Oct. 11, 1955 W. J. REINHARD 2,720,245

DEVICE FOR BINDING RUG AND CARPET EDGES

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Fig. 1.

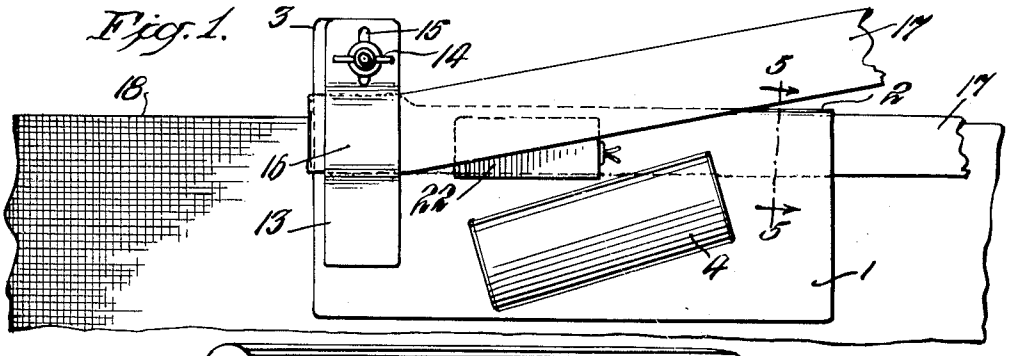


Fig. 2.

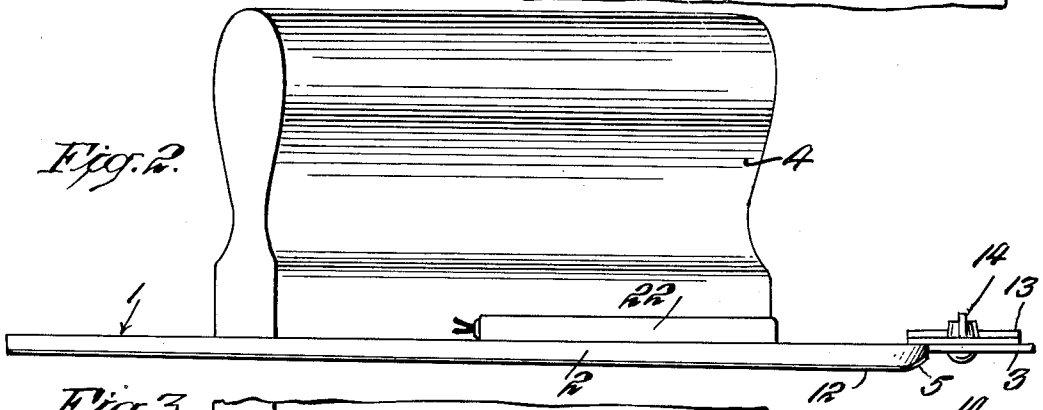


Fig. 3.

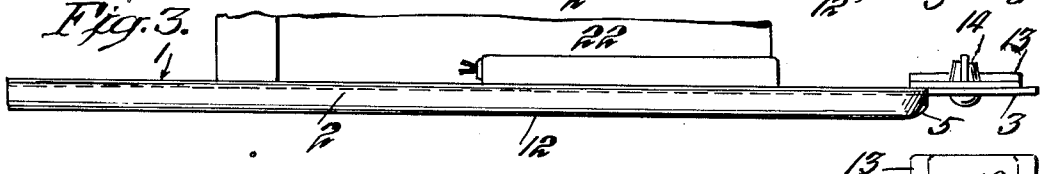


Fig. 4.

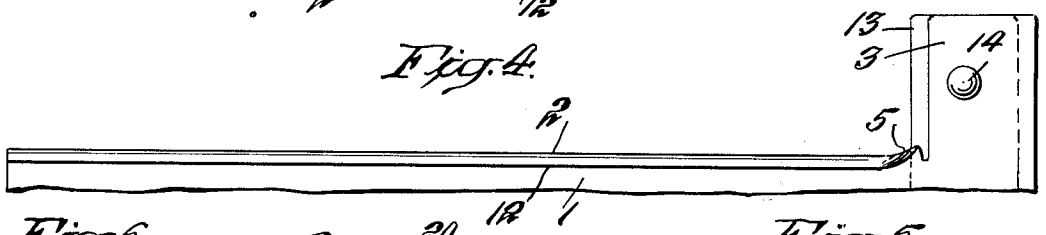


Fig. 6.

