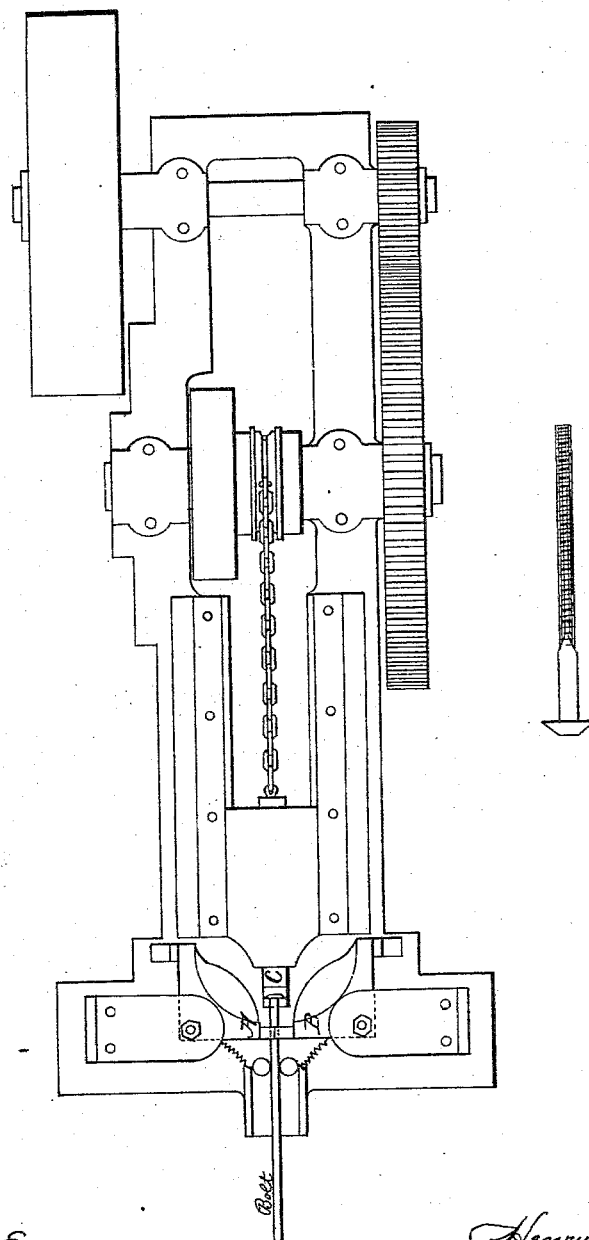


(No Model.)

H. E. COY.
MANUFACTURE OF BOLTS.

No. 305,898.

Patented Sept. 30, 1884.



WITNESSES:

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HENRY E. COY, OF MANSFIELD, OHIO.

MANUFACTURE OF BOLTS.

SPECIFICATION forming part of Letters Patent No. 305,898, dated September 30, 1884.

Application filed September 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY E. COY, a citizen of the United States, and a resident of Mansfield, in the county of Richland and State of Ohio, have invented certain new and useful Improvements in Bolts, of which the following is a specification.

The invention relates to an improvement in bolts, the object being to produce an improved article in a simple and comparatively inexpensive manner.

Heretofore it has been customary in the manufacture of bolts—such, for example, as carriage-bolts—to form the head thereof by the usual heading-machine, the squared neck by the process known as “upsetting,” and the cylindrical body by swaging. This is an expensive and uncertain process, and the bolts by it produced are often defective in their structure, and irregular as to size, especially as to the length of the neck. The defects in the structure of the bolts made according to the process heretofore practiced are not usually discernible until after the bolts have been put to practical use, whereby great embarrassment is liable to occur.

The purpose of the present invention is to provide a bolt which is uniform in structure, which has no defects, and which is not weakened by the process of its manufacture.

To this end my invention consists, broadly, in a process for producing a die-drawn bolt, as distinguished from all other bolts produced according to the methods heretofore practiced.

My process of manufacture is as follows: I first take a square rod or blank of metal of proper length for a bolt, subject one end to the ordinary heading-machine, and then, after providing a proper space for the square neck, place the body of the bolt between dies forming a circular outline encompassing the bolt when their meeting edges are in face-to-face

contact, after which, by suitable power applied to the head, the bolt is drawn through the said dies, and the result is that a cylindrical body is given to the bolt, the shoulder being left square.

In the accompanying drawing, I show a bolt and means of drawing the same, said means consisting of the dies A B and the head C, which is adapted to hold the bolt and draw it through the dies when power is applied. This apparatus I have made the subject of a separate application for Letters Patent of even date herewith. It will be observed that by adjusting the head C with relation to the dies A B the length of the neck of the bolt may be regulated at will, that said neck may always be of uniform length, and that the process of upsetting, as heretofore employed, is entirely dispensed with. Other advantages will suggest themselves which need not be specifically mentioned. The rod of iron may be hot or cold when subjected to the drawing process. I have reached satisfactory results by the manipulation of the iron when cold.

What I claim as my invention, and desire to secure by Letters Patent, is—

The process hereinbefore described of making bolts which consists, first, in subjecting the end of a rod of metal which is angular in cross-section to a bolt-heading machine; second, determining the length of the neck of the bolt; and, third, drawing the remainder of the bolt between dies having a circular matrix, substantially as set forth.

Signed at Mansfield, in the county of Richland and State of Ohio, this 24th day of August, A. D. 1883.

HENRY E. COY.

Witnesses:

THOS. E. BARRON,
H. E. BELL.