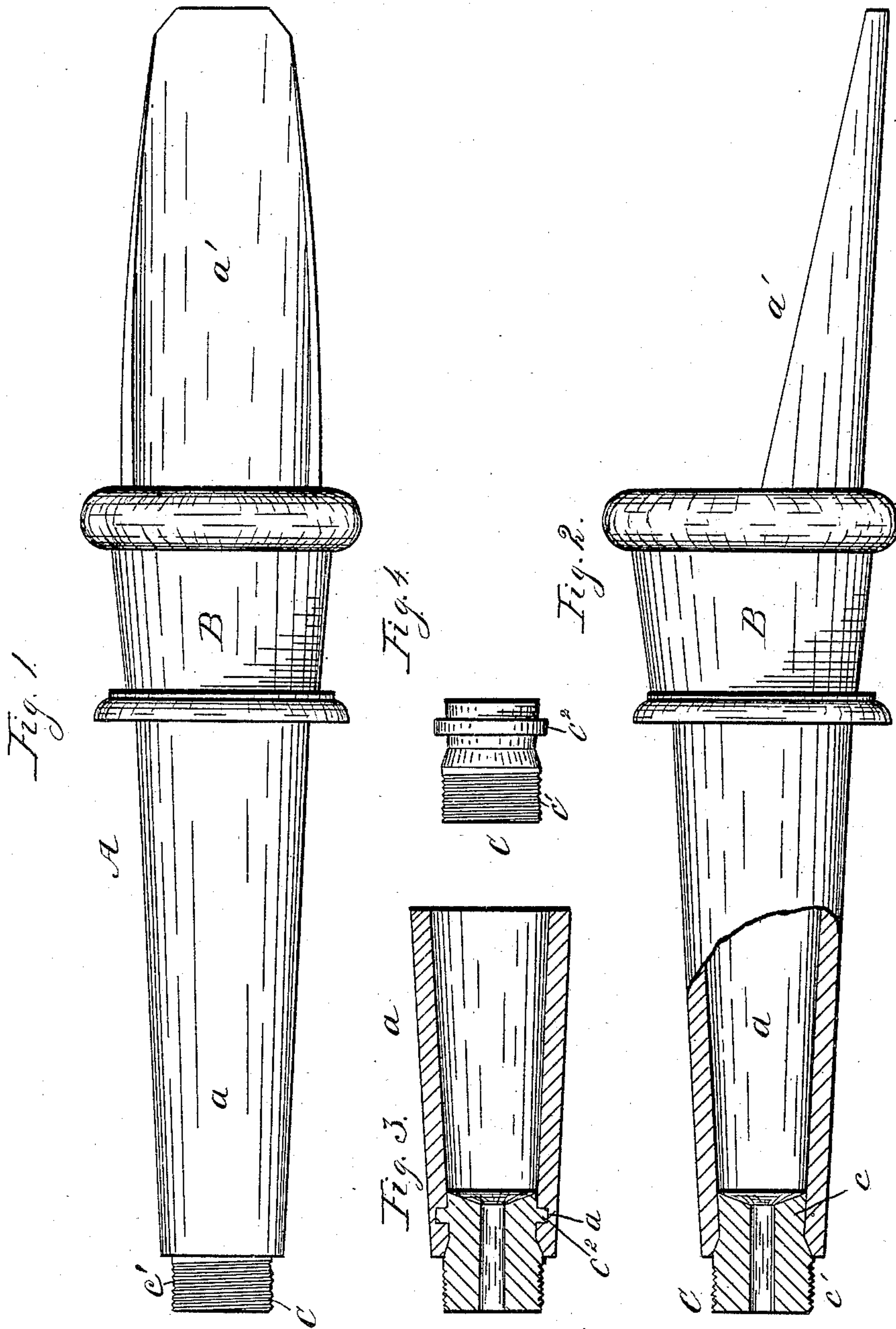


(No Model.)

R. LANE.
AXLE SKEIN.

No. 277,579.

Patented May 15, 1883.



Witnesses.
W. C. Coates
A. M. Best.

Inventor
Rufus Lane.
By Edwin T. Wheeler
Attorney's

UNITED STATES PATENT OFFICE.

RUFUS LANE, OF BELOIT, WISCONSIN, ASSIGNOR TO THE ILLINOIS IRON & BOLT COMPANY, OF CARPENTERSVILLE, ILLINOIS.

AXLE-SKEIN.

SPECIFICATION forming part of Letters Patent No. 277,579, dated May 15, 1883.

Application filed March 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, RUFUS LANE, a citizen of the United States, residing at Beloit, in the county of Rock, in the State of Wisconsin, have invented a certain new and useful Improvement in Axle-Skeins, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of an axle-skein having my improvement. Fig. 2 is a side elevation of the same, the outer part of the spindle being in section. Fig. 3 is a longitudinal section of the outer part of the spindle, showing a modified conformation of the plug and of the inner surface of the spindle. Fig. 4 is a detailed elevation of the plug shown in Fig. 3.

The same letters denote the same parts in all the figures.

My invention relates to the metallic skeins by which wooden axle-trees are partly inclosed; and it consists in a skein of wrought metal having a plug cast in its outer end, on which a thread may be cut for receiving a nut, or which may be bored to receive a linchpin or adapted to any other device for holding the wheel and its box in place on the spindle of the skein, the object being to obtain the advantages of a wrought skein without the expense of forming and welding this plug.

In the drawings, A denotes an axle-skein, of wrought metal, consisting of a spindle, *a*, which surrounds the end of the axle-tree, and an extension, *a'*, which supports the thicker part of the axle-tree.

B denotes a sleeve and collar surrounding the larger end of the spindle and the adjoining part of the extension *a'*. This sleeve and collar form no part of my invention, which consists in the combination of the wrought skein A with a cast plug in the manner which I will now proceed to describe.

C denotes the plug, consisting of a part, *c*, inserted in the outer and smaller end of the spindle, and a part, *c'*, projecting beyond the end of the spindle, and threaded to receive the nut which holds the wheel and its box in place on the spindle. The outer part, *c'*, is cylindrical,

the inner part, *c*, being conformed to the shape of the spindle. The superior lightness and strength of a wrought-steel skein are well known; but the expense attendant on the formation of a wrought plug and welding it to the spindle have, among other reasons, materially interfered with the general use of wrought skeins. To remove this difficulty I cast the plug C upon and within the wrought thimble. For this purpose the skein A is first formed of wrought metal in the usual manner, the core for the plug is inserted within the spindle, the spindle itself constituting the mold for the part *c* of the plug, and a mold of suitable shape for the outer part of the plug being placed on the end of the spindle. The molten metal being then poured in, the plug will be cast into the spindle, and I have found by experiment that it adheres to the spindle with a firmness practically equal to that effected by welding. The junction may, however, be additionally secured by forming a groove or other recess, *a²*, in the inner surface of the spindle, which will be filled by the molten metal, so as to form a corresponding projection, *c²*. Of course the number of recesses in the thimble, and consequently of projections on the plug, may be increased as desired. The two parts are evidently locked together in this way with a security which could not be obtained by any other mode of junction.

The inner edge of the outer end of the spindle may be advantageously chamfered, as shown in the drawings, so as to form a sort of dovetail in the plug, and thus aid to hold it in place. The thread is to be cut on the plug after casting; or the plug may be originally formed with a transverse bore suited to receive a linchpin.

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

A thimble-skein of wrought metal, in combination with a plug cast into the outer end of the spindle, substantially as and for the purpose described.

RUFUS LANE.

Witnesses:

JOHN F. FIERKE,
C. E. GRIFFITH.