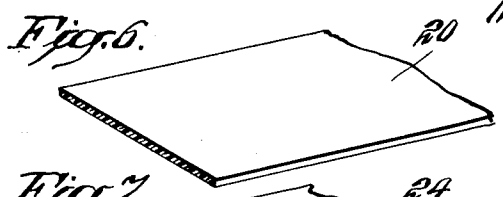


Fig. 7.

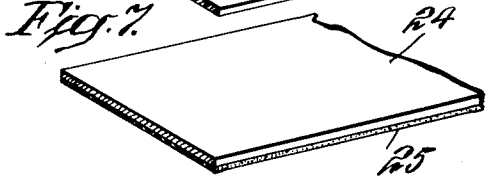
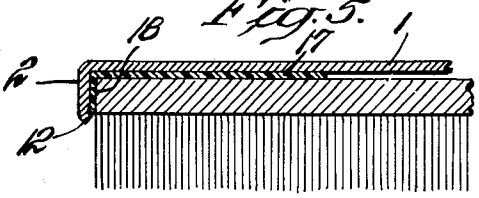


Fig. 5.



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Fig. 8.

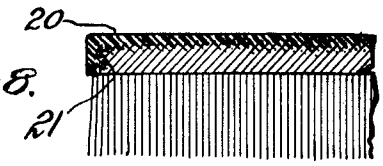


Fig. 9.

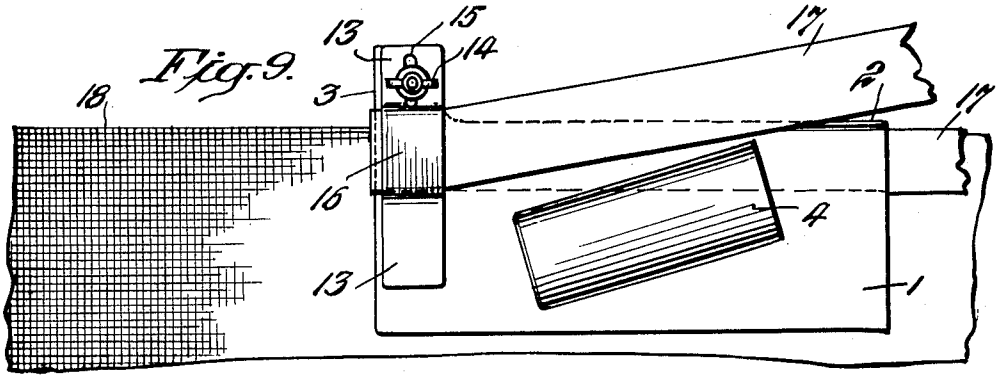


Fig. 10.

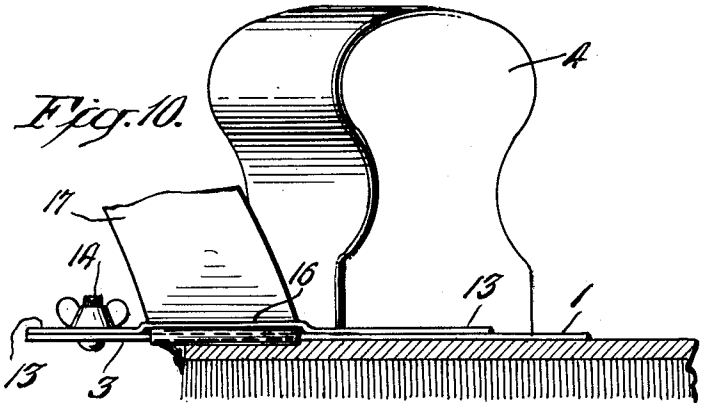
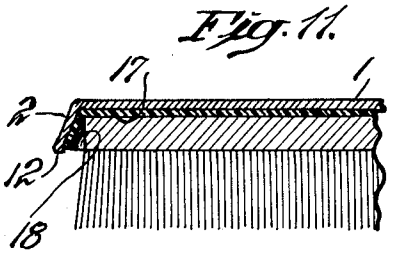


Fig. 11.



