July 29, 1958 E. K. SYPHER 2,845,103

TACK STRIP NAILER

Filed April 23, 1956 2 Sheets-Sheet 1

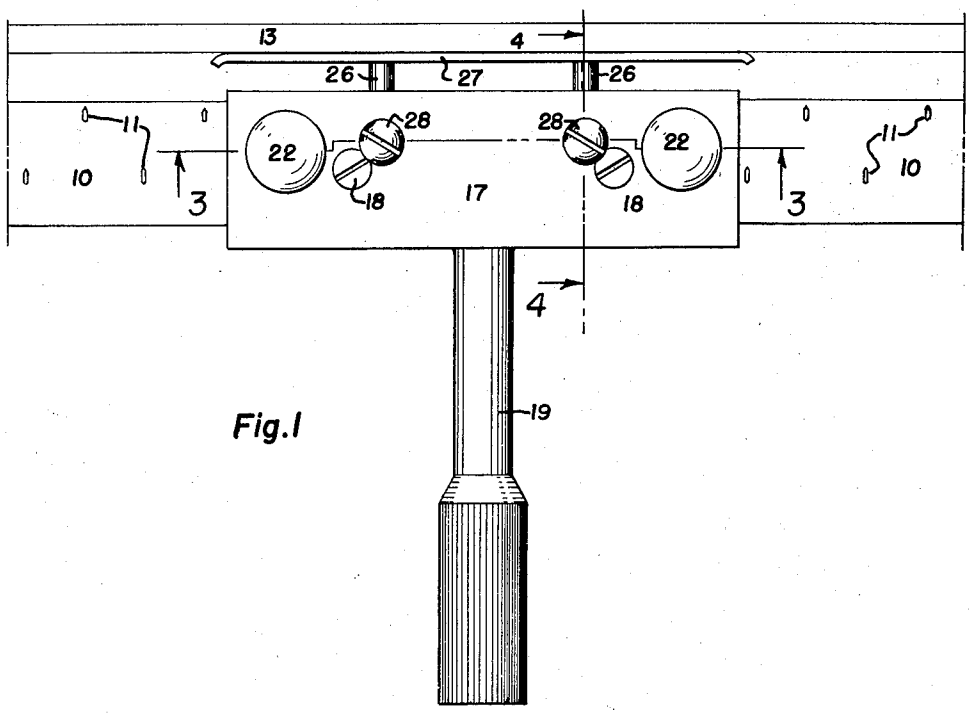


Fig. 1

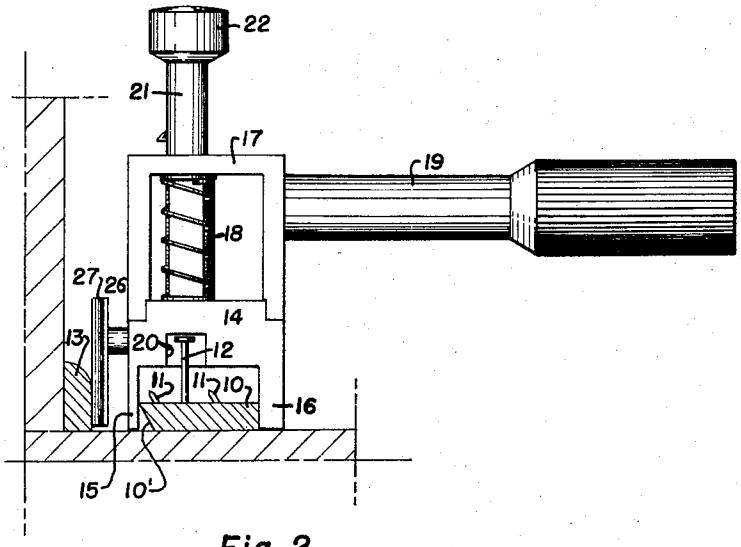


Fig. 2

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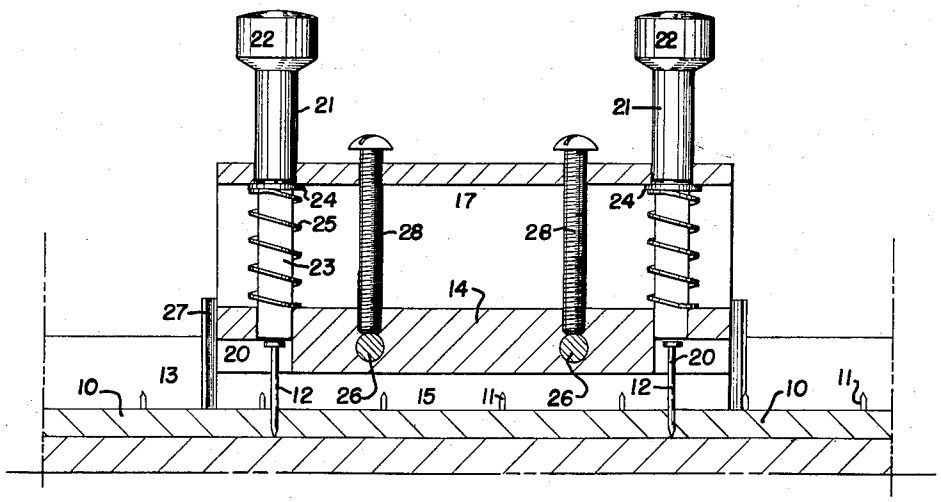


Fig. 3

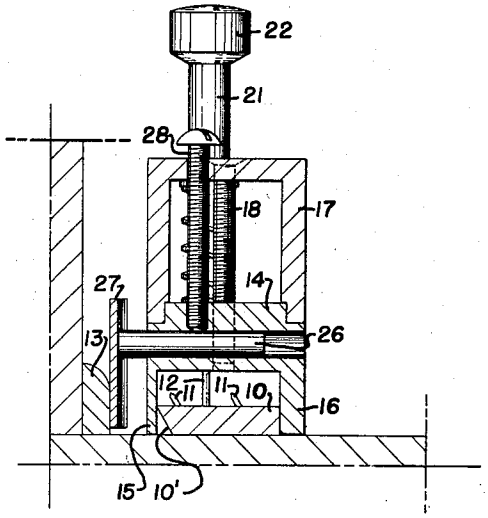


Fig. 4

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TACK STRIP NAILER

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3 Claims. (Cl. 145—46)

Current practices incident to the installation of wall-to-wall carpeting utilize so-called tack strips for anchoring margins of the stretched carpeting along and in desired relation with the walls and wall finish elements bounding the area to be carpeted. Such tack strips are commonly available in some diversity of production and substantial identity of size, proportions, and organization of the associated attaching means. Essentially, the tack strips are convenient lengths of laminated wood, fiber or synthetic material amendable to slight deformation formed in a uniform, well-standardized width to a thickness approximating that of the pads customarily utilized to underlie carpeting and are characterized by pins or points protruding at an angle and in a pattern arrangement from the surface adapted to be engaged by the carpeting and by attaching nails point-fixed in and upstanding from the same side as said pins or points in a uniformly spaced series longitudinally thereof. The tack strips are secured adjacent and along the elements limiting the area to be carpeted with the pins or points uppermost by driving of the attaching nails therethrough and into seated engagement with the floor. It is general practice to space the tack strips outwardly and away from adjacent walls and wall finish elements a distance approximating the thickness of the carpeting to be anchored thereby, and to eventually tuck a trimmed margin of the installed carpeting into such space for frictional retention therein as a smooth edge finish of the carpeting adapted to be left exposed or to be covered by a subsequently-applied wall finish element, as may be preferred, and the long edge margin of the tack strip over which the carpeting is tucked is expediently beveled, or undercut, to facilitate such edge finishing operations.

