F. MOLESWORTH,

NAIL FOR PACKING CASES AND THE LIKE.

APPLICATION FILED SEPT. 16, 1920.

1,428,111. Patented Sept. 5, 1922.

FIG. 1.

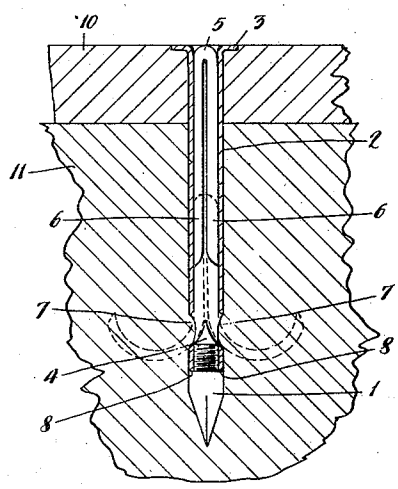


FIG. 3.

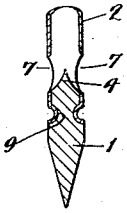


FIG. 4.

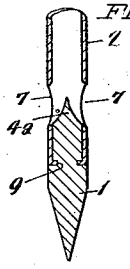


FIG. 5.

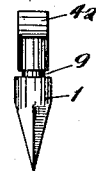


FIG. 2.

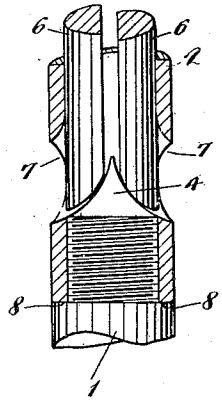
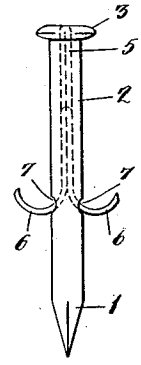


FIG. 6.



Inventor:

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UNITED STATES PATENT OFFICE.

FRANK MOLESWORTH, OF AUCKLAND, NEW ZEALAND.

NAIL FOR PACKING CASES AND THE LIKE.

Application filed September 16, 1920. Serial No. 410,601.

To all whom it may concern:

Be it known that I, FRANK MOLESWORTH, of 10 King Street, Arch Hill, Auckland, in the Provincial District of Auckland, in the Dominion of New Zealand, a subject of the King of Great Britain and Ireland, have invented certain new and useful Improvements in an Improved Nail for Packing Cases and the like, of which the following is a specification.

This invention provides an improved nail especially adapted for use as a fastening in the construction and securing of packing cases and the like from which it is desired to prevent pilfering.

According to the invention, the nail is formed with a solid lower portion, the remaining portion being hollow.

A head is provided around the upper end of the hollow portion and the lower portion besides being pointed to facilitate the entrance of the nail into the wood, is also pointed at its upper end which projects upwards into said hollow portion.

A member split into legs is housed in the hollow portion, the latter being provided with side opening level with the pointed upper end of the solid portion.

The legs of the split member are sharpened on the inner sides of their lower ends so that on forcing said member downwards in the hollow portion, after the nail has been driven into the wood, said legs are separated and spread outwards through the side openings in the hollow portion, by coming in contact with the pointed upper end of the solid portion and enter the wood, thereby providing anchoring means, which prevents said nail from being withdrawn or the board secured thereby from being removed, except by splitting or otherwise damaging the wood.

The invention will be more particularly described in conjunction with the accompanying drawing, in which:—

Figure 1 is an enlarged sectional elevation of a portion of a case showing a nail secured therein.

Figure 2 is a part sectional elevation of the same nail on a larger scale, but before the split member is forced downwards in the hollow portion.

Figures 3 and 4 are part sectional elevations of modifications, and

Figure 5 is a side view of the lower pointed portion used in Figure 4, while,

Figure 6 is an elevation of a nail in which the hollow and solid portions are integral and showing the legs of the split member emerging from the hollow portion.

In the drawing, 1 is the solid lower portion of the nail and 2 the hollow portion, the latter being provided with a head 3 around its upper end and the former besides being pointed in order to facilitate the entrance of the nail into the wood, having a concave conical upper end 4 which projects upwards into the hollow portion 2.

The member 5 housed within the hollow portion 2, is split for the greater part of its length into legs 6, each of which is sharpened at the inner side of its lower end.

For each leg 6, a side opening 7 is provided in the portion 2 level with the concave conical end 4 of the portion 1.

The solid portion 1 can be screwed into the hollow portion 2 and be provided with a shoulder or shoulders 8 for the lower end of the portion 2 to bear against, as in Figures 1 and 2, or it can have a groove or grooves 9 into which the lower end of said portion 2 can be pressed or turned as in Figures 3 and 4. Also if desired the solid portion 1 and hollow portions 2 can be integral (Figure 6).

Instead of the upper end of the solid portion 1 being of a concave conical formation, a concave knife edge end 4^a can be provided as shown in Figures 4 and 5.

When nailing two pieces of wood together, say for instance the end of a lid 10 to a case end 11, the member 5 is completely housed in the hollow portion 2, with the lower ends of the legs 6 resting on the pointed upper end of the solid portion 1.

After the nail has been driven right home, the member 5 is punched or otherwise forced downwards in the hollow portion 2, whereupon the legs 6 owing to the shape of their lower ends and to the pointed upper end of the solid portion 1, are caused to separate and spread outwards through the openings 7 and bury themselves in the case end 11.

The shape of the ends of said legs also causes same to take an upward path through the wood with the result that the nail becomes securely anchored in the case end 11 as shown.

The nail cannot be withdrawn and the board or the like it secures cannot be re-

moved except by splitting the wood, or leaving other tell tale evidence of pilfering.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed I declare that what I claim is:—

A non-removable nail comprising a hollow tubular member having a head at its upper end and a pair of diametrically opposite holes at its lower end; a solid piercing member separate from said hollow member and reduced at its upper end to fit and be secured to the hollow member, said reduced portion of the solid piercing member having a pair of cam surfaces one for each hole, said piercing member having a sharpened point at its other end; and an anchoring member mounted within said hollow member and having, split legs one in contact with each of said cam surfaces, said cam surface causing the legs to move outwardly when the anchoring member is given an independent driving movement.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK MOLESWORTH.

Witnesses:
WILLIAM PINCHES,
MARY PILKINGTON.