H. HAMMOND.

Dies for Forging Carriage-Axle Nuts.

No. 168,740.

Patented Oct. 11, 1875.

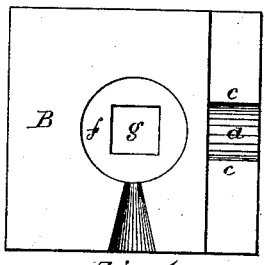


Fig. 1.

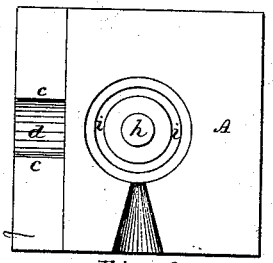


Fig. 2.

Fig. 5.

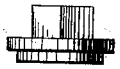


Fig. 3.

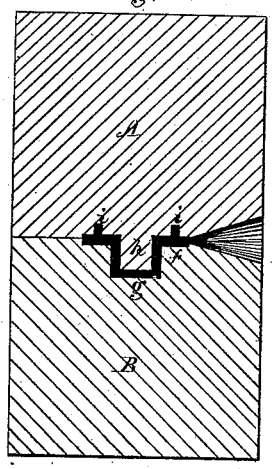
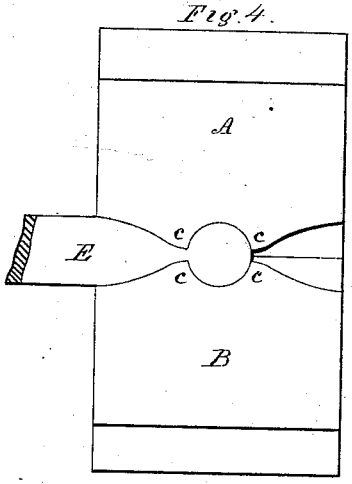


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

HENRY HAMMOND, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN DIES FOR FORGING CARRIAGE-AXLE NUTS.

Specification forming part of Letters Patent No. **168,740**, dated October 11, 1875; application filed October 8, 1874.

To all whom it may concern:

Be it known that I, HENRY HAMMOND, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Dies for Forging Carriage-Axle Nuts; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

The object of my invention is to make the nuts for carriage-axles of wrought metal by means of dies, in place of using cast metal, as is ordinarily the case.

My invention consists in the construction of the herein-described dies.

In the accompanying drawing, Figure 1 is a top view of the lower die. Fig. 2 is a bottom view of the upper die. Fig. 3 is a cross-section through the two dies when placed one upon the other, with the nut between them. Fig. 4 is a side view of the dies, showing the arrangement for preparing the blank, which is to be placed in the forming-dies to make the finished nut. Fig. 5 shows the finished nut.

A is the top or upper die. B is the bottom or lower die. On one side of these two dies are the compressing-faces *c c*, which, when the dies are together, leave a circular opening, *d*, for giving the proper shape to the bar of which the nut is to be formed. This bar is shown by E in Fig. 4. These compressing-faces strike out a circular disk from the bar E, to serve as a blank to be placed in the main or forming dies. These dies are formed of two parts, opening upon but one plane, and are intended to form the finished forging by a blow from a drop used in the ordinary manner. The lower die B has a circular socket, *f*, for the flange of the nut, and a deep, square opening, *g*, for the square part of the nut, to which the wrench is applied in turning. The upper die A has a circular socket for the flange of the nut, like the lower die, with a recess, *i*, for the lip, and a central downward projection, *h*, to form the socket in the nut, which is tapped with a screw-thread to fit the axle.

The operation of my invention is as follows: The dies are used in any ordinary form of drop-press. The bar E is placed between the jaws *c*, and the circular blank is formed. This blank is then struck between the finishing-dies, which completes the nut.

What I claim as my invention is—

1. The circular compressing-faces *c c*, upon and in combination with dies for forming the finished nut, substantially as described.

2. The dies composed of two parts, upper and under, constructed as herein described, and suitable for giving form to the exterior and interior portions of an axle-nut under a a drop-press, substantially as set forth.

HENRY HAMMOND.

Witnesses:

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