

(No Model.)

J. FULTON & W. A. VIELE.

AXLE SKEIN.

No. 390,121.

Patented Sept. 25, 1888.

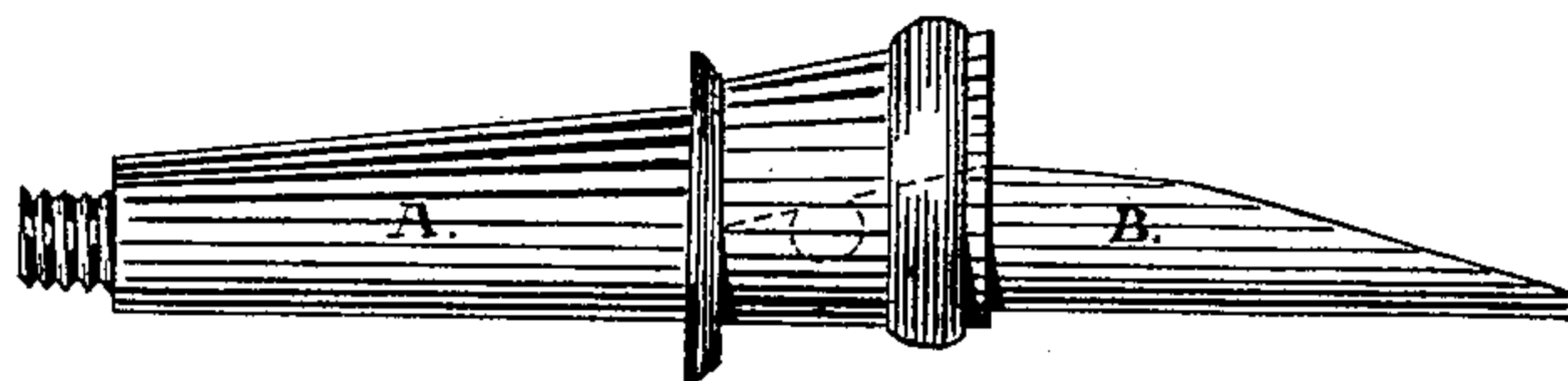


Fig. 1.

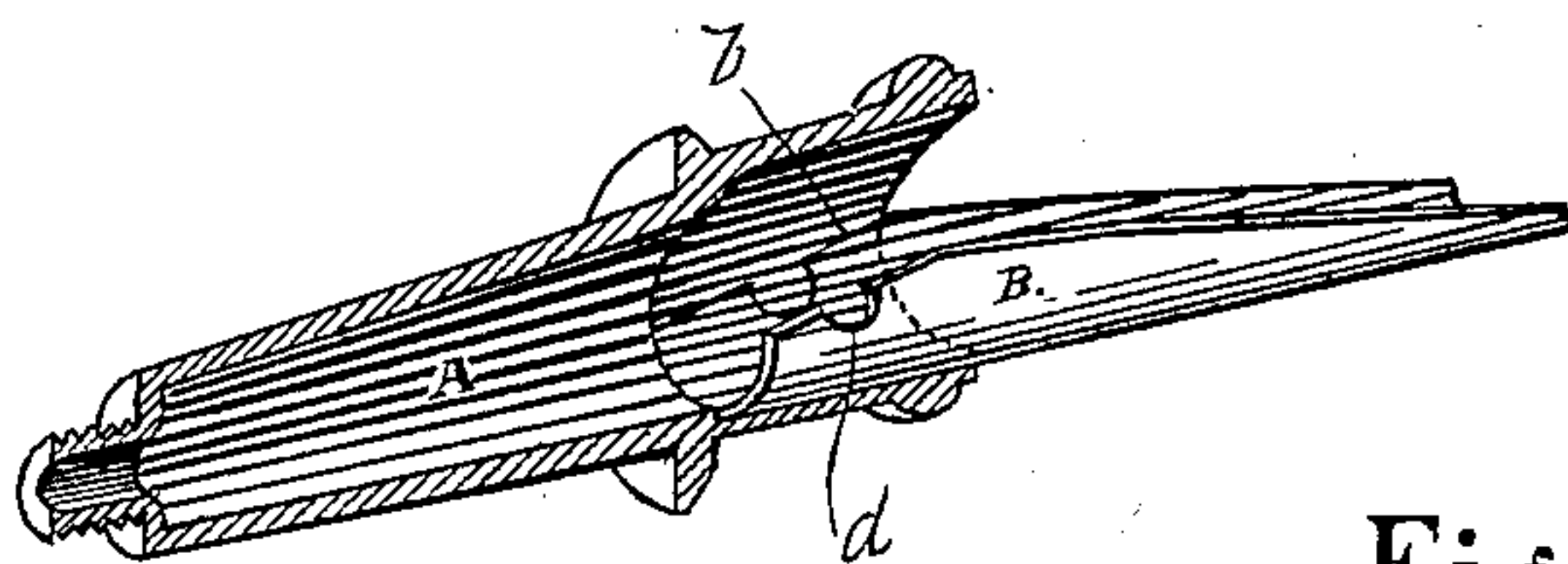


Fig. 2.