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DEVICE FOR BINDING RUG AND CARPET EDGES

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Application October 21, 1953, Serial No. 387,434

5 Claims. (Cl. 154—1.8)

This invention relates to a carpet laying tool, and more particularly a device for the application of a protective tape to the raw marginal edge of carpet backings to preclude the ravelling and depreciation of the marginal edge portions, and more especially to provide a neat and even finish to rugs and carpets. This application is a continuation-in-part of my copending application Serial No. 161,762 filed May 13, 1950, now Patent No. 2,677,410.

In rugs and carpeting it is usual to apply a binding tape to the exposed exterior edge to prevent ravelling and to provide a finished end to the carpet or rug. Since the carpeting must be adapted to the floor areas this edge binding is customarily done in the workroom, which has proven time consuming, as well as difficult and tedious for the workmen. It has been proposed to apply a softenable tape formed of plastic or pressure sensitive material manually to the backing of carpet sections near the marginal edge and thereafter run an iron or similar heating element along the tape to cause adherence to the backing. This has been awkward and necessarily depends upon the judgment or skill of the operator, and has not resulted in a product having the required uniformity and finish. It is the primary object of the present invention to provide a device capable of uniformly applying a binding to the edge of carpet backings which will be accurately positioned with respect to the tuft and backing portions to form a substantially permanent bond with the marginal edge and to preclude unravelling and deterioration at the edge portions. These objects are achieved by the application of a flexible tape of edge binding material to the carpet backing in overlapping relationship with respect to the edge and folding the overlapped portion of the tape firmly against the exposed edge portion of the carpet. The invention contemplates binding carpet edges by the use of heat or pressure-sensitive taping material in such a manner that the material of the tape or coating thereof is softenable or activated as the tape is folded over the carpet backing and raw edge portions thereof. This is preferably accomplished by the use of a device such as that generally described in my aforementioned patent and with or without the use of heat or supplemental means capable of activating the tape in such a manner that it becomes firmly attached to the carpet backing and raw edge portion in situ as the device is moved along the carpet edge while in an inverted position.

The objectives of the invention may be obtained by a number of means. For example, the backing and edge portions of the carpet may be first provided with a coating of a suitable adhesive such as a rubber adhesive and the tape then applied to the carpet backing in overlapped relation to the marginal edge and the overlapped portion then folded firmly against the raw edge to become permanently adherent thereto. Alternatively, a tape composed of or coated with a heat softenable plastic or cementitious material may be applied in overlapping relation to the marginal edge of the backing in a heated condition and folded over upon the exposed raw edge in such a manner as to bind together the exposed threads of which the backing is composed in a permanent structure. It is also contemplated that a taping material coated with a pressure sensitive adhesive be applied in overlapped relationship to the marginal edge and folded against the exposed threads in a similar manner.

Referring to the drawings I have shown a device constructed in accordance with the invention. Figure 1 is a plan view illustrating the device in the process of applying a heat sensitive taping to the marginal edge of carpet. Figure 2 is a side elevation of the device. Figure 3 shows a modification of the device illustrated by Figure 2. Figure 4 is a bottom view showing the downwardly flanged edge portion of the tool for folding the overlapped portion of the tape against the raw edge of the carpet. Figure 5 is a sectional view of a carpet showing a tape applied thereto in overlapped relation. Figure 6 illustrates a tape composed of heat softenable plastic material. Figure 7 shows a tape coated with a pressure or heat sensitive adhesive. Figure 8 is a sectional view of a carpet backing similar to that shown in Figure 5 and illustrating the raw edge permanently bound by a tape of a heat softenable plastic substance. Figure 9 illustrates a device such as shown by Figure 2 without the heating element. Figure 10 illustrates a front elevation of the tool in Figure 9 in the process of overlapping and folding a tape of fabric material to the carpet backing and raw edge portions previously coated with a rubber adhesive. Figure 11 is a sectional view showing the curved edge of the device in the process of folding the binding tape into the raw edge portion of the carpet.

