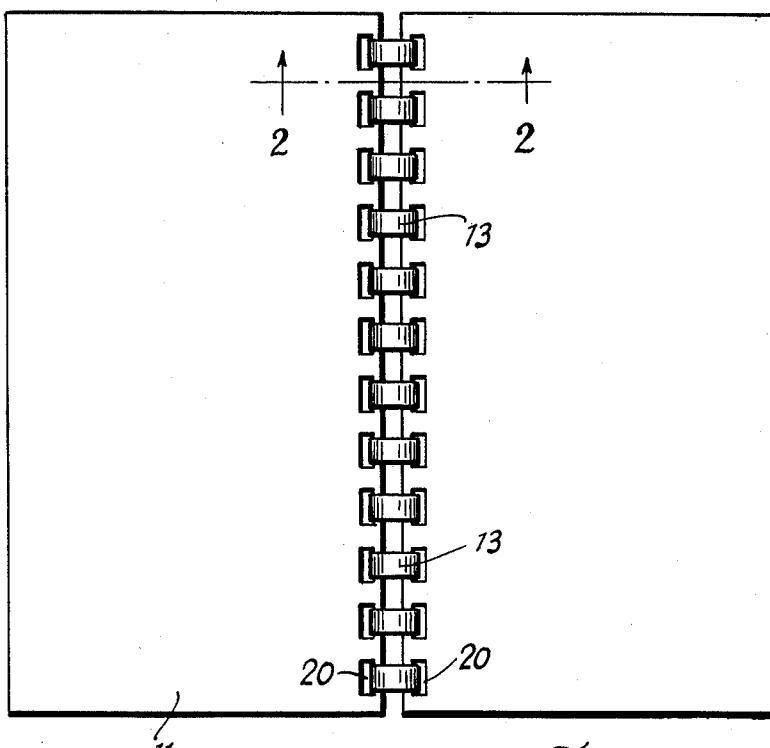


Fig. 1

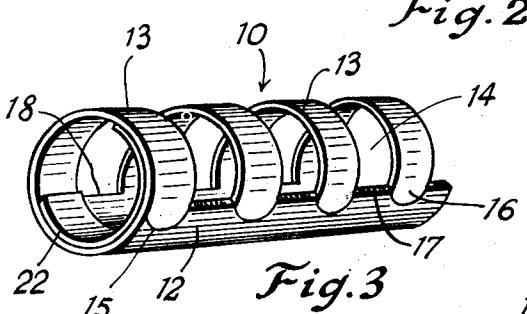


Fig. 2

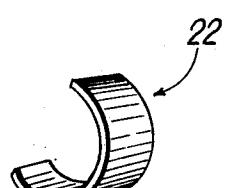


Fig. 4

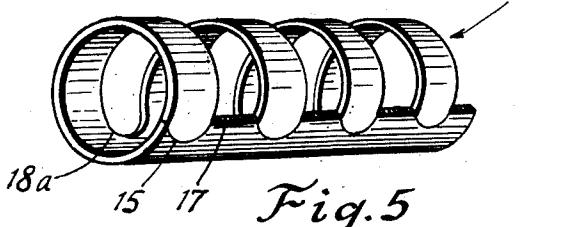


Fig. 5

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BINDING DEVICE FOR LEAVES AND METHOD OF MAKING THE SAME

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This invention relates to binding devices for leaves and methods of making the same.

An object of this invention is to provide an improved binding device of the character described comprising cutting a tube of synthetic plastic material to form a back bone portion and fingers extending therefrom.

Yet a further object of this invention is to provide a binding device of the character described made from a tube and comprising a back bone portion, fingers extending from one side of the back bone portion, and slots between the fingers, the free end edges of the fingers being received within notches in the other side of the back bone portion and having edge to edge contact at said notches.

Yet a further object of this invention is to provide a strong, rugged and durable binder of the character described, which shall be relatively inexpensive to manufacture, and which shall yet be attractive in appearance and practical and efficient to a high degree in use.

Other objects of this invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the construction hereinafter described, and of which the scope of application will be indicated in the following claims.

In the accompanying drawing, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a top plan view of a book provided with a binder embodying the invention;

Fig. 2 is a cross-sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a partial perspective view of one end of a binding device embodying the invention;

Fig. 4 is a perspective view of the piece used at the ends of the binding device to attach the end strips; and

Fig. 5 is a view similar to Fig. 3 but illustrating a modified construction;

Referring now in detail to the drawing, 10 designates a binding device embodying the invention for binding leaves 11 to form a book. The binding strip 10 is made from a tube of synthetic plastic material or any other suitable material. The same may be of cylindrical shape and may be cut to provide an elongated back bone portion 12 from one side of which there extends integral arcual fingers 13 separated by arcual slots 14. The back bone portion 12 is also cut adjacent its other side with notches 15. The fingers or tongues 13 have end edge portions 16

received within the notches 15. The ends of the fingers have edge to edge contact within said notches. Between the notches 15 are longitudinal edges 17. Between the fingers 13 at the opposite side of the back bone portion 12 are longitudinal edges 18.

