

Feb. 20, 1940.

J. L. PAUZE

2,190,883

LOCK NAIL

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Fig. 1.

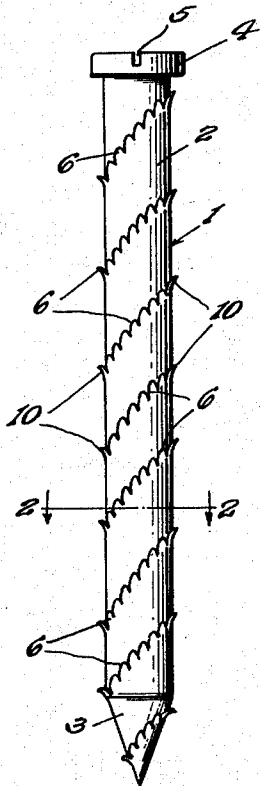


Fig. 2.

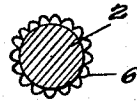


Fig. 5.

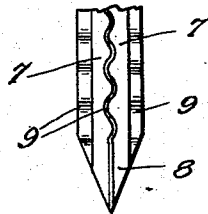


Fig. 6.

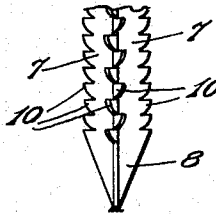


Fig. 7.

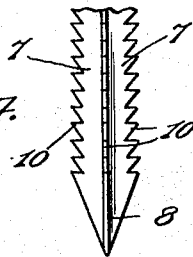


Fig. 8.

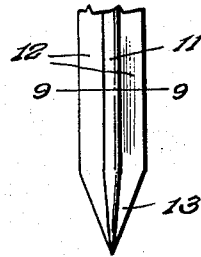


Fig. 9.



Fig. 4.

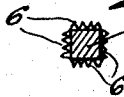


Fig. 3.



Fig. 10.



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2,190,883

LOCK NAIL

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1 Claim. (Cl. 85—21)

This invention relates to a nail or other driven headed fastener, and one object of the invention is to provide a fastener of this character so constructed that, while it may be easily driven into place through wood or the like, the nail will be firmly held after it has been driven into place and prevented from being worked loose by strain exerted longitudinally of the nail.

It is another object of the invention to provide the nail with a special arrangement of spurs extending laterally from the nail and so arranged that, while the nail cannot be accidentally worked loose by strain exerted longitudinally of the nail, it may be removed when a screw-driver or other turning implement is engaged with the outer end of the nail and turning motion imparted to the nail. It will thus be seen that the nail may be driven into place through wood in the usual manner with a hammer and, while it will be firmly held against accidental displacement, it may be removed when so desired in the same manner in which a screw is removed.

The invention is illustrated in the accompanying drawing, wherein

Figure 1 is a view in elevation of a nail constructed in accordance with the invention,

Figure 2 is a sectional view taken through the nail along the line 2—2 of Figure 1,

Figure 3 is a sectional view taken transversely through a nail which is triangular in cross section instead of circular as shown in Figure 2,

Figure 4 is a view similar to Figure 3 showing a nail which is rectangular in cross section,

Figure 5 is a side elevation of a modified form of nail,

Figure 6 is a side elevation of a nail somewhat similar to Figure 5 but having teeth along its edges instead of crimped portions,

Figure 7 is a view of a nail having straight teeth instead of offset teeth as shown in Figure 6,

Figure 8 is a side elevation of another form of nail,

Figure 9 is a sectional view taken transversely through a nail constructed as shown in Figure 8, the view being along the line 9—9 of Figure 8, and

Figure 10 is a sectional view taken transversely through a nail constructed similar to that illustrated in Figures 5, 6 and 7 but having teeth omitted.

