

(No Model.)

C. D. ROGERS.

NAIL, BOLT, &c.

No. 405,681.

Patented June 18, 1889.

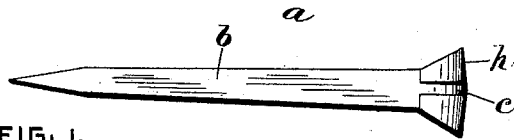


FIG. 1.

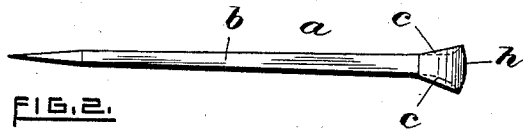


FIG. 2.



FIG. 3.

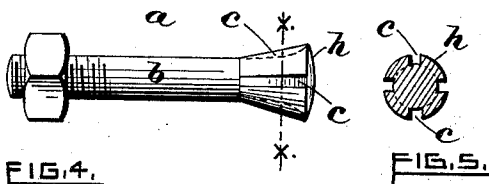


FIG. 4.

FIG. 5.

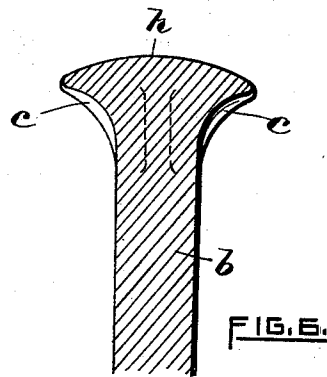


FIG. 6.

WITNESSES.

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*Atty's*

# UNITED STATES PATENT OFFICE.

CHARLES D. ROGERS, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO THE  
AMERICAN SCREW COMPANY, OF SAME PLACE.

## NAIL, BOLT, &c.

SPECIFICATION forming part of Letters Patent No. 405,681, dated June 18, 1889.

Application filed November 9, 1888. Serial No. 290,375. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES D. ROGERS, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Nails, Bolts, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to bolts, nails, &c.; and it consists, essentially, in providing the heads thereof with two or more grooves extending longitudinally of the head and having the bottom of the grooves substantially in line with and forming a continuation of the plain or shank portion of the nail.

The objects I seek to attain by means of my improvement are to provide nails and bolts with means whereby the holding qualities are increased and at the same time rendering such nails, &c., less liable to turn axially in driving. These objects I practically accomplish by the employment of grooves formed in the under side of the head of the nail, as before stated. My improved nails and bolts are more particularly adapted to be inserted into materials such as wood, soft metals, horn, &c., although the sharp edges of the grooves act to prevent the bolt from turning when inserted into metal having a countersunk hole therein substantially the counterpart of the head of the bolt.

In an application for Letters Patent filed by me in the United States Patent Office July 5, 1888, Serial No. 279,052, I have therein described and claimed dies of peculiar construction adapted to produce the improved nails, &c., forming the subject of the present invention.

In the accompanying sheet of drawings, Figures 1 and 2 represent front and side elevations of a horseshoe-nail provided with my improvement. Fig. 3 is a perspective view of a wire nail having a grooved head. Fig. 4 is a similar view of a bolt thus improved.

Fig. 5 is a cross-sectional view taken through the bolt-head on line *xx*; and Fig. 6 is an enlarged central sectional view taken through the upper portion of a nail, or on line *mm* of Fig. 3.

A more specific reference to the invention shown by the drawings is as follows:

*a* designates the improved nail or bolt as a whole, *b* indicating the shank portion, which may be of any desired form, as usual—as, for example, it may be a horseshoe-nail, a wire nail, a cut nail or tack, or even a screw-threaded shank, as shown by Fig. 4. The head portion *h* of said nails, bolts, &c., is provided with a series of narrow grooves *c*, the same commencing at the root of the shank, where the enlargement forming the head begins, and extending outwardly therefrom into the head, the bottom of the grooves being substantially in line with the surface of the shank, as clearly shown. The grooves, of which there may be two or more, terminate at the periphery of the end of the head *h* in a concave form.

A means for producing the grooves *c* is to provide the die which gives shape to the head with narrow tongues or ribs having the counterpart of the grooves. Now by the employment of a suitable hammer the end of the stock or metal to be made into nails, &c., and extending beyond the face of the die, is upset or swaged into the die-cavity, the head thus produced upon the nail being more homogeneous, and by virtue of the compressed metal along the grooves being stronger in a torsional direction, although using a less quantity of metal in the head than is given to nails as commonly made.

I claim as my invention—

1. As an improved article of manufacture, the nail, bolt, or other headed blank hereinbefore described, having two or more narrow grooves formed in the surface of the under side of the headed portion, said grooves commencing at or near the junction of the shank and head and extending longitudinally therefrom substantially in line with the shank and terminating at the edge or periphery of the head, substantially as set forth.

2. The headed nail or blank hereinbefore

described, having the surface of the under side of the head provided with a series of longitudinally-arranged grooves, the bottoms of which form a continuation of the shank's surface and terminate in well-rounded curves, substantially as set forth.

3. The improved nail or blank *a* hereinbefore described, having a series of grooves *c*, rectangular in cross-section, formed in the

surface of the under side of the head *h* and terminating at the edge or periphery of the head, substantially as shown and set forth.

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

CHARLES D. ROGERS.

Witnesses:

GEO. H. REMINGTON,  
JOSEPH SANFORD.