

SPECIFICATION

A device suitable for making bias tape

5 This invention relates to a device suitable for making bias tape, which is a narrow strip of cloth cut along the bias, and folded along its length. Such tape is chiefly used for finishing, strengthening and for decorating clothing.

10 Devices for making such tape are known and they generally consist of an outer metal plate bonded by, for example, soldering to an inner metal plate to define a passage between the plates of a particular configuration.

15 Such known devices are difficult to produce because complicated shaping processes are required to give certain parts of the metal plate their very tight bends and curves. Also, the spot-welding, soldering or other bonding processes necessary are inconvenient and add to the manufacturing costs. Such devices are, therefore, expensive to manufacture, difficult to manufacture accurately, and cannot easily be mass-produced at a uniform quality. Furthermore, breakage is likely to occur where the two

20 parts are bonded together. We have now designed a device suitable for folding bias tape which can overcome these disadvantages.

Thus, the present invention consists in a portable hand operable device for folding tape comprising a

30 first part formed of sheet metal, and a second part which is formed of a synthetic resin held in the first part to define a passage between the two parts through which the tape can pass; the passage serving progressively to fold the tape along the length of the tape; the first part having a substantially triangular shaped opening having a vertex towards the exit of the passage; and the second part having a ridge or ridges which abut against the edges of the opening when the device is assembled.

40 The device preferably has a ring, hook or other means for drawing it along the tape.

The second part is held within the first part by the ridge or ridges on the second part which abut against the edges of the opening of the first part.

45 Furthermore, the ridge or ridges and the edges of the opening can be provided with cooperating notches and projections such that the second part is a snap fit within the first part.

The invention will now be further illustrated, by way of example and by way of comparison with a known device, by the accompanying drawings, in which:

Figure 1 is a perspective view of a first part and a second part prior to assembly;

55 Figure 2 is a plan view from above of the assembled device;

Figure 3a is a cross-section along 3a-3a of Figure 2;

Figure 3b is a cross-section along 3b-3b of Figure 2;

Figure 4 is a perspective view showing the assembled device in operation;

Figure 5 is a perspective view of a known device; and

65 Figure 6 is a rear elevation of the device shown in

Figure 5.

The old device A has an outer plate *a* and an inner plate *b*, both of which are formed by bending sheets of metal. The plates *a* and *b* are connected together by spot-welding or soldering at, for example, positions *p* and *q* to define a tape-folding passage *c* between plates *a* and *b*.

The device of the invention is shown in Figures 1-4, which show a first part, which is an outer tubular member 10, made of sheet metal, and a second part, which is an internal solid member 20 made of a synthetic resin material. The outer member 10 may be formed by punching, followed by bending to produce the tubular shape. The internal member 20 may be formed by moulding.

In the device illustrated, the outer member 10 gradually tapers from its rear end 11 to its front end 12 so as to provide a slit-shaped front end opening 13 and a rear end opening 14 which is substantially oval or substantially an arc of an oval. The outer member 10 has a substantially triangular shaped top opening 15 having a vertex 16 positioned near the front end 12 and a pair of side edges 17, 18 diverging away from the vertex 16. Each of the edges 17, 18 may be provided with a notch 19 at some convenient position. The shape of the notch 19 is not critical, although a wedge-shape is preferred, so long as it can cooperate with a projection 27 on the internal member 20.

The internal solid member 20 may be of any configuration that fits properly within the outer member 10 so that a tape-folding passage is provided between the internal wall of the outer member and the outer wall of the inner member. This is best shown in Figures 3a and 3b. The drawings show the internal member 20 gradually tapering from its rear end 21 towards its front end 22, so that the front end appears as a thin plate, see Figures 1 and 3b.

The internal member 20 has a platform 23, or a ridge or ridges of other shape, formed on its upper face. The platform 23 may be of substantially triangular shape to correspond with the triangular opening 15 of the outer member 10. When the device is assembled the platform will protrude through the opening 15. An axial side groove 24 is provided in the walls 25, 26 of the platform 20 for better engagement with the edges 17, 18 of the outer member 10.

A small projection 27 may be provided in each of the side walls 25, 26 for engagement with the notch 19 mentioned above. The notches could, of course, be provided on the internal member and the projections on the external member; in either case, the intention is to provide a snap fit of the internal member within the outer member.

A handle, preferably in the form of a ring 28, may be provided at the rear end of the member 20, for example by hinging. This handle is used to draw the device along the tape.

The independent members 10 and 20 are assembled simply by slotting the internal member within the outer member until the end 23a of the platform 23 comes into contact with the vertex 16 of the opening 15 in the outer member 10. The wedge-shaped projections 27 will snap into the mating notches 19

of the outer member 10 to prevent undesirable disengagement of the two parts. In the assembled device a tape-folding passage 30 is defined between the two members, and the shape of this passage changes from substantially U-shape in cross-section at the rear of the device (Figure 3a) to a flat annular shape at the front of the device (Figure 3b).

- The device can be used as follows. A piece of tape or other material T is inserted into the rear of the tape-folding passage 30 and passed through the passage until it leaves the front end 13. Tape leaving the front end 13 is folded longitudinally to form two overlaps Ta, Tb parallel with the centre line C of the tape. This is shown in Figure 4. Although the device shown in the drawings produces two folds Ta and Tb, this is not necessary and a device could be constructed that produced only a single fold. There will be difficulty perhaps in threading some tapes through the device, for example when the tape is too pliable. In such cases a suitable pointed tool, such as a tailor's awl, a bodkin, a needle or a pin may be used. Such a tool may be inserted through the axial slot 29 which extends vertically from the top to the bottom of the internal member 20, see Figure 3a. The tool can then be used to push the material from the rear end 29a to the front end 29b of the slot 29. It may be necessary to repeat this 2 or 3 times to urge the tape T sufficiently far for it to emerge from the front end opening 13.
- Further movement of the tape through the device can be achieved in any suitable way. For example, the tape T emerging from end 13 may be pinned by means of a pin S, and the device drawn along the tape in the direction Q by pulling on the ring 28. As the device is being drawn along the tape the emerging tape may be flattened using an iron or simply by using one's hand.

CLAIMS

1. A portable hand operable device for folding tape comprising a first part formed of sheet metal, and a second part which is formed of a synthetic resin held in the first part to define a passage between the two parts through which the tape can pass; the passage serving progressively to fold the tape along the length of the tape; the first part having a substantially triangular shaped opening having a vertex towards the exit of the passage; and the second part having a ridge or ridges which abut against the edges of the opening when the device is assembled.
2. A device as claimed in claim 1, having a ring, hook or other means for drawing the device along the tape.
3. A device according to claim 1 or claim 2, in which the passage is so shaped to produce two folds along the length of the tape.
4. A device according to any one of the preceding claims, in which the shape of the entry to the passage is substantially oval or substantially an arc of an oval, and the exit is a slit.
5. A device according to any one of the preceding claims, in which the first and second parts are substantially wedge-shaped.
6. A device according to claim 1, in which the ridges and the edges of the opening have one or

more cooperating notches and projections such that the second part is a snap fit within the first part.

7. A device according to claim 1 or claim 6, in which the ridge or ridges have grooves which receive the edges of the first part defining the opening, when the device is assembled.

8. A device suitable for folding bias tape, substantially as herein described with reference to Figures 1 to 4 of the accompanying drawings.

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