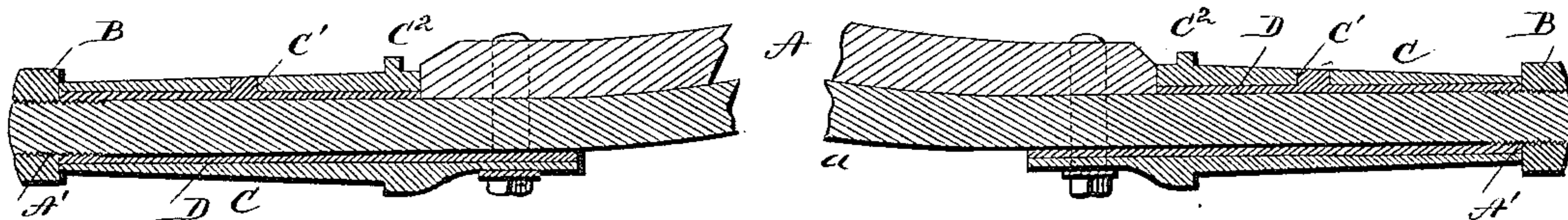
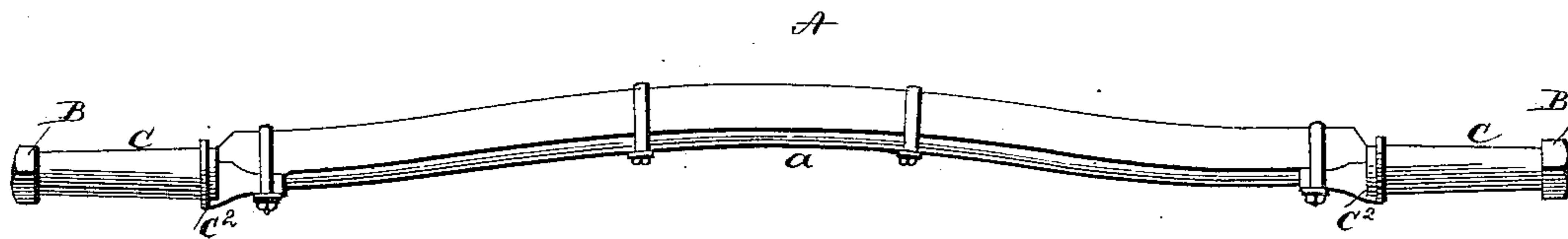
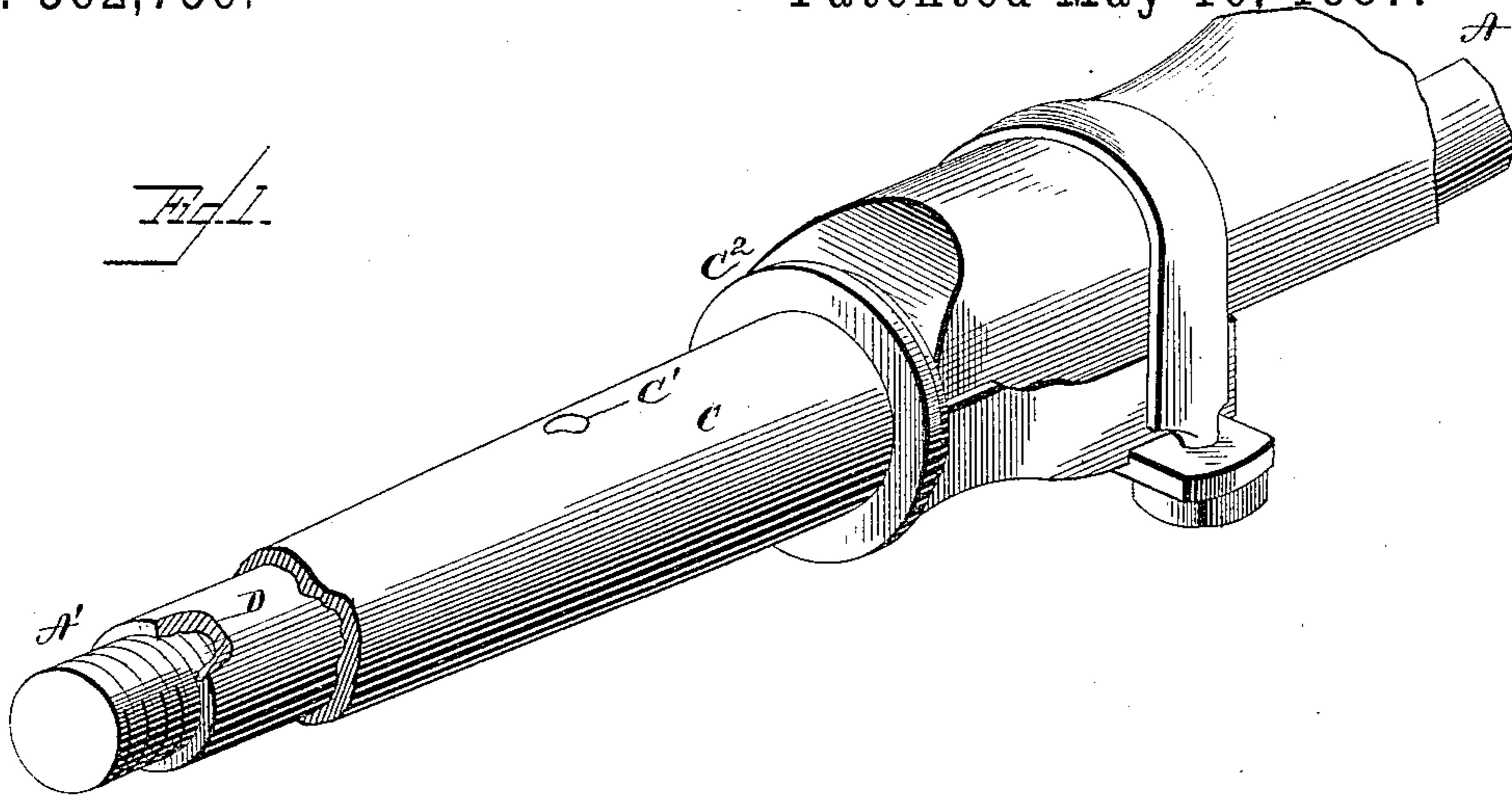


