July 9, 1957 S. R. WELTY 2,798,220

NAIL DRIVER

Filed Dec. 27, 1955

Fig. 1.

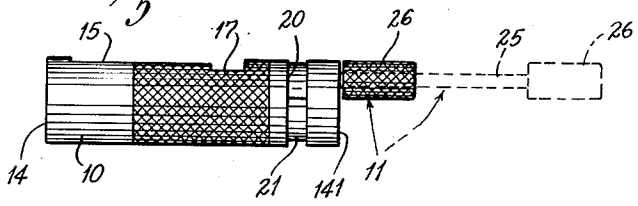


Fig. 2.

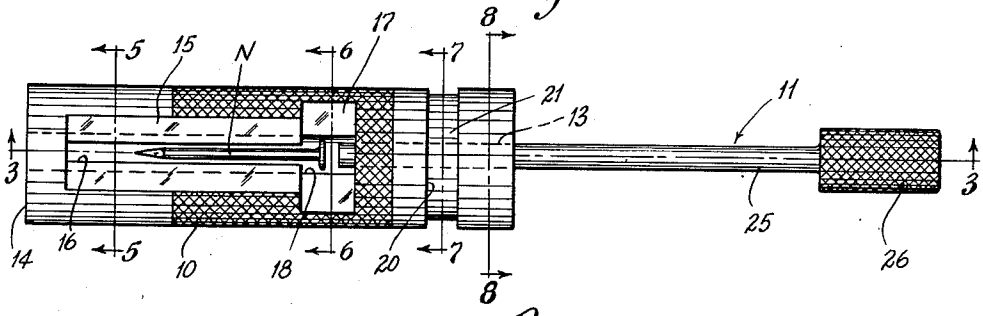


Fig. 3.

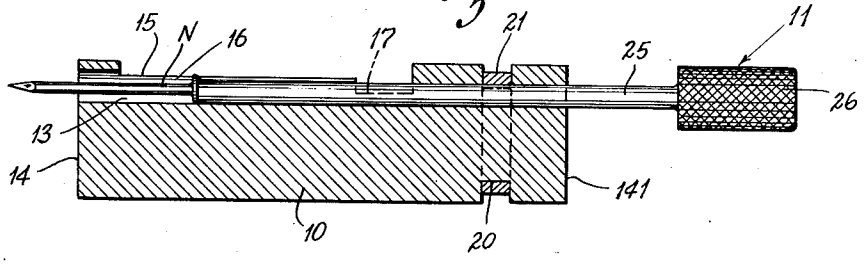


Fig. 4.

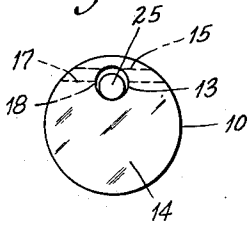


Fig. 5.

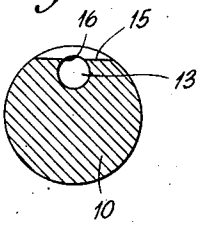


Fig. 6.

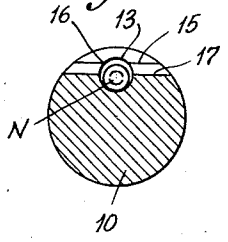


Fig. 7.

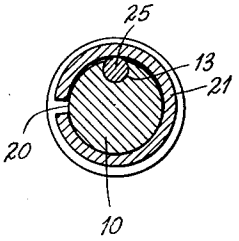
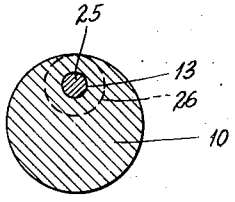


Fig. 8.



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NAIL DRIVER

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Application December 27, 1955, Serial No. 555,568

5 Claims. (Cl. 1—47)

The present invention relates to a nail driver. More particularly, it relates to a tool that can be used by a carpenter for the purpose of driving nails such as those that secure wall paneling into place. With wall paneling of that kind, it is necessary to avoid setting the nails too deeply and also to avoid hammer marks upon the paneling.

The present invention is designed to be used for nailing such wall paneling into place without setting the nails too deeply and without leaving hammer marks upon the paneling. It further has the advantage that it can be used with painted or otherwise colored nails, so that the nails can be made as inconspicuous as possible.

It is a further object of the invention to provide a tool of the foregoing type which can be used easily. In particular, it is an object to provide a tool that can be loaded with no difficulty and aimed with no difficulty, so that the carpenter can learn to use it quickly. Of course, the tool has to be inexpensive and it is contemplated that one of the tools may be given away, or at least very inexpensively supplied, with a certain number of nails or certain amount of paneling.

Other objects will appear from the description which follows:

In the drawings:

Figure 1 is a side elevation of the tool;

Figure 2 is a somewhat enlarged top view of the tool, showing a nail in place preliminary to its being driven;

Figure 3 is a longitudinal section on the line 3—3 of Figure 2 with the nail partly driven;

Figure 4 is a view from the left end of Figure 2, with the nail omitted; and

Figures 5, 6, 7 and 8 are transverse sections on the lines 5—5, 6—6, 7—7 and 8—8 of Figure 2, respectively.

