

H. S. CUSHMAN & J. S. BRIGHAM.

SHOE-NAILS.

No. 190,670.

Patented May 15, 1877.

Fig. 1.

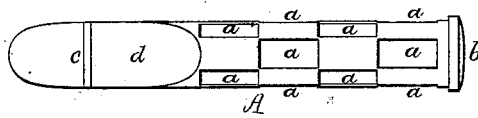


Fig. 2.

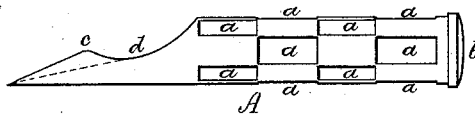


Fig. 3.



Witnesses.

S. W. Piper  
S. M. Miles

Inventors  
Henry S. Cushman.  
Jason S. Brigham.

by their attorney  
R. H. Eddy

# UNITED STATES PATENT OFFICE.

HENRY S. CUSHMAN AND JASON S. BRIGHAM, OF MILFORD, MASSACHUSETTS,  
ASSIGNORS TO SAID CUSHMAN.

## IMPROVEMENT IN SHOE-NAILS.

Specification forming part of Letters Patent No. **190,670**, dated May 15, 1877; application filed  
March 9, 1877.

*To all whom it may concern:*

Be it known that we, HENRY S. CUSHMAN and JASON S. BRIGHAM, of Milford, of the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Shoe-Sole Nails; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view, Fig. 2 a side view, and Fig. 3 a transverse section, of a nail of our improved construction.

It has what we term a "checkered shank" and a "pen-point." In other words, the shank *A* has its indentations *a a a* arranged in it in manner as the several dark squares of a chess-board are disposed relatively to each other, each indentation of each transverse row of such indentations being next to or against a space between two indentations of a next adjacent transverse row. There is to the shank a series of rows of such indentations, each row going transversely around the shank, and having its indentations at or about equal distances apart, those of one row being against the space between those of the next succeeding row. Each of the indentations, formed as shown, is rectangular or square in shape.

The shank may be made cylindrical or prismatic, and be furnished with a head, *b*, or be without such.

Instead of making the point with a single continuous slope from heel to toe, we construct it with a ridge, as shown at *c*, the crown of such ridge being arranged from the toe a distance about one-third of that between the toe and shank. A concavity, *d*, is thus formed between the ridge and the shank.

This ridge causes the nail, while being driven point foremost against a clinching-plate, to bind or clinch in that part of the point in which the concavity *d* is situated, thereby insuring a very much better clinching of the nail, as experience has demonstrated, than can be effected by a point having one continuous slope.

The toe or front of the nail or clinching slope is not at the axis of the nail, but terminates in the side of the nail. By such ar-

rangement of the point, and with the ridge, the clinching is effected to very much better advantage than is the case when the nail has its point at its axis, and also has a notch in the shank, and arranged immediately next the heel or base of the point.

By arranging the indentations in the shank in the manner described, the nail not only drives easier, but is not so liable to turn laterally in the process of driving it as it is when it is indented on two opposite sides only, and the indentations of one range are, respectively, opposite those of the other. In our method of arranging the indentations, those of each range are between those of each next range, and this follows with each transverse as well as with each longitudinal range of them.

We are aware that it is not new to provide the shank of a shoe-sole nail with parallel ranges of notches extending lengthwise of it, and having between them continuous ribs or spaces uninterrupted, or without any notches, from head to point of the nail, such being as shown in the United States Patents No. 147,430 and 169,838. With indentations arranged in the checkered manner as shown and described, there are no such continuous ribs, there being in lieu thereof ranges of indentations, which, when the nail is in a sole, receive the leather, and thus not only hold the nail better than continuous ribs, but operate to better advantage in preventing water from passing through the nail-holes of the sole when the shoe may be in use.

We have found that with our method of indenting the nail it will very strongly maintain its hold in the sole, especially in the parts thereof which are bent the most while the shoe may be in use.

We claim—

The shoe-sole nail having the shank indented or cellulated, in the manner as represented, and provided with a point and a ridge to the clinching slope thereof, all arranged as specified.

HENRY S. CUSHMAN.  
JASON S. BRIGHAM.

Witnesses:

JAMES R. DAVIS,  
WARREN P. HANCOCK.