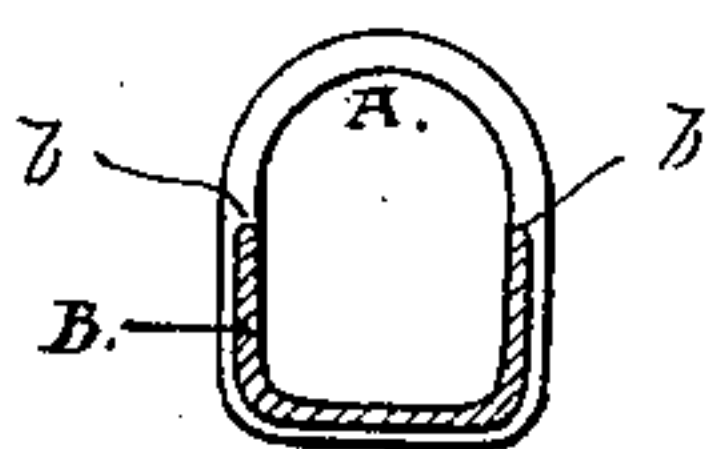


Fig. 3.

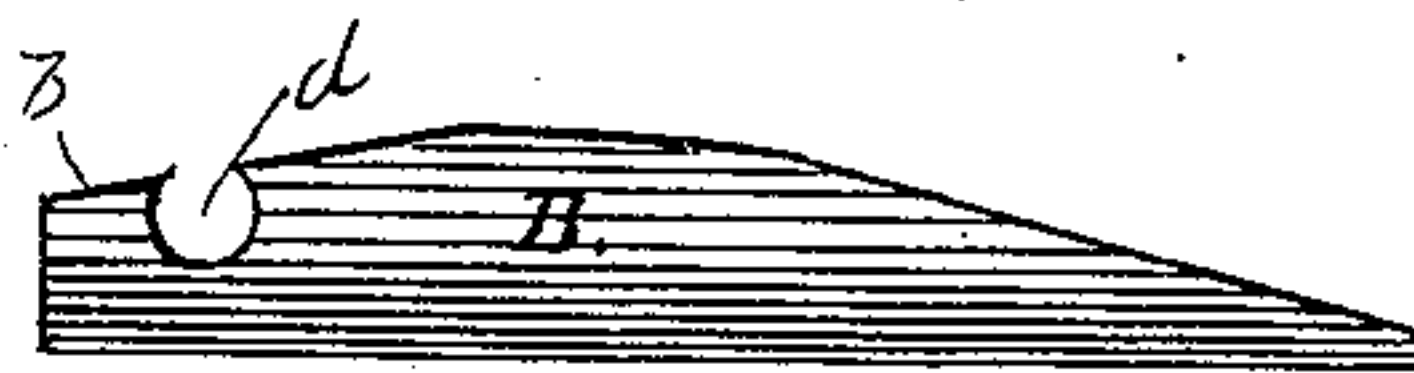


Fig. 4.

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# UNITED STATES PATENT OFFICE.

JAMES FULTON AND WILLIAM A. VIELE, OF SOUTH BEND, INDIANA.

## AXLE-SKEIN.

SPECIFICATION forming part of Letters Patent No. 390,121, dated September 25, 1888.

Application filed April 12, 1888. Serial No. 270,494. (No model.)

*To all whom it may concern:*

Be it known that we, JAMES FULTON and WILLIAM A. VIELE, both of South Bend, in the county of St. Joseph, in the State of Indiana, have invented new and useful Improvements in Thimble-Skeins for Wagon-Axles; and we do hereby declare that the following is a full and accurate description of the same.

Our invention consists, first, in a cast-metal thimble-skein provided with a longitudinal extension to extend under and alongside of the axle for the purpose above stated, and, second, in a cast-metal thimble-skein provided with a rigidly-attached wrought-metal longitudinal extension, as above indicated, to strengthen the axle, as set forth.

In the accompanying drawings, Figure 1 is a side elevation of our skein. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section. Fig. 4 is a side elevation of the wrought-metal portion detached.

A is the skein, molded and cast in the usual way, and B is the wrought-metal extension-plate which extends beneath the axle, and, being fastened to the same, braces and supports it in the manner well known. The wrought-metal extension B may be secured to the cast-metal skein in a variety of ways, as by bands, bolts, screws, &c.; but these methods will all be more costly and less efficient than the method shown in our drawings, and which for convenience we will particularly describe.

The extension B is cut from metal plate of proper thickness, bent to the proper curve transversely, so as to partly embrace the sides of the axle, and one end is laid in the mold, so that the molten metal flows over and around said end and incloses it firmly. This is shown in Figs. 1, 2, and 3. It will thus be seen that the metal of the skein engages the upper edges,

b, of the extension and holds the latter against that vertical movement which the breaking strain or shock of the load tends to give it in the act of fracturing. In order to make the union more solid and perfect, openings or notches are made in the plate B, into which the molten iron flows and forms anchoring-pins, from which the plate B cannot escape. We have found that notches *d* cut in the edges of plate B are sufficient, and for that reason we do not show a greater number of anchoring-pins.

We are aware that a cast-iron thimble-skein has been provided with a wrought-metal tang permanently attached to said sleeve and extended along the under side of the axle, where it is secured to retain the skein in place. This differs from our invention, because it does not inclose the sides of the axle nor relieve it from breaking transverse strains.

Having described our invention, we claim—

In a cast-metal thimble-skein, the combination, with the skein proper, A, of the wrought-metal extension B, formed, as shown, to engage and support the bottom and sides of the axle, said part B being extended back within the skein along the sides and bottom of the skein and having its side portions rigidly engaged on their upper edges by the sides of the skein in the process of casting, substantially as set forth.

JAMES FULTON.  
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