The nail illustrated in Figure 1 and indicated in general by the numeral 1 may be formed of iron, copper or any other desired metal and is provided with a shank 2 which may be of any desired length and diameter. The shank may be

circular in cross section, as shown in Figure 2, or it may be triangular or square in cross section, as shown in Figures 3 and 4, or any other cross sectional outline desired. One end portion of the shank is tapered, as shown at 3, to provide a penetrating point and allow the nail to be easily driven into place. At its other end the shank is formed with a head 4 which may be either flat, as shown, or rounded and is formed with a diametrically extending groove 5 for receiving the blade of a screw-driver employed when it is desired to remove the nail. By forming the nail with a head having a flat upper face it may be struck with a hammer to drive the nail into place without likelihood of the metal at opposite sides of the groove being upset and the groove or eye closed. While it is desired to permit the nail to be easily driven into place, it is desired to prevent the nail from accidentally working loose when pulling force is exerted longitudinally of the nail. In order to do so, there have been provided a plurality of spurs 6 which are cut from the shank of the nail and extend in a spiral path about the nail. These spurs are formed close together and, since they follow a spiral path about the shank of the nail from the head 4 to the penetrating end of the shank, will extend about the shank in the same manner that the thread of a screw extends about the shank of the screw. These prongs are sufficiently resilient to permit them to be flexed somewhat toward the shank of the nail as the nail is driven into place and their resiliency will cause them to have contacting engagement with the wood through which the nail is driven. Therefore, after a nail has been driven firmly into place, the points of the prongs will have gripping engagement with the wood and pulling force exerted longitudinally of the nail will cause the points of the prongs to be embedded in the wood about the nail and very effectively prevent the nail from being worked out of place by the pulling force. When, however, it is desired to remove the nail, a screw-driver may be engaged in the groove or eye 5 and turning motion imparted to the nail. The prongs or spurs will then act in a manner similar to the threads of a screw and cause the nail to be moved outwardly. It will thus be seen that, while the nail will be prevented from being accidentally worked out of place by pulling force exerted longitudinally of the nail, the nail may be removed when so desired by turning it.

In Figure 5 there has been illustrated a driven-headed fastener which is substantially cross shaped in transverse section and thus provided

with arms or webs 7 which extend in radiating relation to the longitudinal axis of the fastener. The lower end portions of the webs are cut diagonally to provide the nail or fastener with a tapered point 8 in order that it may be easily driven into place and marginal edge portions of the web are crimped transversely to provide fluted edge portions 9. These fluted edge portions serve to prevent the nail from easily working its way out of wood or the like into which it has been driven.

In Figure 6 and in Figure 7, the side arms or webs 7 have been shown formed along their marginal edges with teeth or spurs 10 which may be alternately bent laterally in opposite directions, as shown in Figure 6, or may all extend in the same plane as the web. These teeth have their upper edge faces extending at right angles to the longitudinal axis of the fastener and their outer side edges are inclined. Therefore, the fasteners, when formed as shown in Figure 6 or as shown in Figure 7, may be easily driven into place, but the teeth or spurs will serve very effectively to prevent the fasteners from working upwardly out of place. If so desired, the webs or side arms may have the teeth or spurs 10 or crimped portions 9 omitted, as shown in Figure 10.

In Figures 8 and 9, there has been illustrated

another modified form of driven-headed fastener wherein the shank 11 is preferably circular in cross section although it may be of other outline if so desired. This shank may be of any diameter desired and along opposite side portions of the shank are formed with webs 12 which are of less thickness than the diameter of the shank. Lower end portions of the webs are tapered and so is the lower end portion of the shank. Therefore, this nail or driven headed fastener will be formed with a tapered end portion 13 adapting it to be easily driven into place. The webs 12 serve to strengthen the shank of the nail and also materially aid in retaining the nail in place after it has been driven into wood.

Having thus described the invention, what is claimed as new is:

A driven-headed fastener comprising a shank having longitudinally extending webs projecting laterally therefrom and having their lower ends cut diagonally to provide the fastener with a tapered end adapting it to be easily driven into place, said webs having their outer side edge portions formed with teeth or spurs, the teeth or spurs being alternately bent laterally in opposite directions and serving to prevent the fastener from working loose after being driven into place.

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