(No Model.)

J. C. KEARNS.

HORSESHOE NAIL.

No. 322,542. Patented July 21, 1885.

Fig. 1.

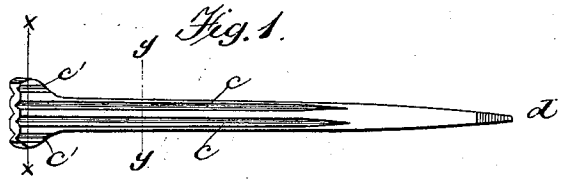


Fig. 2.

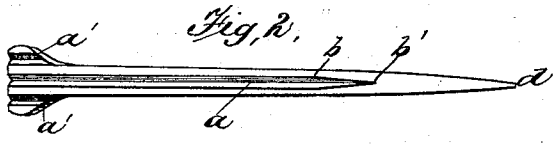


Fig. 3.

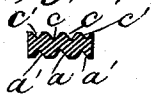


Fig. 4.



Fig. 5

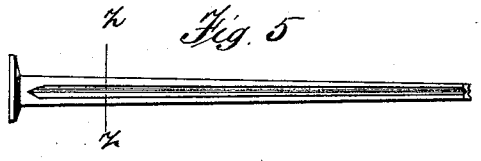


Fig 6



Fig 7



Attest
W. H. Knight
H. L. Bernhard

Inventor
John C. Kearns
Per Edson Bros
Attorneys

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

JOHN C. KEARNS, OF MAITLAND, PENNSYLNANIA.

HORSESHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 322,542, dated July 21, 1885.

Application filed August 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. KEARNS, a citizen of the United States, residing at Maitland, in the county of Mifflin and State of Pennsylvania, have invented certain new and useful Improvements in Horseshoe-Nails, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the manufacture of nails, and has for its object the provision of a nail which shall be cheaper and lighter by reason of its having less metal, which shall displace less of the material into which it is driven, thereby making a smaller aperture, which shall have greater bearing or frictional surface, and at the same time have greater holding or clinching power, and thereby securing articles together more firmly than is possible with the forms of nails heretofore known. The invention is particularly adapted to the manufacture of horseshoe-nails.

I have shown as the principal figures in the drawings hereunto attached views of a horseshoe-nail, and will hereinafter especially describe my invention as applied to nails of this description; but at the same-time it will be apparent that nails of every description may be made in accordance with my invention.

In the drawings, Figures 1 and 2 represent opposite sides of a horseshoe-nail provided with my invention. Figs. 3 and 4 represent views on the lines *x x* and *y y*, respectively, of Fig. 1. Fig. 5 represents a nail, designed for use in holding articles of wood together, provided with my improvement. Fig. 6 is a sectional view on the line *z z* of Fig. 5, and Fig. 7 represents a cross-sectional view of a modified form of a nail having my invention.

Similar letters of reference in the several drawings denote like parts.

Referring to the drawings, A represents a horseshoe-nail, one surface of which is provided with a deep V-shaped groove, *a*, extending from the upper edge of its head to a point, *b*, near the point of the nail, as shown. From the point *b* the sides of the groove are inclined toward each other, and finally terminate at a point, *b'*. It will be observed that the termination of the groove between the points *b b'* is very gradual, and therefore presents no abrupt shoulders to obstruct the driving of the nail.

a' a' represent similar V-shaped grooves formed through the head of the nail at each side of and parallel with the central groove, *a*. The grooves above described are shown in Fig. 2, the opposite surface of the nail shown in Fig. 1, being provided with two parallel grooves, *c c*, smaller than the groove *a*, and terminating at their ends in a similar manner.

By reference to sectional Figs. 3 and 4, it will be seen that the central longitudinal groove, *a*, upon one side is placed between grooves *c c* upon the opposite side of the nail, giving the nail the appearance represented in said cross-sections.

At each side of and parallel with the grooves *c*, I provide grooves *c'*, which extend through the head of the nail.

The body of the nail is made tapering from its head to the point *d*, in the usual manner, and it will therefore be seen that the longitudinal grooves *a* and *c* will receive the bony substance of the hoof as the nail is driven in, whereby the nail will be more firmly clinched than would be the case in the use of a nail having an ungrooved surface.

The grooves increase the frictional surface to the nail besides making it lighter and clinching it on the hoof, thereby more securely holding it against lateral displacement, owing to lateral straining, which is due to the efforts of the horse in drawing the load.

Figs. 5, 6, and 7 represent the invention as applied to nails for use in wood.

By means of the grooves in the head of the nail the angles thereby formed in the metal serve to more firmly secure the head in the eye of the shoe.

It is obvious that the grooves in the head can be omitted; also that the form and size of the grooves in the head or body of the nail can be changed, without departing from the principle or sacrificing the advantages of my invention.

Having thus fully described my invention, I would have it understood that I do not limit myself to the precise construction shown and described; but

What I do claim is—

1. A nail having two grooves formed upon

one surface, and a single groove formed upon the opposite surface and placed thereon at a point between the double grooves of the reverse surface, substantially as described.

2. A nail having longitudinal grooves formed in its body and short head grooves parallel therewith, substantially as described.

3. A nail having longitudinal grooves alternately arranged upon opposite surfaces thereof, substantially as described.

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

JOHN C. KEARNS.

Witnesses:

JOSEPH FORREST,

JOS. R. EDSON.