Proper installation of the conventional tack strips in their appropriate positions of use is marked by complications difficult of satisfactory resolution through the use of the conventional tools and facilities customarily employed. Precise uniform spacing of the strips from and along walls and wall finish elements which are seldom reliably straight is frequently impossible without uneconomic expenditure of time, and driving of the attaching nails is commonly attended by marring of the adjacent wall and wall finish element surfaces as well as the bending of surrounding pins or points out of their useful positions, hence an object of the invention is the provision of a novel and improved tool applicable to facilitate the installation of such tack strips in a manner obviating the complications above discussed.

A further object of the invention is to provide a novel and improved tool applicable in continuous sliding association with tack strips to complete the installation thereof in desired use relationships with speed and precision.

A further object of the invention is to provide a tack strip nailer reactive in sliding association with a tack strip to the successive attaching nails thereof for automatic positioning in driving relation with successive such nails.

A further object of the invention is to provide a novel and improved tack strip nailer adjustably determinative of a desired spacing between tack strips thereby installed and adjacent walls and wall finish elements.

A further object of the invention is to provide a novel and improved tack strip nailer operable with obviation of damage to the associated tack strips and adjacent wall finish elements.

A further object of the invention is to provide a novel and improved tack strip nailer adapted for one hand manipulation in continuous sliding coaction with an associated tack strip.

A further object of the invention is to provide a novel and improved tack strip nailer that is relatively simple and inexpensive of production, facile and convenient in use, positive and efficient in operation, compact in form, and durable throughout a substantially unlimited period of practical utility.