The present device preferably includes an elongated flat plate **1** of metal or other suitable material having a downwardly flanged longitudinal edge **2** and an arm **3** projecting outwardly near the front of the tool and slightly in advance of the operating flange **2**. An operating handle **4** is suitably secured on the top of the flat plate **1** and biased away from the downwardly flanged edge **2** toward the front of the tool for convenience in manipulation during carpet binding operations.

The foremost portion of the flanged edge **2** is tapered outwardly at **5** as shown in Figure 4 to fold the overlapped portion of the tape firmly into engagement with the raw edge portion of the carpet as the device is moved along the marginal edge, as shown more particularly in Figure 1.

In accordance with one phase of the invention the marginal edge **18** of the carpet backing may be coated with a layer of a suitable adhesive material such as a rubber adhesive and a tape which may be from one to two inches in width evenly and uniformly applied to the backing and exposed raw edge portion by moving the device along the edge of the carpet, as shown particularly in Figure 1. Referring to Figure 11 it will be seen that the lowermost portion of the downwardly flanged edge **2** is curved or inclined slightly in the reverse direction to the direction of original bend, as at **12**, and as shown in Figure 2 the depth of the flanged edge **2** gradually decreases from the front to the controlling operational edge of the device.

The outwardly extending arm **3** on the flat plate **1** is formed with an opening and a guide finger **13** is secured to the arm **3** by a winged nut and screw **14** which operate through a slot **15** formed in the guide finger **13**. As shown in Figures 1 and 10 the guide finger **13** has a stepped portion **16** so that the inner section of the guide finger is elevated slightly above the surface of the flat plate **1** of the tool.

With the illustrated construction it will be appreciated that an intermediate portion of the tape **17** may be applied in overlapped relation to the marginal edge of the carpet backing and the overlapped portion pressed against the raw edge by the downwardly flanged longitudinal edge **2** of the tool and fed around the leading edge and in a reverse direction beneath the adjustable guide finger **13** in the manner shown particularly in Figures 1 and 10 of the drawings. It will be appreciated that as the device is moved along to the left, as shown in Figure 1, the tape is automatically fed beneath the guide finger

13, around the leading edge of the tool, and below the downwardly flanged portion 2 so as to be firmly pressed into engagement with the exposed raw edge of the carpet section. It will be appreciated that the finger 13 may be adjusted by means of the wing nut 14 to create an overlap in the binding tape substantially equal to the depth of the backing so that after the tape is applied it will be situated essentially in the position illustrated by Figures 5 and 11.

For most applications it is preferred that the flanged edge 2 of the tool device be tapered rearwardly for the following reasons. Since this tool is adapted to be employed in binding carpets of varying thickness it becomes necessary in certain cases that a greater portion of the binding tape be turned inwardly to fully cover the edge of the carpet backing up to the tuft portions. It will be appreciated that the depth of turn given to the binding tape 17 may be regulated by varying the position of the guide finger 13 provided with slot 15 and wing nut 14. When applying tape to backing of exceptional thickness, the guide finger 13 is moved into an outward position on arm 3 and a maximum portion of the binding tape 17 is curved downwardly by the flanged edge 2. When this occurs the outermost edge of the binding tape 17 is firmly pressed into engagement with the butting edge of the carpet backing by the bite portion 12 of the edge 2 at the front end of the tool or at the point of maximum depth of the longitudinal edge 2.

On the other hand, on applying tape to thinner backings the guide finger 13 is adjusted so as to produce less of an overhang on the edge of the binding tape and as the tool is moved along and over the edge of the backing, the point of maximum pressure on the outermost edge of the binding tape will be applied by the bite portion 12 of the edge 2 toward the rear portion of the tool or shallower section of the flanged edge 2.

