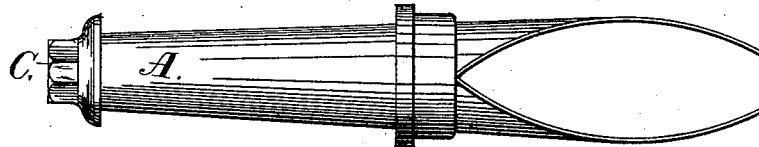


C. A. POLAND.  
Vehicle-Axle Skein.

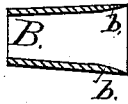
No. 207,677.

Patented Sept. 3, 1878.

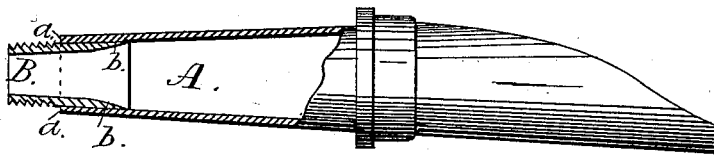
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



*Witnesses:*

*J. M. Burnham*  
*J. G. Hester*

*Inventor:*

*Charles A. Poland*  
*by*  
*W. H. Babcock*  
*Attorney.*

# UNITED STATES PATENT OFFICE.

CHARLES A. POLAND, OF COLUMBUS, OHIO.

## IMPROVEMENT IN VEHICLE-AXLE SKEINS.

Specification forming part of Letters Patent No. **207,677**, dated September 3, 1878; application filed August 17, 1878.

*To all whom it may concern:*

Be it known that I, CHARLES A. POLAND, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Skeins for Wagon-Axles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention is an improvement upon the wagon-axle skeins of Gottlieb Schreyer, as described in Letters Patent No. 89,602, granted to him May 4, 1869, and in reissued Letters Patent No. 3,709, granted to him November 2, 1869.

The said invention consists, mainly, in providing the end of the skein proper with a hollow ferrule inserted within the same as a re-enforce, said ferrule being screw-threaded externally to receive a nut, and adapted to allow the access of air through its open end to the wood of the axle-journal for the prevention of dry-rot.

In the accompanying drawings, Figure 1 represents a side elevation of my improved skein with the nut removed. Fig. 2 represents in detail the ferrule which receives the nut, and Fig. 3 represents a longitudinal section of the skein with ferrule in place.

A designates the body of an ordinary wagon-axle skein, which is cut off short at *a*, at the place where it is usually cut away in part, to form a shoulder at the beginning of the screw-threaded extension which receives the nut. This partial cutting away ordinarily weakens the skein at this point, and the screw-threads formed on the extension, and made nearly or quite back to the shoulder, weaken it still more, so that in practice it is found that many skeins break at this point. Instead of having such an extension in one piece with said skein, and liable to be broken off, as described, I employ a separate ferrule, B, which is screw-threaded, like such extension, on the outside, so as to be adapted to receive an ordinary stop-nut, C, and which is

fitted within the hollow outer end of said skein and welded to the inside thereof. The rear end of said ferrule is beveled at *b*, to allow the ready insertion of the end of the axle-journal, and extends far enough back to operate as an internal re-enforce or brace to said skein. Thus the screw-threaded extension, instead of being a source of weakness, becomes a strengthening device.

I am aware that in one of Schreyer's patents above mentioned a solid plug is used, introduced somewhat like my ferrule into the end of the skein and externally screw-threaded to receive a nut; but my device is a decided improvement upon this. A solid plug excludes the air, and thus causes the danger of dry-rot in the wood of the axle, whereas my invention allows the said wood to extend through the ferrule to the outer air, which will pass readily through its fibers and prevent injury. A solid plug is also unnecessarily heavy. Moreover, a hollow ferrule like mine allows ready inspection of the end of the axle-journal, promoting ease and accuracy in fitting. The wood of the axle also braces the skein and its extension or ferrule through to its very point.

Besides the advantages over the ordinary skein already enumerated, I can use a ferrule of diameter much smaller than the screw-threaded part of the sleeve or skein generally employed, and this allows me to use a lighter and stronger nut.

The ferrule is made of iron or some other metal softer than the partly-tempered steel of the skein proper, and this facilitates the cutting of screw-threads upon it.

My invention combines the advantages of both the other constructions mentioned—the ordinary skein with extension formed by partly cutting it away near the outer end, and the Schreyer skein with a solid plug in the end.

My invention also avoids the objections to both the above forms of skein.

I am aware that the said Schreyer has obtained a patent for an axle-skein which shows a hollow ferrule with internal screw-threads; but such is obviously unsuited for use with nuts of ordinary construction, and entails unnecessary expense and trouble in the cutting

of the internal screw-threads and the construction of the stop-nut or button with screw-threaded shank.

Having thus fully described the said invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with skein A, ending at *a*, hollow externally screw-threaded ferrule B, welded within the end of said skein to act as a re-enforce, and permitting the access of the

outer air to the end of the wagon-axle journal, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

CHARLES A. POLAND.

Witnesses:

W. H. FOSTER,  
THEO. L. GRIFFIN.