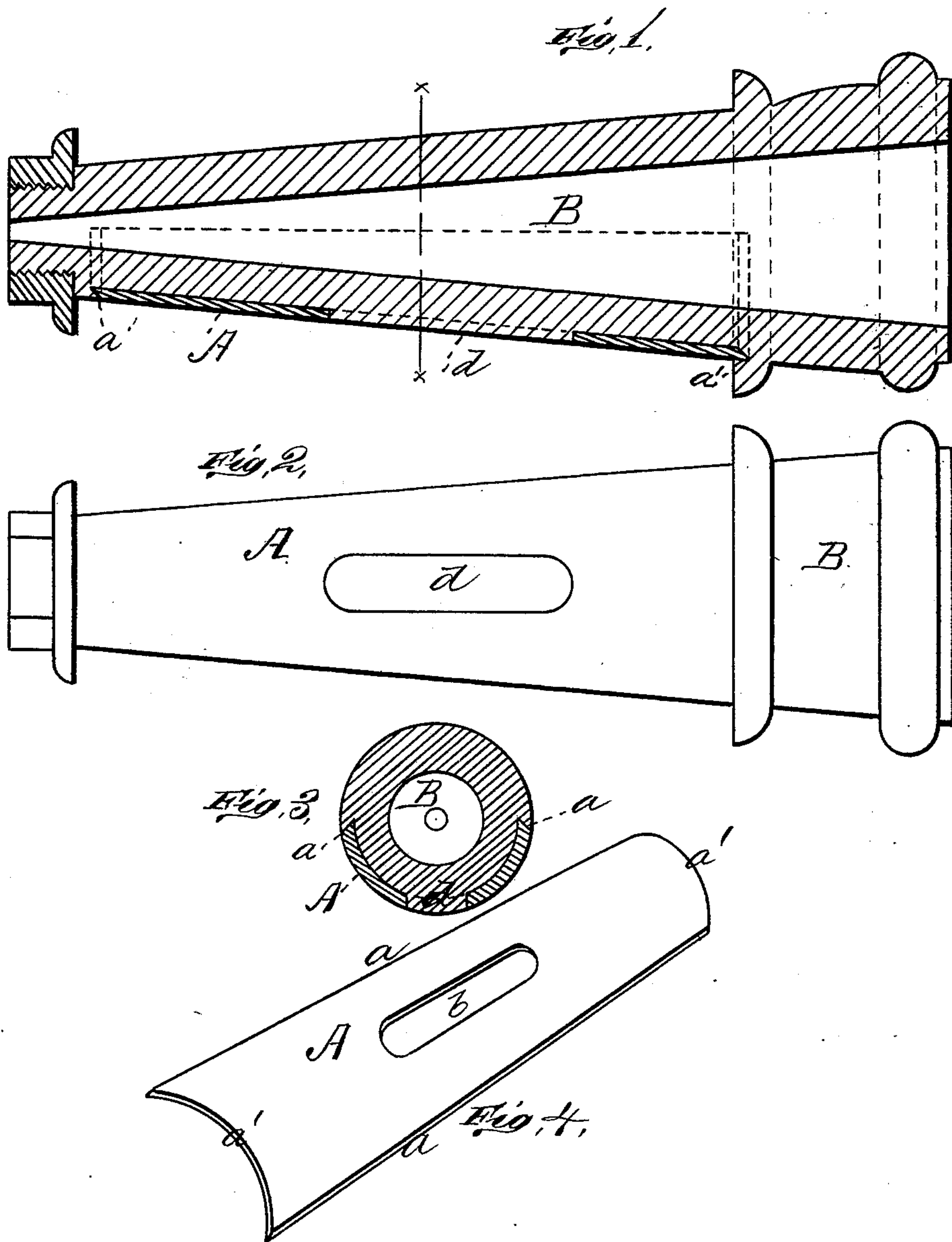


T. SHILLING.  
Axle-Skein.

No. 218,072.

Patented July 29, 1879.



WITNESSES  
*E. H. Bates*  
*C. J. Mabi*

INVENTOR  
*Townsend Shilling,*  
*by E. W. Anderson,*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

TOWNSEND SHILLING, OF COLUMBUS, OHIO.

## IMPROVEMENT IN AXLE-SKEINS.

Specification forming part of Letters Patent No. **218,072**, dated July 29, 1879; application filed November 17, 1877.

*To all whom it may concern:*

Be it known that I, TOWNSEND SHILLING, of Columbus, in the county of Franklin and State of Ohio, have invented a new and valuable Improvement in Axle-Skeins; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a central longitudinal section of this invention. Fig. 2 is a view of the under side of the same. Fig. 3 is a cross-sectional view; and Fig. 4 is a detail view of the skein-plate.

This invention has relation to improvements in axle-skeins for vehicles; and it consists in the construction and novel arrangement of a steel bearing-plate of semicircular form in cross-section and tapering from end to end, its ends being beveled in dovetail form, and its central portion being slotted, to provide purchase for the metal of the skein, which is cast upon it, and thereby connected with it in a firm and secure manner, as hereinafter shown and described.

In the annexed drawings, the letter A designates a steel segment-plate of tapering form, semicircular in cross-section, as shown, and having converging dovetailed edges *a* and dovetailed ends *a'*. It has also an oblong longitudinal slot, *b*, formed in it for a purpose hereinafter explained. This plate is transversely curved, as shown in Fig. 4, the curvature corresponding to that of the axle-arm B, that is made of cast-iron and is preferably hollow.

The skein-plate A is laid in the bottom of a mold and the metal then run into it. The molten metal embraces the skein-plate and runs through the slot *b*, forming a stud, *d*, that, with the dovetailed joint formed with the axle-arm, and because of the union of the metal of the skein and arm, effectually secures the two parts together in so rigid a manner that their detachment from each other is impossible. The skein is somewhat shorter than the arm, and, its ends being beveled, a dovetail is formed at each end thereof, which completes the union of the two parts.

The steel bearing-plate, being semicircular in cross-section, is designed to cover the entire lower half of the journal portion of the skein, and thereby protect this half against wearing away rapidly as well on the sides as the bottom, so as to retain the true circular form of the skein as long as possible.

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

An axle-skein consisting of the steel segment-plate A, semicircular in cross-section and tapering from end to end, provided with dovetail edges *a'* and an opening, *d*, in connection with the skein-body B, cast on the same, so as to overlap said dovetail edges and extend into said opening to hold the segment-plate firmly in place, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

TOWNSEND SHILLING.

Witnesses:

JOHN M. TIBBETTS,  
J. C. PATRICK.