N. L. HOLMES.

Axle-Skein for Vehicles.

No. 216,615. Patented June 17, 1879.

Fig: 1

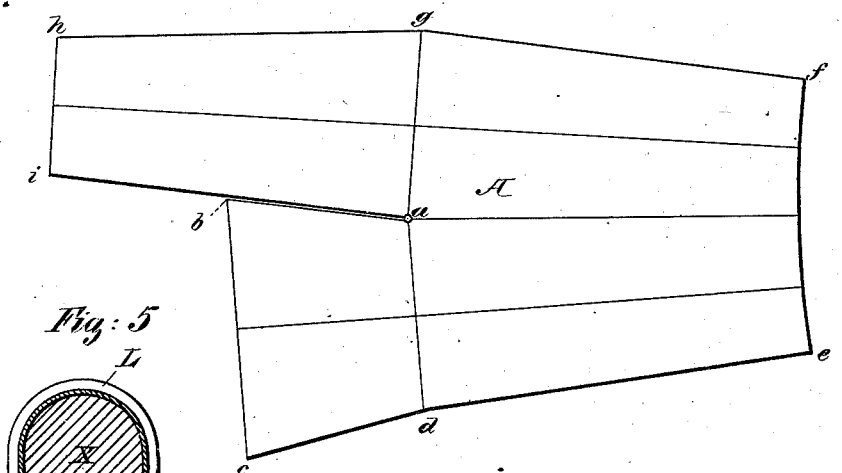


Fig: 5

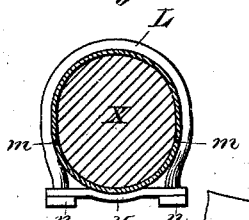


Fig: 2

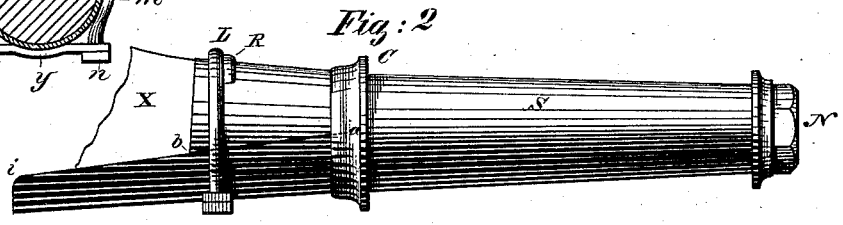


Fig: 3

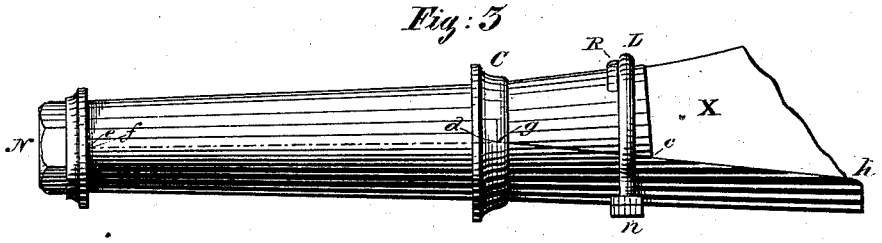
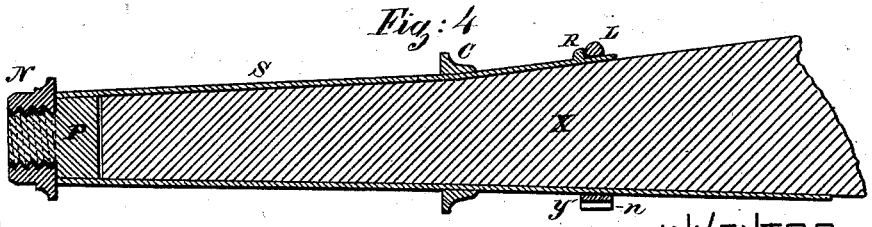


Fig: 4



WITNESSES

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NATHAN L. HOLMES, OF RACINE, WISCONSIN.

IMPROVEMENT IN AXLE-SKEINS FOR VEHICLES.

Specification forming part of Letters Patent No. **216,615**, dated June 17, 1879; application filed March 18, 1879.

To all whom it may concern:

Be it known that I, NATHAN L. HOLMES, of Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Thimble-Skeins for Wagons; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the class of thimble-skeins in which the thimble is formed up of sheet-steel; and consists in a novel form of blank, which furnishes both upper and lower wrist-extensions continuous with the spindle portion, and which brings the seam or weld of the meeting edges in the spindle on one side of the latter, instead of on the top, as heretofore.

It also consists in making the upper and lower extensions of such width and form as nearly or quite to envelop or embrace the axle back of the spindle, such complete wrist having lateral joints only, so that the clip applied thereto, after the thimble has been forced upon the axle, will more easily bind the wrist to the axle.

It consists, further, in certain other features of construction, and of the completed and applied skein, that will be hereinafter more fully explained, and indicated in the claims.

