

(No Model.)

S. E. BROWN.

METHOD OF MAKING BODY LOOPS FOR CARRIAGES.

No. 390,112.

Patented Sept. 25, 1888.

Fig. 1.

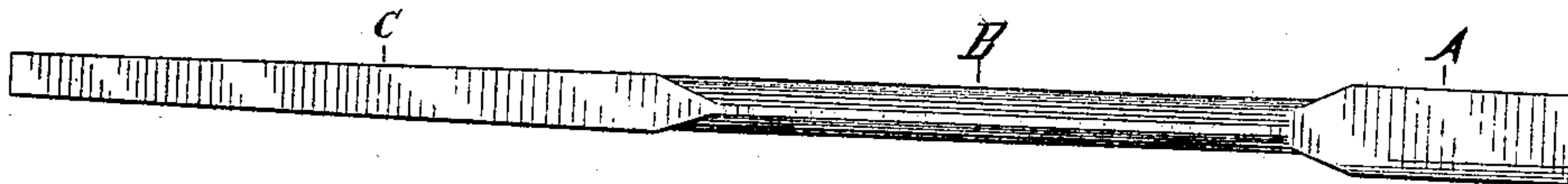


Fig. 2.



Fig. 3.

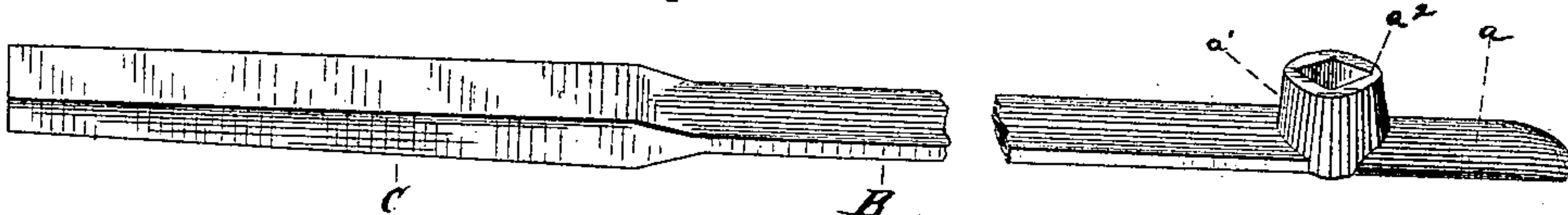
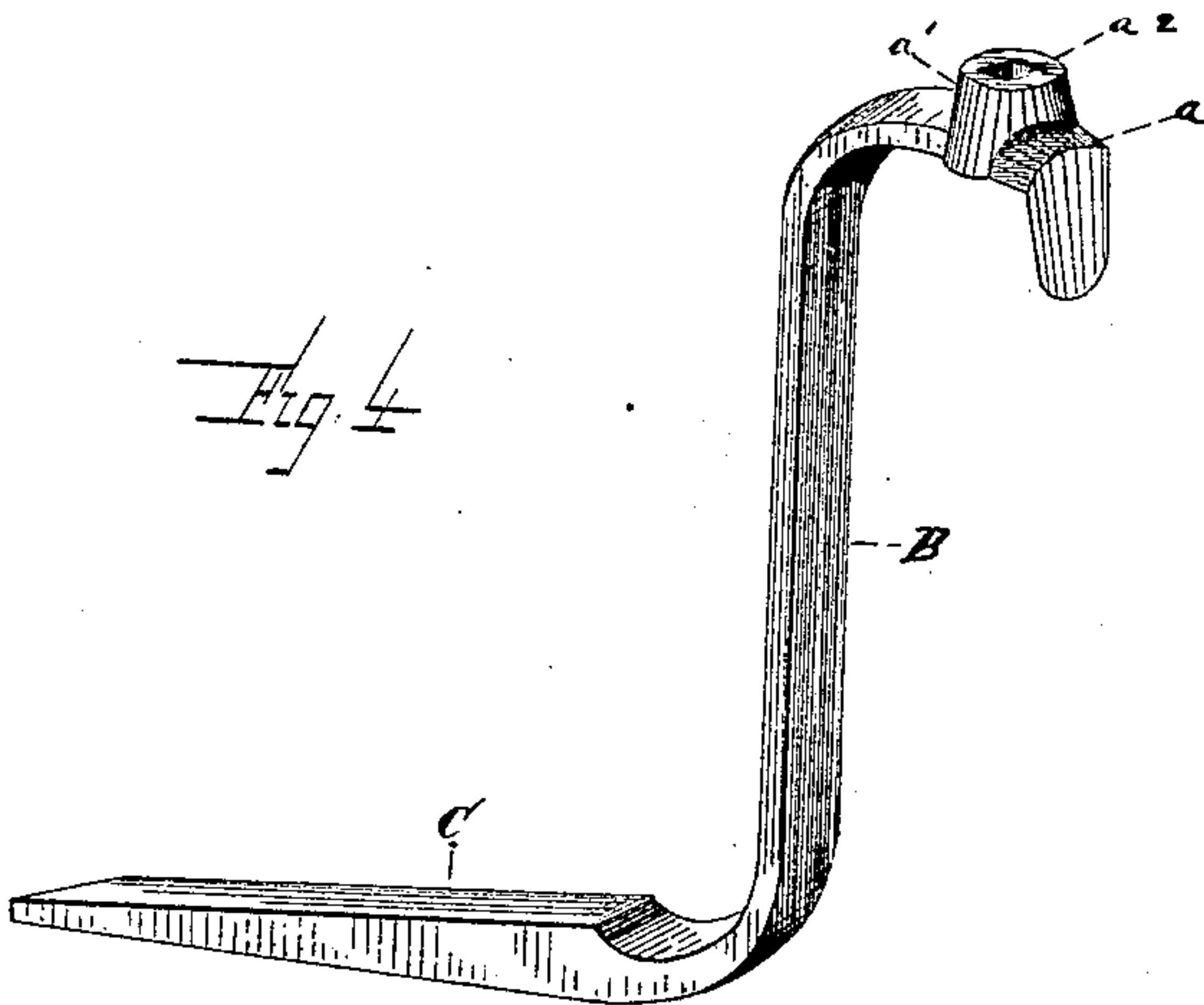


