

W. S. WARD.

Machines for Forming Carriage Clips.

No. 133,906.

Patented Dec. 10, 1872.

fig. 1

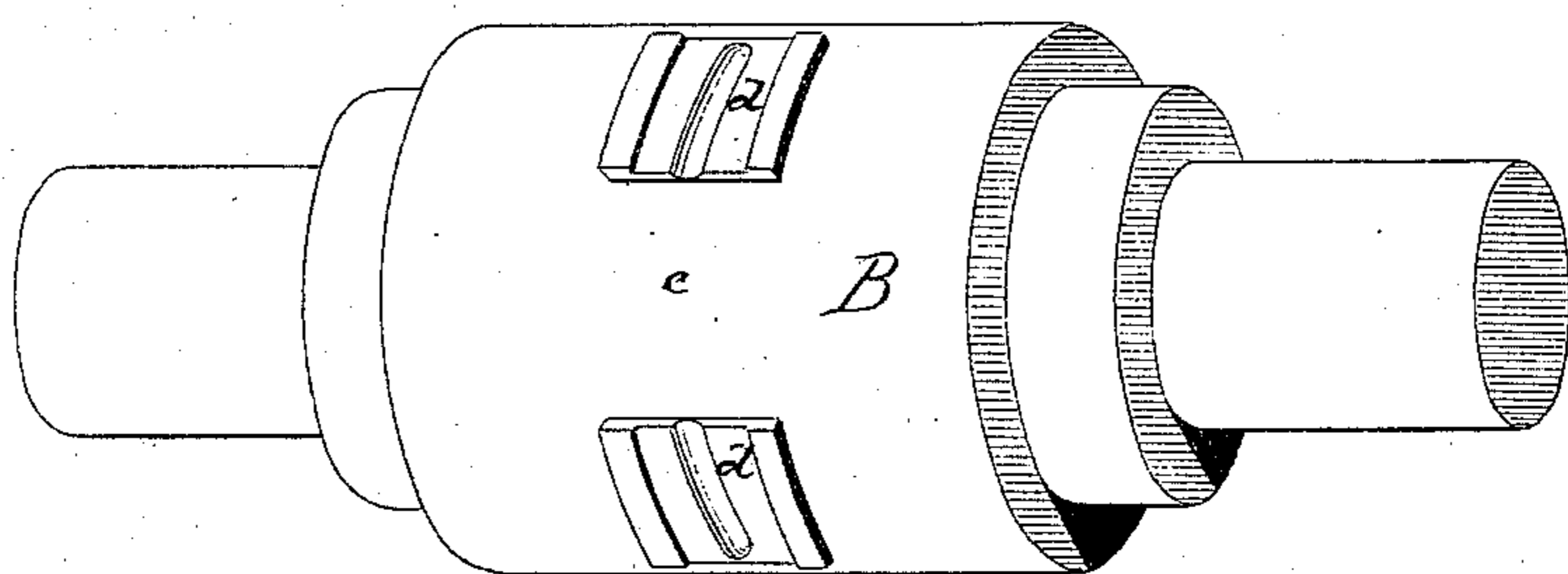


fig. 2

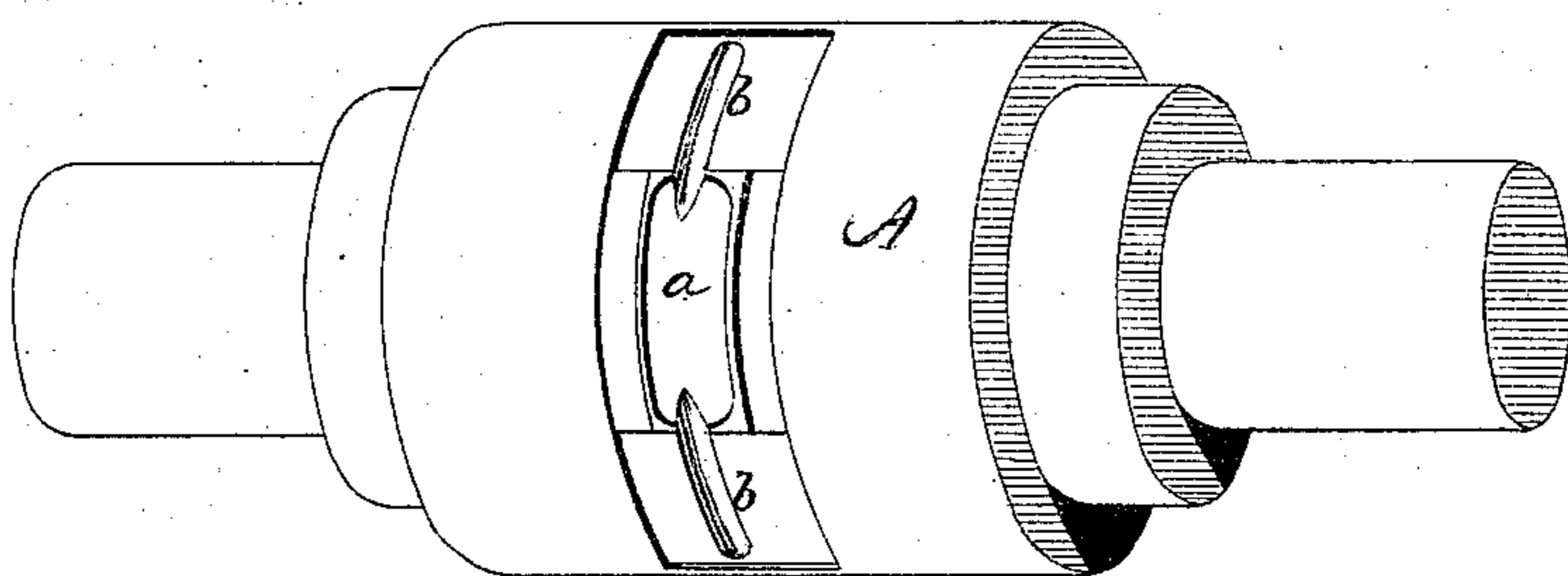


fig. 3

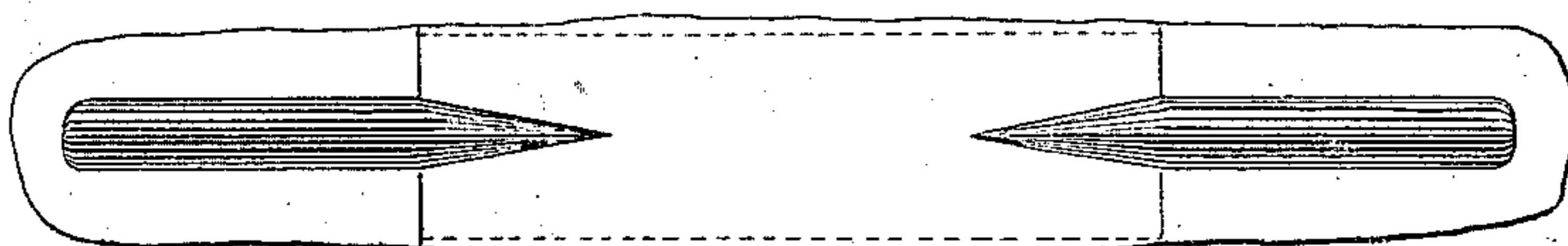


fig. 4



Witnesses

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN MACHINES FOR FORMING CARRIAGE-CLIPS.

Specification forming part of Letters Patent No. 133,906, dated December 10, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM S. WARD, of Plantsville, in the county of Hartford and State of Connecticut, have invented a new Improvement in the Manufacture of Carriage-Clips; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawing constitutes part of this specification, and represents, in—

Figure 1, a perspective view of one of the rolls; Fig. 2, a corresponding perspective view of the other roll; Fig. 3, a diagram of the clip, full size, as it comes from the roll; and, in Fig. 4, an edge view of the same.

This invention relates to an improvement in the manufacture of the article known to the trade as carriage-clips—that is to say, the band which is placed over the wood portion of the axle, extending down each side and through a bar upon the under side, with nuts upon the under side to secure the wood and metal portions together. The usual method of forming these articles has been by dies under a drop. The object of this invention is to facilitate the manufacture and produce the articles with more rapidity and less wear upon the dies; and it consists in constructing a pair of rolls, upon one of which is the impression for one side of the clip to be produced, and on the other roll an impression corresponding to the reverse side.

A is one roll, and B the other. In the one A is formed an impression, *a*, corresponding

to the body of the clip, and at the two extremes of this recess another recess, *b*, is formed, corresponding to one-half the bolt-end. As the reverse side of the central portion is flat the corresponding surface of the roll B is smooth, as at *c*, and corresponding to the recesses *b* of the roll A are other recesses *d*, which, combined with the recesses *b*, form a cavity corresponding to the round or bolt ends required. These rolls, arranged and geared together in the usual manner of rolling-mills, are made to revolve, and at the proper time the heated blank is introduced, passing through between the rolls and drops from the opposite side complete, as in Figs. 3 and 4, ready for the ordinary trimming-dies.

By this construction the articles are formed with much greater rapidity than can be done by the drop, because in the drop the workman must first properly place his blank, then trip the drop, wait for it to strike, then remove the blank from the die; whereas by the use of this device he has simply to place the blank between the rolls, where it requires no further attention. Another advantage is that by the hammering process of the drop the dies will wear more rapidly than the dies in the rolls.

I claim as my invention—

The dies herein described for forging carriage-clips, one part of which is formed in one roll, A, and the other part in the other roll B, substantially as set forth.

WILLIAM S. WARD.

Witnesses:

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