Nov. 13, 1956 G. J. KELLY 2,770,032

TOOL FOR INSERTING FLUTING

Filed Jan. 20, 1951

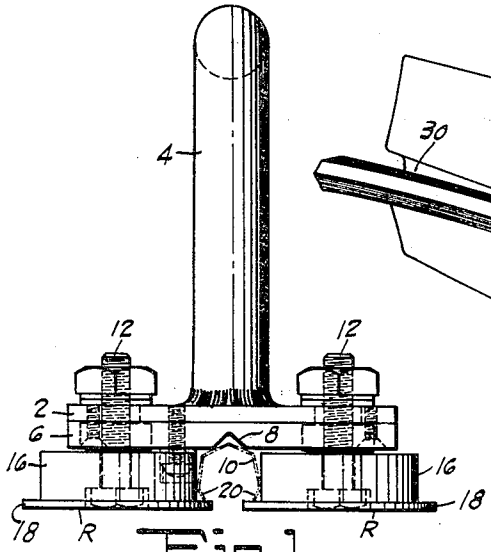


Fig-1

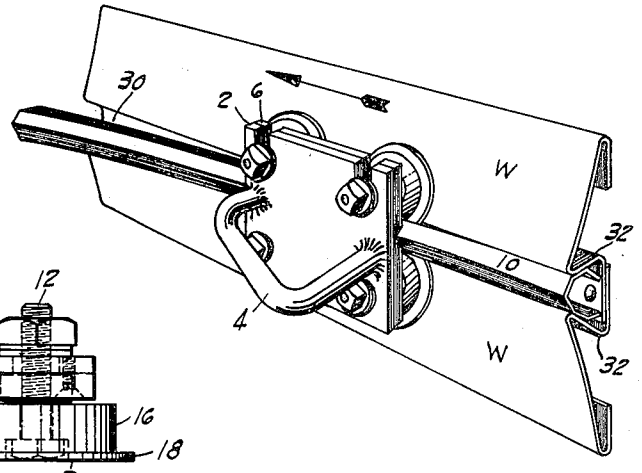


Fig-4

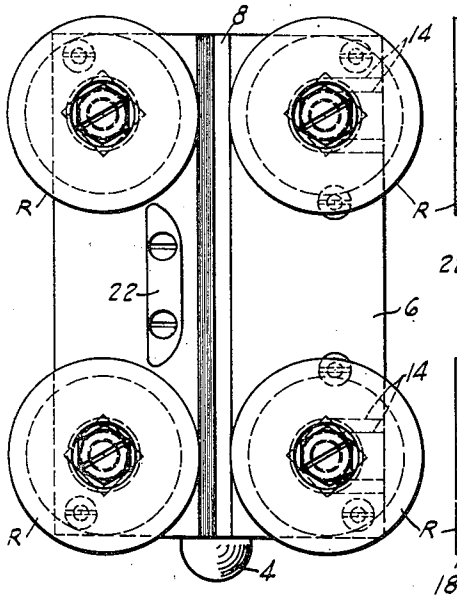


Fig-2

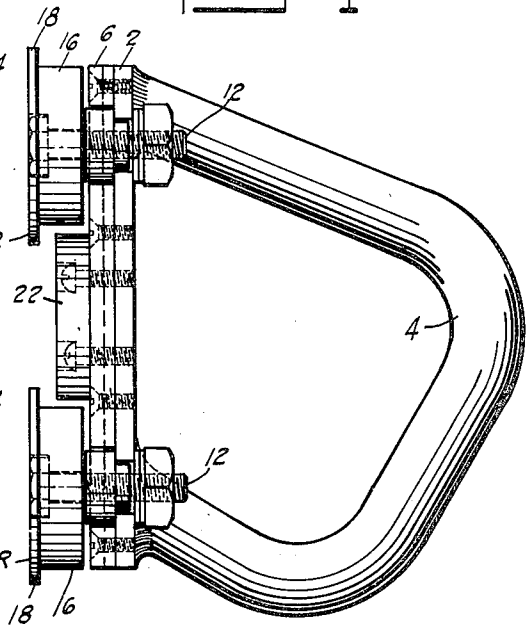


Fig-3

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TOOL FOR INSERTING FLUTING

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2 Claims. (Cl. 29—235)

This invention relates to a tool for the insertion of spring type metallic fluting into a recess.

As previously applied, snap-in type flutings have been manually inserted. In railway car work, the fluting may be as long as eighty feet and require ten or more men to prevent twisting while the fluting is being inserted in the prepared recess. Frequently, the fluting would suddenly twist and injure the installation men. It is an object, therefore, of the present invention to provide a simple tool whereby two men can easily apply a fluting of a snap-in type.

A further object of the invention is the provision of a tool for the insertion of snap-in fluting which tool will not only compress the resilient sides but will positively control twisting of the fluting.

A still further object of the invention is the provision of a tool for inserting fluting in which rollers are provided having portions imparting a definite inward thrust to the lower edge of the fluting as it enters the tool.

These and other objects of the invention will be apparent to persons skilled in the art from a study of the following description and accompanying drawings in which:

Fig. 1 is an end view of the improved tool.

Fig. 2 is a bottom plan view.

Fig. 3 is a side view, and

Fig. 4 is a perspective view showing the tool in use.