It will be noted that the binding device is made by cutting away the material between the tongues or fingers 13 and by cutting the notches 15. The 10 fingers 13 are all similar. Thus the binding device being made from a tube the fingers 13 always tend to go back into the plane of the tube, if pulled or pushed out of place. The tube of which the binding device is made, is preferably of synthetic plastic material of such character that the fingers will be resilient so that they can be opened up and will tend to return to normal position when let go. It will now be understood that the fingers 13 pass through slots 20 in the leaves 11.

If desired, the free ends of the end fingers 13 may be fixed to the back bone 12 portion. To accomplish this end, there is inserted within each end of the tube an arcual strip 22 having an outer diameter substantially the same as the inner diameter of the tube of which the binder is made. The width of the strip 22 is preferably the same as the width of the fingers 13. It may be made by using the material cut in making slots in a tubular binder of somewhat smaller diameter than a tube of which the binding device 10 is made. For this reason, the angular extent of strip 22 is substantially equal to the angular extent of slot 14. The strip 22 may be attached partly to the finger 13 and partly to the back bone portion 12, as shown in the drawing, by means of using a solvent, heat or an adhesive. Heat may be used if the tube is of heat fusible material.

In Fig. 5 there is shown a binding device 10a which may be similar to the binding device 10, with the exception that instead of the straight edge 18, slots 14 may be provided with curved edges 18a at one end. This is particularly useful where the binding device is employed for semi-concealed binding having a narrow back bone portion. In such case, the slots are longer and the curvature of edge 18a makes for a stronger construction since there is less likelihood for a fracture between edge 18a and edge 17 or notch 15.

Furthermore, instead of using the attaching strips 22, the free ends of the fingers may be closed by means of fusing or adhering the free end edges of the fingers within the notches 15.

Such fusion may be accomplished by first opening the fingers, applying some solvent of adhesive to the edges of the fingers or to the edges of the notches and then permitting the fingers to close. Heat may also be used when the binder is made of heat fusible material.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved, and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A method of making a binder for leaves, comprising slotting a tube of resilient synthetic plastic material at spaced intervals, and severing the adjacent ends of the portions between the slots to form a back bone portion, and resilient, flexible fingers extending from one side of said back bone portion and having free ends.

2. A method of making a binder for sheets comprising cutting a tube of resilient synthetic plastic material at spaced intervals to form a row of similar spaced slots with strips of equal width between said slots, and severing the adjacent ends of said strips to form resilient, flexible fingers having free ends.

3. A binding device comprising a member cut from a tubular blank of synthetic resilient plastic material, said member having a longitudinal backbone portion, and spaced flexible, resilient fingers extending from one edge of said back bone portion, said fingers having free ends.

4. A binding device comprising a member cut from a tubular blank of resilient, synthetic plastic, said member having a longitudinal back bone portion, and flexible, resilient fingers extending from said backbone portion, forming slots between said fingers, said fingers having free ends, said backbone portion being formed with notches, and the free ends of said fingers being received within said notches.

5. A binding device comprising a member cut from a tubular blank of resilient synthetic plastic material, said member having a longitudinal backbone portion, and spaced flexible, resilient fingers extending from one edge of said backbone portion, said fingers having free ends, the free ends of said fingers having edge to edge contact with the opposite edge of said backbone portion.

6. A binding device for leaves comprising an initially tubular member of resilient synthetic plastic material having a longitudinal row of parallel equally spaced cut-away portions forming parallel arcuate flexible, resilient fingers between said parallel portions and a longitudinal back bone portion, said fingers extending from one side of the back bone portion, and said member being slotted between the other side of said back bone portion and the adjacent ends of said

fingers, whereby to form free ends for said fingers, and said free ends of said fingers having an edge to edge contact with edge portions of said back bone, whereby upon flexing the free ends of said fingers away from said edge portions of said back bone and releasing the fingers, said fingers will have a tendency to move back to their normal positions with their free ends in edge to edge contact with said edge portions of said back bone.

10 7. A binding device for loose leaves comprising a member comprising an elongated transversely arcuate back bone portion and a plurality of parallel arcuate flexible resilient fingers extending from one side of said back bone portion to the other side of said back bone portion, said fingers having free ends at the other side of said back bone portion, said member comprising part of an initially tubular member of resilient synthetic plastic material.

20 8. A binding device for loose leaves comprising a member comprising an elongated transversely arcuate back bone portion and a plurality of parallel arcuate flexible, resilient fingers extending from one side of said back bone portion to the other side of said back bone portion, said fingers having free ends at the other side of said back bone portion, said member comprising part of an initially tubular member of resilient synthetic plastic material, said other side of said back bone having curved notches to receive the free ends of said fingers, and straight edges interconnecting said curved notches and disposed between said fingers.

25 9. A binding device for loose leaves comprising a member comprising an elongated transversely arcuate back bone portion and a plurality of parallel arcuate flexible, resilient fingers extending from one side of said back bone portion to the other side of said back bone portion, said fingers having free ends at the other side of said back bone portion, said member comprising part of an initially tubular member of resilient synthetic plastic material, said other side of said back bone having curved notches to receive the free ends of said fingers, and straight edges interconnecting said curved notches and disposed between said fingers, the space between said fingers constituting slots and the ends of said slots at the first side of the back bone being curved.

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