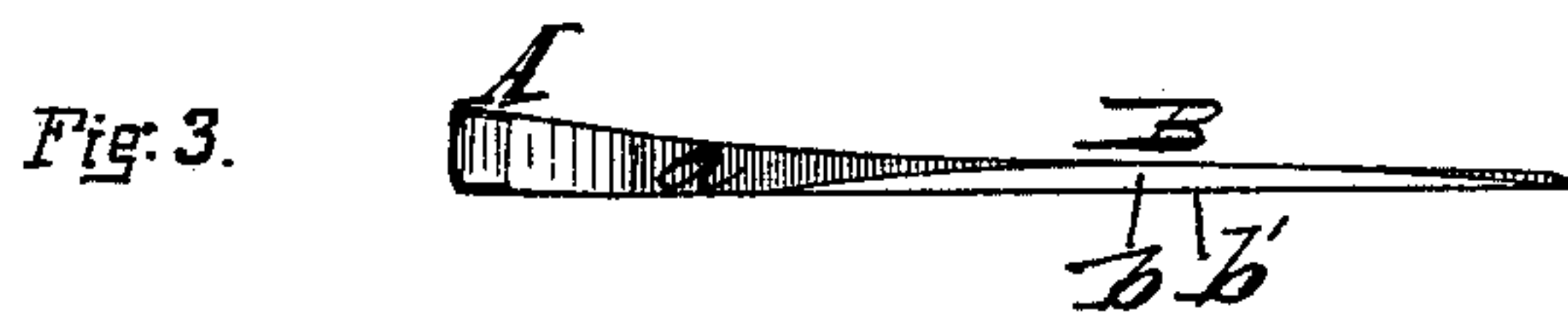
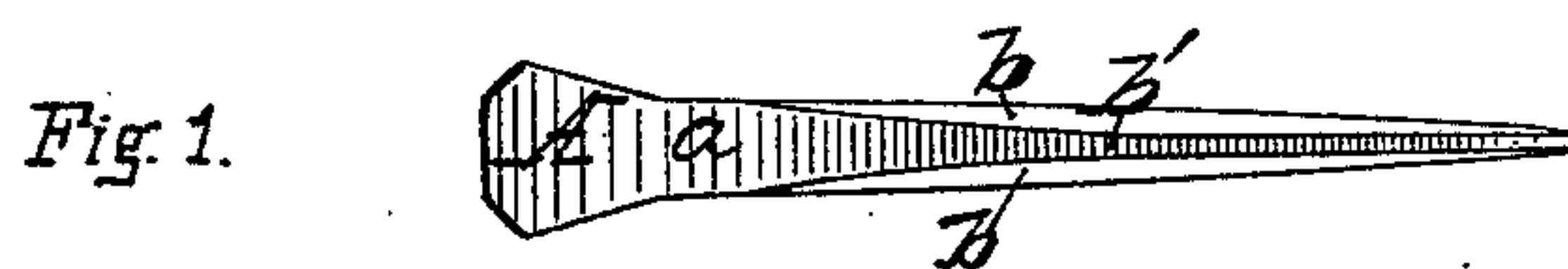


T. DOYLE.  
Horseshoe Nail.

No. 233,334.

Patented Oct. 19, 1880.



Witnesses:

J. L. Boone

Wm. A. Clark

Inventor:

Thomas Doyle

by his Atlys.,

Boone & Osborn,

# UNITED STATES PATENT OFFICE.

THOMAS DOYLE, OF SAN FRANCISCO, CALIFORNIA.

## HORSESHOE-NAIL.

SPECIFICATION forming part of Letters Patent No. 233,334, dated October 19, 1880.

Application filed September 19, 1879.

*To all whom it may concern:*

Be it known that I, THOMAS DOYLE, of the city and county of San Francisco, in the State of California, have invented an Improved Horseshoe-Nail; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of my invention is to provide a horseshoe-nail that will drive easier, make a smaller hole in the wall of the hoof, and be less liable to turn than the ordinary horseshoe-nail.

Referring to the accompanying drawings, Figure 1 is a side view of my improved nail. Fig. 2 is an edge view of the same, and Fig. 3 is a corresponding view thereof inverted.

Let A represent the head, and B the shank, of a horseshoe-nail. The head A, I make in the form of a pentagon. This form of head is not new, but it is better adapted for driving than the usual broad-faced head, because the corners are removed, and the blow of the hammer is directly in line with the length of the nail. There is, therefore, less liability of the nail being bent and driven to one side. The remainder of the nail I make tapering from its junction with the head to the point, with a slight variation, as hereinafter pointed out. This makes it drive easier, because its entrance into the wall of the hoof is more gradual, and it continually becomes tighter as it is driven in.

In some instances the nail has been tapered only near the point, and the taper is abrupt, while the shank is of the same size from the swell, where the taper ceases, to the head, and in some instances it is made narrower near the head than at the swell. This abrupt taper in the ordinary nail causes it to drive hard, and the sudden entrance of the wedge-shaped point has a tendency to crack or split the wall of the hoof. Besides this the nail is liable to become loose in the hoof, because the swell makes a larger hole than the shank will fill. My nail, however, gets tighter every blow that is given to it until it is completely driven home.

The corners of the nail on the side that faces outward I remove either by beveling or rounding them off. I prefer to bevel them off, because the bevel leaves sharp corners that aid

in keeping the nail in place. This gives the outside face of the nail a larger area of surface, and at the same time reduces the volume of metal, so that the nail will make a smaller hole, yet it will have a better bearing in the hoof.

The bevel of the corners, it will be noticed, terminates near the head, leaving a rectangular or square portion, *a*; but when the nail is driven home the square portion *a* around the base of the nail-head will fit in the nail-hole in the shoe and be firmly fixed, so that it cannot turn. By this construction the tapering and beveled portion of the nail enters the wall of the hoof, while the square portion near the head fits in the metal of the shoe.

One side of the nail is made flat, as at B, with the projecting portion of the head and the bevel of the point formed on said side, while the opposite side is beveled off on both its edges, as at *b b'*. The flat side faces inward when the nail is being driven, and the beveled side faces outward, so that the displacement of the wall of the hoof caused by the entrance of the nail takes place outwardly. This leaves the portion of the wall inside of the nail intact without danger of forcing a ridge inwardly against the foot.

The hole made by this nail is smaller than that made by the ordinary horseshoe-nail, and it will close together faster and much more readily because, the outer side being beveled off, it makes a hole that is almost triangular.

This nail is driven so easily that the blows are hardly felt by the horse, and there is no danger of pricking him, as the flat inner side always keeps the point of the nail directed outward. The nail gradually increases in thickness and strength from its point to its head, so that as it enters the hoof the danger of its bending decreases. This nail is also easier clinched and makes a neater job than the ordinary nail.

One great and important feature of my invention, however, is that it puts a less amount of metal in the wall of a horse's hoof, and at the same time it makes a more reliable fastening for the shoe, because the wall is less distorted and has a better chance to hold the nail than if a larger amount of metal was driven into the same thickness of wall.



These nails can be readily made by machinery such as I have now in course of construction, and which I shall hereafter seek to secure to myself by Letters Patent.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

As an improvement in horseshoe-nails having shanks made flat on one side and beveled off  
10 on both edges of the opposite side and ta-

pered from head to point, the projecting portion of the head and the bevel of the point formed on the said flat side, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal.

THOMAS DOYLE. [L. S.]

Witnesses:

WM. F. CLARK,  
JNO. R. BOONE.