The object of my invention is to give greater strength to the skein, to the attachment of the skein to the axle, and to the axle at the inner point of attachment, and also to obviate special objections to a seam or weld situated on the top of the spindle, as will be further shown.

In the drawings, Figure 1 shows a blank from which my improved skein is made. Figs. 2 and 3 show opposite sides of the completed skein applied to the axle. Fig. 4 is a longitudinal vertical section of the skein and axle, and Fig. 5 is a transverse section thereof immediately back of the clip.

Referring to Fig. 1, that portion of the blank bounded by the lines *d e*, *e f*, *f g*, and *g a d* is intended to form the spindle of the skein, and the wings *a b c d* and *a i h g* the upper and lower wrist or axle extensions thereof, respectively.

Preparatory to forming the thimble from the blank and uniting the edges *d e* and *g f*, the margins of the wings are drawn out and thinned down under the hammer, and, either at this stage or when the thimble is formed, the upper extension or wing is given the "spring" necessary to fit the pitch of the upper line of the axle. This may be done by hammering the seam along and near the extremities of the line *a d;* or this spring may be given by swaging the thimble over a suitable former. The lower wrist-extension is in line with the lower face of the spindle S.

In Figs. 2 and 3 are shown the positions assumed by the several edges of the blank when the latter is shaped up to form the skein and the skein is secured to the axle. The meeting edges of the spindle portion are seen in Fig. 3 to lie in a median line at one side of the spindle, which gives greatly-increased strength to the spindle, and prevents the admission of oil or other lubricant inside the skein should the joint or weld prove imperfect. The joints or meeting edges of wings that form the wrist are also lateral to the axle X, one on each side, which is a position favorable to tight clamping of the wrist upon the axle by means of the clip L.

It is not essential to my invention, so far as the same relates to the upper and lower wrist-pieces being continuous with the spindle portion of the skein, that said wrist-pieces shall actually meet at their edges, as shown in the drawings. Substantially the same effect is secured, so far as appearance and strength are concerned, if said edges are at first left slightly apart, while if proper space is left between them the clip may, from time to time, be tightened without hinderance from their meeting and without springing the clip off by their overlapping.

In the manufacture of my improved skein as an article of merchandise, I propose to shrink on the collar C, or otherwise secure the same in place, before shipment; but it may be applied to the skein after the latter has been forced upon the spindle or axle. In applying the collar, the inner or back edge thereof should, at least, slightly overlie the end of the cut *a b*, which brings the collar to bear against the increased pitch or rise of the wrist, in which position it will more firmly resist the

thrust of the wheel and be more permanently held in place. The clip L is held from slipping down upon the wrist by the lug R, swaged up or otherwise formed on the upper wrist-extension, as shown.

The wheel-nut N is held by the nipple or plug P, welded into the spindle S, as seen in Fig. 4; or opposite nipples on the same axle may be connected by a light metal strip let into the under face of the axle, as shown in an application for patent made by me and now pending.

I prefer to locate the joint formed of the meeting edges of the spindle portion of the skein on the front side of the spindle, for the purpose both of greater strength and of excluding the oil from the wood when the joint is imperfect. This requires that the skeins be made rights and lefts, which will be accomplished by shaping up blanks in opposite directions.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The blank for a thimble-skein, having wings to form upper and lower wrist-extensions continuous with the spindle portion, substantially as described.

2. The blank for a thimble-skein, having a lower axle-extension and formed to bring the meeting edges of the spindle portion at one side of the spindle, as set forth.

3. A thimble-skein formed from sheet metal, and having upper and lower axle-extensions continuous with the spindle portion, substantially as and for the purposes set forth.

4. A thimble-skein formed of sheet metal, having one or more axle-extensions continuous with the spindle portion, and the joint formed by the meeting edges of said spindle portion located on one side of the spindle, as described.

5. A thimble-skein formed of sheet metal, and having an axle extension or wrist adapted to nearly or quite embrace the axle back of the spindle, so as to give lateral as well as vertical support to the spindle, substantially as described.

6. The thimble-skein described, having upper and lower wrist-extensions, and having the upper extension sprung to smoothly fit the increased rise of the axle back of the spindle, substantially as described and shown.

7. The sheet-metal thimble-skein having the upper wrist-extension shown, provided with the lug R, for the purpose of holding the clip in place, as set forth.

8. The thimble-skein having an upper wrist-extension sprung to rest on the rise of the axle back of the spindle, combined with the collar C, embracing the skein at the point of increased rise, substantially as and for the purpose set forth.

9. The combination of the thimble-skein formed of sheet metal, having a wrist portion continuous with the spindle and made of two parts, or with open seams on opposite sides of the wrist, with the collar C and the clip L, substantially as shown and described.

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

NATHAN L. HOLMES.

Witnesses:
J. W. JOHNSON,
H. GRISWOLD.