(No Model.)

T. G. MANDT.
VEHICLE AXLE.

No. 362,756.

Patented May 10, 1887.



Witnesses
F. L. Ouraud
B. Howell

Inventor
Targe G. Mandt,
By his Attorneys,
Louis Dreyer & Co.

UNITED STATES PATENT OFFICE.

TARGE G. MANDT, OF STOUGHTON, WISCONSIN.

VEHICLE-AXLE.

SPECIFICATION forming part of Letters Patent No. 362,756, dated May 10, 1887.

Application filed March 12, 1887. Serial No. 230,617. (No model.)

To all whom it may concern:

Be it known that I, TARGE G. MANDT, a citizen of the United States, and a resident of Stoughton, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Axles; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of one end of an axle in which my invention is embodied, part of the outer end of the skein being shown broken away. Fig. 2 is a side view of the entire axle, and Fig. 3 is a longitudinal vertical sectional view of the same.

The same letters of reference indicate corresponding parts in all the figures.

My invention consists in an improved axle, which will be hereinafter fully described and claimed.

Referring to the several parts by letter, A indicates the axle proper, which I make of a plain round bar of iron or steel, which is straight, with the exception of the usual central curve, *a*, which gives the proper "set" to the axle, the ends of the axle being screw-threaded, as shown at A', for the reception of the nuts B, which hold the wheels in place on the ends of the axles.

C C indicate the cast thimble-skeins, each of which is made with its interior space or bore slightly larger than the spindle on which it is to be secured, and is also preferably formed with one or more transverse apertures, C'. These skeins are formed with the usual shoulder, C'', against which the inner end of the hub of the wheel bears.

The thimble-skein having been placed on the end or spindle of the axle, is firmly secured thereon by introducing in the space between the spindle and the skein molten metal, which closely fills the said space, as shown at D, part of the metal entering and hardening in the transverse aperture C', while the outer part of the metal fills and hardens in the inner screw-

threads on the end of the axle, the threads on the end of the axle being cut back or in about one inch farther than the point where the nut B bears against the outer end of the skein, as clearly shown in the sectional view, Fig. 3, of the drawings.

The axle is made, as described, of a simple straight piece of iron or steel, round in cross-section, and the cast thimble-skeins are then secured on the ends thereof simply by pouring the molten metal into the space between the inner sides or surface of the thimbles and the ends of the axle, the metal entering and hardening in the transverse aperture or apertures formed in the skein and in the inner screw-threads on the ends of the axle, the metal when hardened thus giving the skein the proper set, and also holding it firmly and securely in operative position on the end of the axle.

From the foregoing description, taken in connection with the accompanying drawings, the construction and advantages of my invention will be readily understood.

It will be seen that my improved axle can be readily and easily manufactured at a very small cost, the axle being merely a simple plain piece of metal, round in cross-section, and the skeins being secured thereon in operative position by the filling of molten metal.

The work of fitting and shaping the axle and skeins is so trifling that the complete axle can be put on the market at a great deal less cost than any steel, iron, or tubular axle now in use.

Owing to the space left between the ends or spindles of the axle and the thimble-skeins, the said skeins can be adjusted at the desired or proper set or angle with relation to the axle, as will be readily understood, before the metal filling hardens.

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

The combination of the plain metal axle having the screw-threads on its ends extending back of the outer ends of the skeins, the thimble-skeins formed with the transverse aperture or apertures and having their bores of

greater diameter than that of the axle-spindle
on which they fit, and the metal filling be-
tween the spindle and the skein, a portion of
it engaging with the portion of the screws for
5 the bent end of the axle, and another portion
being in said aperture, substantially as set
forth.

In testimony that I claim the foregoing as
my own I have hereunto affixed my signature
in presence of two witnesses.

TARGE G. MANDT.

Witnesses:

B. E. WAIT,
JOHN W. SHETTER.