Referring now to the drawings in detail it will be seen that the tool comprises a flat base member **2** to which is welded a U-shaped handle **4**. The base member is preferably formed of steel and has attached thereto a fibrous pad **6** of leather or other similar material. This pad as clearly shown in Figs. 1 and 2 is formed with a longitudinally extending groove **8** which is adapted to engage the tent-shaped top portion **10** of the fluting strip. A plurality of rollers R are mounted on the base by means of bolts **12**, and certain of these bolts can be loosened and adjusted in slots **14** to control the lateral spacing between the rollers and obtain the correct compression of the fluting. Each roller is formed with a flat tread portion **16** and a projecting rim portion **18**. The flat tread portion, as clearly shown, is adapted to engage the depending spaced-apart side flanges **20** of the metallic fluting and compress or contract the sides inwardly toward each other. The rims **18** are adapted to engage the lower edges or edge surface of the flanges **20** and hold the fluting upwardly in close engagement with the fibrous pad **6** and its groove **8**. Intermediate the rollers, one or more guide members **22** may be rigidly attached to the base member as clearly shown in Figs. 2 and 3. This guide member will assist in preventing twisting of the fluting and, at the same time, will be of assistance in guiding the fluting into the tool during application of the tool to the fluting.

Referring particularly to Fig. 4, it will be seen that the prepared recess **30** has inwardly sloping side walls **32** forming an elongated opening of less width than the normal spacing of the side flanges and between which the compressed fluting side flanges are to be inserted and

which will closely grip the fluting flanges when the same have expanded after an insertion into the recess. The prepared recess, as shown, is part of a car wall W such as is used at present on the so-called streamlined railway cars. After the tool has been inserted on an end portion of the fluting, as indicated in Fig. 1, the tool will be tipped slightly and moved in the direction of the arrow of Fig. 4. The side flanges at the end portion of the fluting strip will be compressed sufficiently to insert the same through the recess opening where they will become anchored in the recess by resilient expansion against the side walls **32** thereof. Continued movement of the tool will cause the tread portions **16** to progressively compress successive portions of the side walls of the fluting as it is pulled there along, and the rims **18** rolling on the edges of the flanges will not only hold the fluting in close engagement with the groove of fibrous pad **6** but will, due to their rotation, impart a compressive action for inward thrust on the lower edges of the flanges. As the fluting leaves the tool, the roller rims will tend to spread the lower edges of the fluting flanges, but there will be very slight pressure at this point due to the angularity existing between roller and fluting and due to the inward pressure being applied by the spacer to the tool during its movement in the direction thereof. The anchored portion of the strip will exert a force on the adjacent unanchored portion thereof following release from the tool to progressively force the depressed side flanges through the recess opening formed by the diverging side walls **32**. If desired, the bolts **12** of the rollers adjacent the rear end of the tool may be tilted slightly so as to increase or decrease this spreading action of the rims **18**.

While the invention has been described more or less in detail with specific reference to the drawings, it is obvious that various modifications and rearrangements of parts other than those shown and described may be made without departing from the scope of the invention as defined by the following claims.

What is claimed is:

1. A tool for inserting a resilient metallic snap-in type fluting having a top portion and depending side flanges terminating in lower edge surfaces into a prepared recess comprising, a base member having a grooved portion engageable with the top portion of the fluting, pairs of spaced-apart rollers mounted on said base member at opposite sides of said grooved portion for rotation about substantially parallel axes, said rollers each having a flat tread portion engageable with the side flanges of the fluting to compress the same toward each other and a rim portion projecting outwardly from the lower portion of the flat tread portion and engageable with the edge surface of the fluting side flanges to retain the fluting in the tool and to prevent side twist of the fluting during insertion in the prepared recess, guide means secured to said base member between a pair of said rollers engageable by said fluting to assist said rollers in preventing side twist of the fluting, and a handle for moving said tool along said fluting.

2. A tool for the insertion into a prepared recess of a resilient metallic snap-in type fluting having a tent-shaped top portion and depending side flanges adapted to resiliently engage the walls of the recess comprising, a base member having a grooved fibrous pad secured thereto engageable with the tent-shaped top portion of the fluting, pairs of spaced-apart rollers mounted on said base member at opposite sides of said fluting each having a flat tread portion adapted to compress the side flanges of the fluting toward each other, said rollers each also having a rim portion projecting radially from the outer periphery of said flat tread portion engageable with the lower edge surface of said fluting side flanges to force the fluting into engagement with said fibrous pad and prevent twist

of the fluting while retaining the same in said grooved fibrous pad, guide means secured to said base member between a pair of said rollers engageable by said fluting to assist said rollers in preventing twist of the fluting, and means secured to said base member for moving said tool along said fluting.

References Cited in the file of this patent

UNITED STATES PATENTS

322,848 Osborn ---------- July 21, 1885
886,214 Houck ---------- Apr. 28, 1908
1,344,960 Raff ---------- June 29, 1920
1,543,335 Maise ---------- June 23, 1925
1,879,440 Olson ---------- Sept. 27, 1932
1,884,155 Oestanes ---------- Oct. 25, 1932
2,084,672 Dempsey ---------- June 22, 1937
2,142,438 Faiveley ---------- Jan. 3, 1939
2,306,488 Morner ---------- Dec. 29, 1942
2,358,142 Carlin ---------- Sept. 12, 1944