

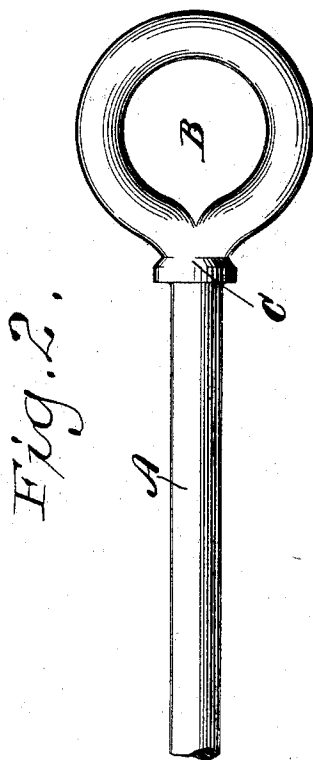
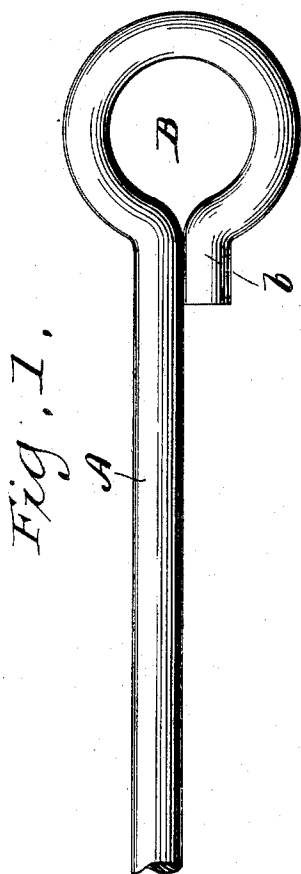
(No Model.)

G. B. FREEMAN.

METHOD OF MANUFACTURING END GATE RODS.

No. 503,367.

Patented Aug. 15, 1893.



Witnesses
Geo W Loring
John E. Wiles.

Inventor
George B. Freeman.
By H. G. Underwood,
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE B. FREEMAN, OF RACINE, WISCONSIN.

METHOD OF MANUFACTURING END-GATE RODS.

SPECIFICATION forming part of Letters Patent No. 503,367, dated August 15, 1893.

Application filed January 23, 1892. Serial No. 419,024. (No model.)

To all whom it may concern:

Be it known that I, GEORGE B. FREEMAN, a citizen of the United States, and a resident of Racine, in the county of Racine, and in the State of Wisconsin, have invented certain new and useful Improvements in Methods of Manufacturing End-Gate Rods; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to improvements in the manufacture of "end gate rods" for wagon boxes, and consists in the matters hereinafter described and pointed out in the appended claim.

In the accompanying drawings illustrating my invention:—Figure 1. is a view of a rod bent at one end so as to form the eye or ring, and ready for upsetting the surplus metal to form a collar or flange upon the rod adjacent to the eye or ring. Fig. 2. illustrates the completed rod after said surplus metal has been upset.

In said drawings:—A represents the rod, B the ring or eye at one end of the same, and *b* the end of the portion which is carried around to form the said eye, said end being in the first step of the process bent so as to lie against the portion of the rod A adjacent to the ring or eye B as in Fig. 1.

C represents the collar or flange formed by upsetting the surplus metal in the end *b*.

In manufacturing my improved form of end gate rod, I first take a rod of the desired length, and by means of suitable forming dies and machinery, bend one end of it into the form illustrated in Fig. 1, so as to form the ring B, the end of the portion forming said ring being bent as at *b*. I next heat the end of the rod upon which said ring has been formed to a welding temperature, and place it within a suitable die, and submit it to pressure sufficient to upset the metal in the portion *b* so as to form the collar or flange C, which forms a shoulder or bearing to take the thrust of the rod when in use, at the same time forming a solid welded joint between

the end of the portion *b*, and the rod. I am thus enabled to form my improved rod from a single piece of metal, without the necessity of securing a separate ring or eye to one end of the same, or of applying a separate collar or flange.

As heretofore manufactured, end gate rods have been commonly made of a straight iron rod, and a ring or eye provided with a suitable aperture in one side has been placed in engagement with one end of said rod and the rod riveted in position within said ring. Another form of rod of this character has been made by bending one end of a rod so as to form a ring and then slipping a collar or flange over the rod so as to form the shoulder for taking the thrust of the rod when in use. By my improvement, however, the cost of manufacture of the rods is very materially lessened, and the rods being each made of a single piece as before described, are very much stronger than either of the other forms described.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

The herein described method of forming end gate rods, consisting in first bending one end of the rod so as to form a ring or eye but with a surplus of metal at the extremity of said bent portion, then heating said bent portion to a welding temperature and then upsetting the surplus metal at the extremity of said bent part to form an integral collar or flange at the base of the ring or eye and solidly welding said end to the straight portion of the rod, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

GEORGE B. FREEMAN.

Witnesses:

JOHN E. WILES,
H. G. UNDERWOOD.