With the foregoing and other objects in view, my invention consists in the construction, arrangement, and operative combination of elements as hereinafter set forth, pointed out in the appended claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a top plan view of an expedient embodiment of the invention as positioned for practical use in association with a tack strip in process of installation.

Figure 2 is an end elevation of the organization according to Figure 1.

Figure 3 is a longitudinal section vertically through the organization according to Figure 1 taken substantially on the indicated line 3—3 of said latter view.

Figure 4 is a transverse section vertically through the organization according to Figure 1 taken substantially on the indicated line 4—4 of said latter view.

A portion of a conventional tack strip is represented in the drawings as a length **10** of appropriate material in a customary width and thickness wherefrom pins or points **11** outstand in a customary patterned and inclined relation interrupted at uniform intervals by attaching nails **12** perpendicularly entered in the length **10** with their heads well above the pins or points **11**. The tack strip is shown as disposed for installation with its length spaced from and parallel to a wall finish element **13** and as formed with a beveled margin **10'** spacedly opposed to said element **13**, in which disposition driving of the nails **12** operates to fix the tack strip in its position of use.

The improved nailer cooperable with and to secure the tack strip in a desired correlation with the finish element **13** includes a generally-rectangular base member **14** of suitable, rigid material, such as metal, in a width exceeding that of the strip length **12**, a length exceeding the spacing between adjacent attaching nails **12** of the conventional strip, and a height exceeding the extension of the attaching nails **12** above the floor to which the strip is to be secured, and the lower surface of said member **14** is longitudinally channeled throughout its length to a width slidably accommodative of the width of the strip length **10** and to a depth accommodative with clearing relation of the strip thickness plus the projection of the pins or points **11** beyond the strip and less than will accommodate the projection of the attaching nails **12** above the strip, whereby to provide spaced, parallel flanges **15** and **16** coplanar with the opposite long sides of the member engageable at the opposite sides of the strip length **10** with their lower, coplanar margins slidably engaging a floor at each side of said strip, thus to condition the member **14** for slidable association with and in a straddling relation over the strip length **10**. A U-shaped, rigid

frame 17 coextensive in length with the member 14 is inverted and closed over said member and securely associated with the latter by means of screws 18 engaging through the closed and upwardly disposed base of said frame and with the upper portion of said member, and a handle 19 fixedly extending perpendicularly from a side wall of the frame 17 provides means for manipulation of the unitary assembly comprised from the member 14 and the frame 17.

At each end of the member 14, like, rectangular recesses 20 open oppositely through the member ends and similarly through the floor of the channel between the flanges 15 and 16 in a disposition laterally of said member and in an opposed intersection with the member such as to align with and accommodate upper ends of the attaching nails 12 when the assembly is associated with the tack strip in the operative relationship shown and described, and said notches 20 similarly extend inwardly and longitudinally of the member such distance as to simultaneously accommodate an adjacent pair of attaching nails 12 and to define between the inner ends of said notches an unintersected zone of the member 14 loosely receivable between the heads of said nails. A rigid driver 21, preferably formed with an enlarged head 22 and a shank 23 angular in cross section, is reciprocably mounted through the closed, upwardly directed base of the frame 17 and through the member 14 in registration with the inner end of each notch 20 and in a length to engage at its shank end with the strip length 10 when its head 22 is in clearing relation with and above the frame 17. The non-circular shank 23 of the driver preferably reciprocates through a complementary non-circular opening in the member 14 to inhibit rotation of the driver in its mounting, and the lower end of said shank is flat in an area exceeding that of the head of an attaching nail 12 substantially coextensive with the width of the associated notch 20. An annular collar 24 is affixed to each driver 21 within the frame 17 for engagement at times with the under surface of the frame base to limit travel of the driver upwardly of the assembly in a manner to dispose the lower end of the driver shank substantially flush with the floor of the associated notch 20, and an expansive coil spring 25 about the driver shank 23 acts between said collar and the upper surface of the member 14 to maintain the driver in an elevated relation with the frame and member assembly wherein the lower end of the driver shank is retracted into clearing relation with the head of an attaching nail accommodated within the associated notch 20. Completing the tool for its intended use, spaced, parallel, like bores transversely of the member 14 between the notches 20 slidably accommodate stems 26 fixedly and perpendicularly related with a gauge fence 27 thereby mounted in parallel relation with the side of the assembly characterized by the member flange 15, and clamp screws 28 operatively through the frame 17 and member 14 perpendicular to said stems releasably engage the latter to adjustably clamp and secure the gauge fence 27 in various spacings from and maintained parallelism with the adjacent side of the frame and member assembly. The gauge fence 27 preferably is of a length slightly exceeding that of the member 14 and is curved or relieved at its opposite ends for free sliding engagement with a wall or wall finish element, and said gauge fence is associated with the stems 26 in a substantial width effective to dispose the lower margin thereof slightly above the floor plane established by the free margins of the flanges 15 and 16.