Fig. 4.



WITNESSES

Samuel E. Kelly
Geo. W. King

Samuel E. Brown INVENTOR

By
Seigett & Seigett Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL E. BROWN, OF CLEVELAND, OHIO.

METHOD OF MAKING BODY-LOOPS FOR CARRIAGES.

SPECIFICATION forming part of Letters Patent No. 390,112, dated September 25, 1888.

Application filed May 3, 1887. Serial No. 236,944. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. BROWN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improved Method of Manufacturing so-called Body - Loops for Carriages; 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 pertains to make and use the same.

My invention relates to an improved method of manufacturing so-called "body-loops" for carriages; and it consists, essentially, in the steps hereinafter described and claimed, the object being to reduce the initial cost of the work.

Heretofore body - loops have been forged usually by hand; but whether forged by hand or wholly or partly by the aid of a drop-press or other machinery, owing to the length of blank required and to the various forms in cross-section of the finished work, several operations were required, and consequently such work was expensive.

With my improved method a bar of metal of suitable form and area in cross-section is first heated and passed through reducing-rolls, the latter having grooves of such variable depth and form as will produce blanks corresponding in section and in the distribution of metal so nearly with the finished work and the unfinished parts left in such small compass that the forging is done at one operation.

In the accompanying drawings, Figure 1 is an edge view of the work after leaving the reducing-rolls, and Fig. 2 is an end elevation in transverse section of the central or elliptical portion of this stage of the work. Fig. 3 is a view in perspective, showing the work after the forging is done. Fig. 4 is a view in perspective after the bending, showing the finished work.

A bar of metal corresponding in cross-section with the stub end A is heated and passed through reducing-rolls. (Not shown.) These rolls have variable grooves, one portion of which leaves a section of the metal bar substantially unchanged for a stub end, A. The next portion of the grooves is adapted to form the section B, the latter being usually, but not necessarily, elliptical in cross-section.

The remaining portions of the grooves are rectangular in cross-section, and are of such variable depth as will produce the tapering section C. At this stage of the work the sections B and C are, except the bending, finished, leaving only the short stub end A to be further reduced in the forging-dies. The one forging - die has substantially a flat face to form a flat surface on the body-loop where the latter fits onto the wooden cross - bar of the carriage. The other die has a groove made to correspond with the tapering convex surface a , and has a conical depression, in which is formed the hub a' , and has a teat located centrally and at the bottom of such conical depression to form the countersink a^2 . Next, the work is placed between formers and bent substantially as shown in Fig. 4, and this completes the work. The stub end A is of such limited length that only short dies are required to do the forging. The dies are usually operated in a drop-press or steam-hammer, only a few strokes of either being required for the purpose, and the forging is done so quickly that if the blank-work has been properly heated before entering the dies it may be usually bent in the former without reheating.

With the methods heretofore employed for this class of work at least three sets of dies were required—one set, substantially as described, for reducing the part A, another set for reducing the part B, another set for forging section C. The last two sections, owing to their length and the amount of drawing of the metal in each, required considerable time, and the work had to be reheated between each operation. With my improved method a metal bar long enough to produce perhaps a dozen or more pieces like that shown in Fig. 1 is passed through the rolls in much less time than is required for forging either of the sections B or C. The tools for carrying out my method—to wit, the rolls, dies, and formers—are not shown; but persons skilled in the art will have no difficulty in constructing such tools from models of the work at different stages or from drawings of the same substantially as furnished herewith.

What I claim is—

The herein-described method of manufactur-

ing body-loops for wagons, consisting, essentially, in forming the middle and rectangular sections of the iron by passing same between reducing-rolls; second, subjecting the stub ends
5 of the iron to the action of dies, and, third, bending the work to the form required for the finished body-loop, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 16th day of April, 1887.

SAMUEL E. BROWN.

Witnesses:

CHAS. H. DORER,
ALBERT E. LYNCH.