G. SCHREYER.

Axle-Skein.

No. 205,689. Patented July 2, 1878.

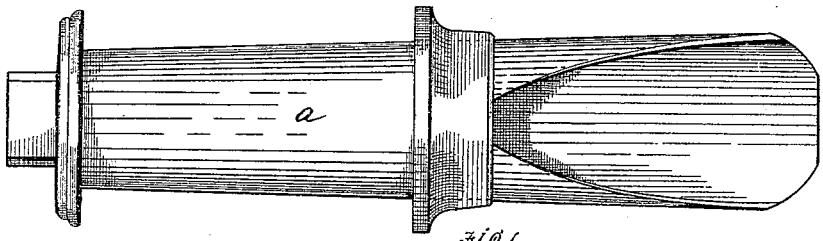

Fig. 1.

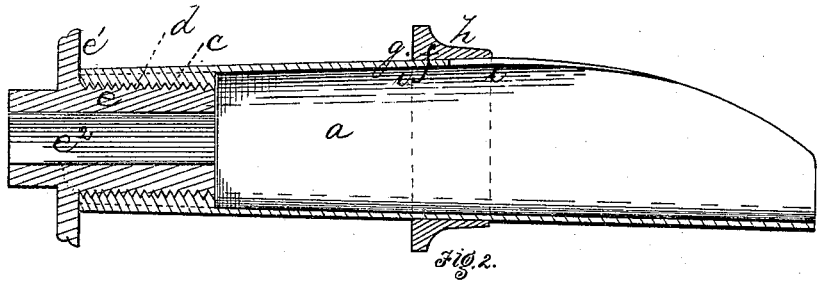

Fig. 2.

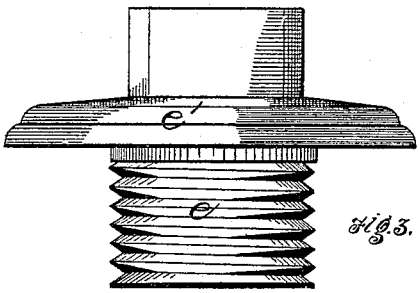

Fig. 3.

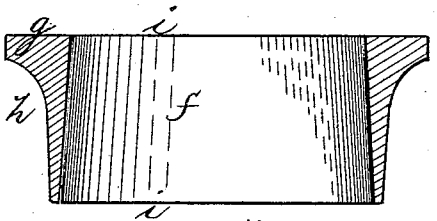

Fig. 4.

Witnesses.

R. C. Wormeld
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Inventor.

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UNITED STATES PATENT OFFICE.

GOTTLIEB SCHREYER, OF COLUMBUS, OHIO.

IMPROVEMENT IN AXLE-SKEINS.

Specification forming part of Letters Patent No. **205,689**, dated July 2, 1878; application filed May 24, 1878.

To all whom it may concern:

Be it known that I, GOTTLIEB SCHREYER, of Columbus, in the county of Franklin and State of Ohio, have invented a new and useful Improvement in Axle-Skeins; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is an elevation of an axle-skein embodying my invention. Fig. 2 is a longitudinal central section of the same. Fig. 3 is a detached view of the flanged screw plug or nut. Fig. 4 is a similar view of the collar.

Like letters refer to like parts wherever they occur.

My invention relates to certain improvements in the manufacture of axle-skeins for which Letters Patent No. 32,255, dated May 7, 1861, and No. 89,602 of May 4, 1869, were granted to me; and consists, first, in re-enforcing and threading the interior of the end of the skein for the reception of a flanged plug or nut, whereby great strength and durability of the skein are obtained; secondly, in forming the cast flanged plug for use with internally-threaded axle-skeins with a hollow center, whereby lightness and strength are obtained.

Heretofore, in the construction of the axle-skeins mentioned, two general methods of threading the skein for the reception of the nut have been adopted. The first method consists in inserting a short plug in the outer end of the skein, welding the same to the skein, and subsequently threading the projecting end of said plug for the reception of the nut, the objection to which is, that the unequal thickness of the plug and skein and the protected condition of the plug, which is inclosed by the skein during the final heating, cause the parts to heat unequally, resulting frequently in either burning the metal of the skein, rendering the same useless, or in an imperfect heating and welding of the parts, rendering the skein defective when finished.

To overcome such objection the second method has been adopted, which consists in cutting the thread in the outer surface of the skein; but in practice this method has also been found objectionable—first, because of the difficulty of obtaining accurate results with the chasing-tool necessarily used in cutting the threads; secondly, because the formation of the thread in the metal of the skein frequently weakens the skein at that point, so that it soon gives way; and, thirdly, because to obtain a sufficient thickness of metal to permit of the exterior surface being threaded the whole skein has to be made unnecessarily thick, heavy, and expensive.

The object of the present invention is to overcome the several objections specified without materially increasing the cost of manufacture, and to obtain a light, strong, and durable axle-skein.

I will now proceed to describe my invention, so that others skilled in the art to which it appertains may apply the same.

In the drawing, *a* indicates the skein, formed of a thin sheet of metal, (usually steel,) which has been cut to the desired shape and manipulated in the usual manner for forming skeins. The outer end of the skein *a*, I re-enforce, preferably by inserting a ferrule or ring, *c*, within the skein and welding the same thereto. The best results will be attained if the ring *c* is of wrought-iron and about the thickness of the skein at the point to which it is welded, for in such case the parts will heat and unite uniformly. Care should be taken to arrange the ferrule or ring *c* so that its slit will break joints with that of the skein.

Having obtained a skein with a re-enforce or increased amount of metal on its interior and at the point specified, I thread the interior of the skein, as indicated at *d*, for the reception of a flanged screw-plug, *e*.

e indicates the screw-plug, provided with a flange, e^1, which I employ instead of the usual nut. This screw-plug I prefer to form by casting with a hollow center, e^2—first, in order that the casting may contract uniformly, so that a sound and perfect flange, e^1, will be obtained, and, secondly, because the strength of the article is preserved and a much lighter screw-plug obtained. After casting, the plug may be threaded by first smoothing and starting the thread with a chasing-tool, and subsequently finishing it with the usual dies.

f indicates the collar of the axle-skein, formed with the square shoulder or face *g* and slightly-tapering interior surface, but of increased

width, as from *i* to *i*, and hollowed out or concaved upon its exterior, as at *h*, so as to taper down to the wood-work. This form of the collar permits it to adapt itself more accurately to the skein and wood-work of the axle when it is shrunk on the same, as while having greater hold or purchase on the axle-skein, so that it is not liable to work loose, its contraction is not so great as to cause it to embed itself, as would be the case were the collar of square iron of uniform thickness, or even a simple tapering collar.

Such construction also permits me to increase the depth of shoulder *g* without increasing the cost and weight of the collar materially, and thus to gain great advantages in preventing the end play of the hub and reducing the wear. The slope of the collar is also especially adapted to turn the mud and dirt from the box, and thus protect the parts.

The advantages of my invention are strength, lightness, durability, the uniform results attainable, and the cheapness of manufacture.

Having thus described the nature and advantages of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The axle-skein re-enforced and threaded upon its interior, substantially as and for the purpose specified.

2. The combination, with the axle-skein threaded upon its interior, of the hollow-center screw-plug, substantially as and for the purpose specified.

In testimony whereof I, the said GOTTLIEB SCHREYER, have hereunto set my hand.

GOTTLIEB SCHREYER.

Witnesses:
JAMES H. PORTE,
JOHN K. SMITH.