Organized as shown and described, the improved tool unit is adapted for simple and convenient single hand manipulation facilitative of tack strip installation with the gauge fence 27 adjusted laterally of the member 14 to a spacing between its exterior surface and the inner face of the adjacent flange 15 equal to the spacing desired between the wall finish element 13 and the adjacent margin of the tack strip. A length 10 being placed on the floor with its pins or points 11 and attaching nails 12 projecting upwardly and its beveled margin 10' opposed to the finish element, the tool is manipulated by means of the handle 19 to engage with and straddle the strip length with the gauge fence 27 directed toward the element 13, the heads of an adjacent pair of nails 12 received in the notches 20, and the free margins of the flanges 15 and 16 riding upon the floor on the opposite sides of the strip, whereafter pressure is applied to the handle 19 to shift the tool into engagement of the gauge fence 27 against the element 13 and to simultaneously move the strip length embraced by the tool into the spacing from said element determined by the gauge fence setting, in which relation the lower ends of the drivers 21 are registered with the heads of the attaching nails accommodated within the notches 20. With pressure maintained through the handle to hold the gauge fence against the element 13, impacts are delivered, as through a hammer, to the heads 22 of the drivers 21 to seat the attaching nails 12 through the length 10 and in the subjacent floor, said drivers returning to elevated relation with the tool under the influence of their springs 25 after each impact. Such driving of the nails 12 is positively effective to seat the latter without any effect whatever upon the pins or points 11 and without occasion for damage to wall or wall finish surfaces. The pair of nails 12 initially engaged by the tool having been driven, the tool is then free for shift in either direction in maintained straddling relation with the strip length 10 and maintained engagement of the gauge fence 27 against the finish element 13 until the next adjacent nail 12 enters the appropriate notch 20 and checks the shift of the tool through engagement with the inner end of the notch such as to position the nail for reaction to the associated driver, whereupon such nail is driven and shift of the tool is continued to successive engagement with and driving of the full series of attaching nails. Thus, with the gauge fence 27 maintained in contact with the finish element 13 as the successive attaching nails are driven, the strip length 10 is conformed to any longitudinal deviation of said element in a manner to maintain a precise and uniform spacing of the tack strip relative to the element.

Since changes, variations, and modifications in the particular form, construction, and arrangement of the elements shown and described may be had without departing from the spirit of my invention, I wish to be understood as being limited solely by the scope of the appended claims, rather than by any details of the illustrative showing and foregoing description.

I claim as my invention:

1. A nailer applicable to the installation of tack strips characterized by attaching nails perpendicularly outstanding from end-fixed relation therewith in a uniformly-spaced succession longitudinally thereof, said nailer comprising a rigid member having flanges to straddle the width of a tack strip in longitudinally-shiftable relation with portions thereof wherein the attaching nails have been seated, drivers reciprocably mounted in said member in a spacing corresponding with that of said attaching nails for aligned registration with adjacently-paired attaching nails of an associated strip, means resiliently urging said drivers to the limit of their extension from said member away from the strip, and guide means to register said drivers with the attaching nails.

2. The organization according to claim 1, wherein said member is formed with a straight channel longitudinally intersecting its lower surface and of a width to slidably accommodate a tack strip portion wherein the attaching nails have been seated and of a depth less than the strip thickness plus the projection of the attaching nails therefrom, and said guide means comprising like notches opening oppositely through the ends of the member and similarly through the floor of said channel longitudinally of the member to register their inner ends with the respectively adjacent drivers said notches having a width and

depth slidably receptive of the free ends of the attaching nails of a strip portion embraced by said channel.

3. A tack strip nailer comprising a rigid, rectangular member formed with a straight channel longitudinally intersecting one of its long surfaces adapted to laterally and loosely embrace a tack strip, said member having like notches opening through opposite ends of the member and through a face of said channel, said notches extending longitudinally of the member and terminating inwardly thereof in abutments spaced longitudinally thereof, a pair of drivers reciprocable in said member perpendicular to said face of said channel and through the inner end of each of said notches, means resiliently urging each of said drivers away from said channel and into clearing relation with the inner end of its associated notch, and a handle fixed to a long side of said member and extending perpendicular to said side.

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