The tool comprises two primary relatively movable parts. First, the barrel part **10** is preferably more or less cylindrical in shape, and is provided with a passage to receive the pin or driving element generally designated **11**. The dotted line in Figure 1 indicates that the driving element **11** can be withdrawn from the barrel element **10**.

The barrel **10** has a passage **13** through it from the left end **14** to the right end **141**. The two ends have flat surfaces. This passage **13** is not through the center of the tool, but passes through it adjacent the lateral surface thereof. A first flat portion **15** is milled or otherwise formed on the side of the barrel element **10** so as to intersect the bore **13**, leaving a narrow slot **16** the length of the flat portion **15**. To the right of the flat portion **15**, in Figure 2, there is a deeper flat portion **17** which diametrically intersects the opening **13**, so as to provide a wider slot **18** throughout the length of the flat part **17**. As will appear, the narrower slot is designed to pass the shank, but not the head of the nail to be driven, while the slot **18** will admit the head.

To the left of the flat portion **15** and to the right of the flat portion **17**, the barrel element **10** is cylindrical. However, to the right in Figures 2 and 3, there is a groove

20 containing a friction device **21** which may be provided to restrain movement of the pin or driving element **11**, and to prevent inadvertent loss of the driving element **11** from the barrel **10**. As illustrated in Figures 2, 3 and 7, the groove **20** receives a friction ring **21**, which is illustrated as a split ring that can engage the top of the driving element and prevent escape thereof.

The left end of the barrel **10** is illustrated as closing the end of the slot **16**. However, the slot is so close to the top of the left end of the narrow end that it is quite easy to aim the device for nailing the nail at the proper point.

The pin, or driving element generally indicated at **11**, includes a shaft **25** and a handle portion **26**, which latter portion constitutes the impact receiving head. The shaft **25** is of a size substantially equal to that of the bore **13** so that it slides comfortably therein without excessive lost motion. The friction ring **21** acts against the shaft **25**.

In use, the barrel **10** is held with the slot upwardly. The head **26** is seized between the thumb and forefinger and the pin **10** is withdrawn to the dashed line position of Figure 1, which is the full line position of Figure 2. A nail N is then dropped into the passage **13**. The wider slot **18** permits the head of the nail to drop into the bore **13**, while the slot **16** receives the shaft of the nail. Thereupon, the pin or driving element **11** is pushed inwardly to move the nail into position to penetrate the paneling.

The flat surface **14** of the barrel **10** is placed against the paneling with the opening of the bore **15** encircling the point at which the nail is to penetrate the paneling. Usually, the user can easily locate the tool against the panel for accurate driving of the nails. If a very close and accurate nailing is required, the user can partly push the nail through the barrel **10** to project the point as illustrated in Figure 3. He then places the point of the nail in exactly the place he wishes it to be driven, after which he may move the barrel **10** against the surface of the panel while yieldably holding the pin or driving element **11** until flat engagement of the surface **14** against the paneling is obtained.

The surface **14** is of considerable extent, the tool being preferably about five-eighths of an inch across. It thereby gives stability to the tool during use, and minimizes indentations of the paneling when hammer blows strike it.

With the tool thus held, a hammer may be used against the head **26** of the pin or driving element **11**, and the nail driven into place. The shaft **25** is held securely by the sliding fit that it has in the bore. This minimizes wobbling of the nail and causes the nail to go in straight. As the nail is driven fully into the paneling, the pin or driving element **11** will move into the bore **13**. When fully driven, the head **26** of the pin or driving element **11** may engage the right end **141** of the barrel **10**. It is frequently desirable to have the head **26** engage the right end of the barrel when the other end of the pin or driving element **11** reaches the surface **14**, so that when the pin or driving element is fully driven the head of the nail will be precisely flush with the paneling.

What is claimed is:

1. A nailing tool comprising a barrel having a bore therethrough, and an end surface transverse to the bore, through which the bore penetrates, the bore being lengthwise of the barrel; the bore having a predetermined size so as to pass a headed nail of predetermined size; a lateral surface on the barrel intersecting the bore, the surface terminating short of the ends of the bore, and the intersection with the bore providing a slot to receive the shank of the nail, but not the head, so that a nail in the bore will not be deflected out of the bore, another lateral surface intersecting the bore adjacent the first surface, and providing an intersection large enough to receive the head

of the nail; and a driving element slidable in the bore to engage the nail and transmit hammer blows to the nail.

2. The tool of claim 1, wherein the first-named slot extends close to the end surface to aid in aiming the tool.

3. The tool of claim 1, wherein the driving element has means on one end engageable with the barrel to limit its penetration of the barrel, and a length to cause it to be flush with the end surface when so limited.

4. The tool of claim 1, wherein there is means on the barrel and driving element providing engagement between them to restrict movement of the driving element and prevent its coming out of the barrel inadvertently.

5. The tool of claim 1, wherein the driving element has means to engage the barrel when the nail is fully driven and wherein the end surface of the barrel is flat and of substantial area, so as to engage against the surface being nailed, and to distribute any hammer blows applied to the driving element and transmitted to the barrel when the barrel-engaging means of the driving element engages the barrel, over the area of the flat end surface.

No references cited.