Referring to Figure 6, a tape 20 is shown therein composed of a material adapted to soften and flow into the raw edge portion and backing under the influence of heat and then solidify to firmly lock and mold the marginal edge portion in the manner shown in Figure 8. It will be seen that the ravels 21 are completely imbedded in and locked permanently by the heat softenable plastic material 20. The tape 20 may be formed of any suitable plastic substance or other materials such as vinyl copolymers. In the application of a tape of the character shown in Figure 6 the device of Figure 1 having a heating element 22 is preferably employed. It will be observed that the heating element 22 is disposed on the flat surface of the tool base 1 above that portion of the tool which overlies the tape as the tool is fed along the marginal edge of the carpet backing in the illustrated manner. Preferably, in place of the heating element 22, the handle 4 may be removed and an ordinary household iron secured to the top of the tool 1 by screws or other means.

Figure 7 illustrates a pressure-sensitive type of tape having a backing 24 coated with a pressure-sensitive adhesive 25 which is adapted to become adhered to the edge of the carpet backing and raw edge portions of the carpet as it is accurately brought into overlapping relation with respect thereto by the tool in the manner shown in Figure 9 for example. Alternatively, the adhesive 25 may be of a heat sensitive type adapted to soften and impregnate the backing and raw marginal edge as it is applied therealong by the tool shown in Figure 1.

It will be appreciated that the device for applying binding tape to carpet backings described herein provides a convenient, facile and rapid means whereby the marginal edges of carpets and rugs may be covered and protected without the employment of complicated procedures. Moreover, the device of the invention may be operated easily by unskilled workmen and provides the carpet edge with a substantially permanent edge binding.

In certain cases, particularly the case of pressure-sensitive adhesives, the underside of the guide finger 13 may be coated with an adhesive resistant material to prevent the coated tape from sticking to the tape guiding means.

I claim:

1. A carpet laying device comprising a base, the lower surface of which is adapted to move across the exposed backing surface of a pile fabric carpet adjacent to an edge of the carpet, and having a downwardly flanged longitudinal edge inclined slightly in the reverse direction of the original bend, an arm extending outwardly from the base across the carpet edge, a guide finger adjustably secured on one side of said arm and having a stepped portion providing an opening through which a carpet binding tape may be threaded whereby the device may be used for accurately positioning a carpet binding tape around the exposed edge of the carpet backing as the device is moved along the edge of the carpet.

2. A carpet laying tool comprising a base having a relatively flat lower surface and an elongated guide member extending downwardly therefrom for directing the tool along the edge of an article for the application of taping thereto, an arm extending outwardly slightly above and near the leading end of the guide member and tape guiding means associated with said arm for directing the tape from a source of supply into the bite between the leading end of the guide member and the edge of the article whereby the tape is continuously applied to the article as the tool moves along an edge thereof.

3. A carpet laying tool comprising a base having a straight edge and an elongated downwardly-turned flange along the straight edge for directing the tool along the side of an article for the application of taping thereto, an arm extending outwardly from the base slightly above and in advance of the guide member, said arm including an opening overlapping the edge of the article for a strip of tape whereby tape threaded through the opening is fed along the edge of the article below the base and between the flange and the edge of the article as the tool is moved therealong.

4. A carpet laying tool comprising a base having a straight edge and an elongated downwardly turned flange along the straight edge for directing the tool along the side of an article for the application of taping thereto, the flange tapering in depth from the front to the rear of the tool, an arm extending outwardly from the base slightly above and in advance of the guide member, said arm including an opening overlapping the edge of the article for a strip of tape whereby tape threaded through the opening is fed between the flange and the edge of the article as the tool is moved therealong.

5. A tool device of the character described comprising a base having a relatively flat lower surface and an elongated guide member extending downwardly therefrom for directing the tool along the edge of an article for the application of taping thereto, an arm extending outwardly slightly above and near the leading end of the guide member, tape guiding means associated with said arm for directing the tape into the bite between the leading end of the guide member and the edge of the article, and a heating element disposed on the upper surface of the base and above the portion thereof traversed by the tape.

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