G. SCHREYER.

MODE OF MANUFACTURING AXLE SPINDLES.

No. 32,255. Patented May 7, 1861.

Fig: 1.

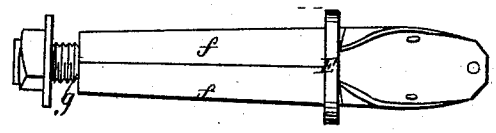


Fig: 2.

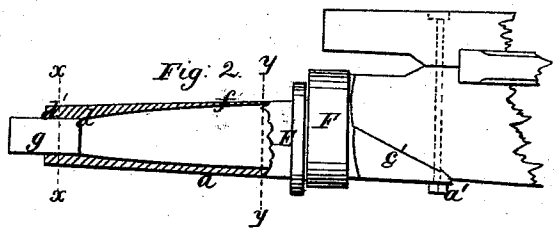


Fig: 4

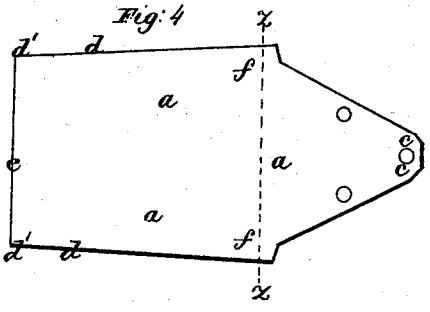


Fig: 7.



Fig: 8.



Fig: 3

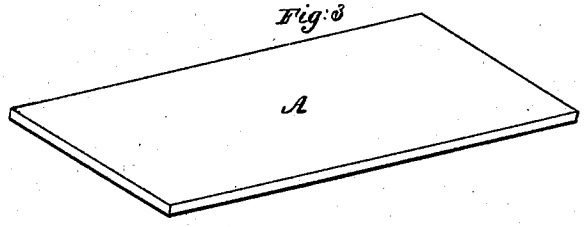


Fig: 6.

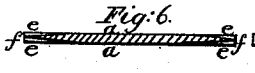
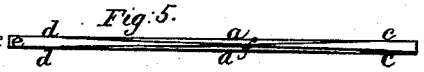


Fig: 5.



Witnesses
Gustavus Dieterich
Goodwin G. Ashley

Inventor
Gottlieb Schreyer
by Robt W. Dieterich
Attorney

UNITED STATES PATENT OFFICE.

GOTTLIEB SCHREYER, OF COLUMBUS, OHIO.

MODE OF MAKING THE SKEINS OF AXLE-ARMS FOR CARRIAGES.

Specification forming part of Letters Patent No. 32,255, dated May 7, 1861; Reissued November 2, 1869, No. 3,709.

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 that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a top view of my improved axle skein complete. Fig. 2, is a section of the same as applied to an axle. Fig. 3, shows the plate of steel from which the skein is made. Fig. 4, shows said plate after it has been finished ready for being bent into the form of a skein. Fig. 5, is an edge view. Fig. 6, is a transverse section in the line *z*, *z*, of Fig. 4 of the same before it is bent into the form of a skein. Fig. 7, is a transverse section in the line *x*, *x*. Fig. 8, is a transverse section in the line *y*, *y*, of the same after it has been bent.

Similar letters of reference, in each of the several figures indicate corresponding parts.

The nature of my invention consists in the axle skein hereinafter described, as an improved new article of manufacture, made by rolling or forging a thin sheet of iron or steel in a particular manner.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

To make the spindle, take a thin sheet of steel or iron A, say ¼ to ⅜ of an inch in thickness throughout, and cut it to the shape shown in Fig. 3. Then gradually draw out or taper down the plate from the points *c*, *c*, and *d*, by a rolling or forging process, to one about one-eighth of an inch in thickness, so as to make the edges *f*, *f*, of the plate of a gradually decreasing thickness, while the center portion *a*, *a*, *a*, and end portion *e*, *d*, *d*, remain of a uniform thickness, as represented in Figs. 5 and 6. The plate is next bent into the form of an axle skein, as represented in Figs. 1, 2, 7 and 8 and when thus bent presents in its cross section *y*, *y*, the form shown in Fig. 8, and in its cross section *x*, *x*, the form shown in Fig. 7.

By having portion *a*, cylindrical from *d*, to *d'*, the tap plug or screw *g*, can occupy a position directly in the center of the spindle, and by having the skein thinnest on its upper side and the thickest on its under side, great durability at the point of wearing contact is secured, and at the same time the skein has the properties of a spring on its upper side and therefore when driven upon the arm of the axle, will fully expand or open slightly and thus hug the arm very snugly. After the skein is thus formed, its taper end is closed up by welding in a cylindrical plug *g*, said plug extending out sufficiently far to allow of a screw thread being cut upon it to hold the tap that confines the wheel. The skein is now driven tight on the arm of the axle, its expansibility circumferentially insuring it a firm hold. A shoulder band F, fitted tightly over the arm and axle-tree, with a collar E, shrunk tightly over the skein and bolts *a'*, and *c'*, applied as represented, securely confine the skein to the axle, and also afford a bearing for the inner end of the hub.

What I claim as my invention and desire to secure by Letters Patent, as a new article of manufacture, is—

An axle skein with its under wearing surface *a*, *a*, *a*, and its smallest end *e*, *d*, *d*, made of a uniform thickness, as shown in Figs. 5, 6, and 7, and its upper surface *f*, *f*, of a gradually decreasing thickness, as represented in Fig. 8, by forging or rolling a plate of metal A, in the manner and for the purpose described.

GOTTLIEB SCHREYER.

Witnesses:

WM. L. HEYL,

I. C. FRAAS.