

(No Model.)

H. JAMES.

AXLE SKEIN.

No. 304,202.

Patented Aug. 26, 1884.

Fig. 1.

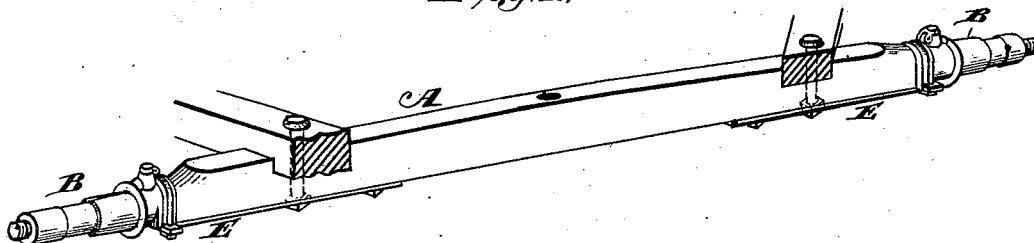


Fig. 2.

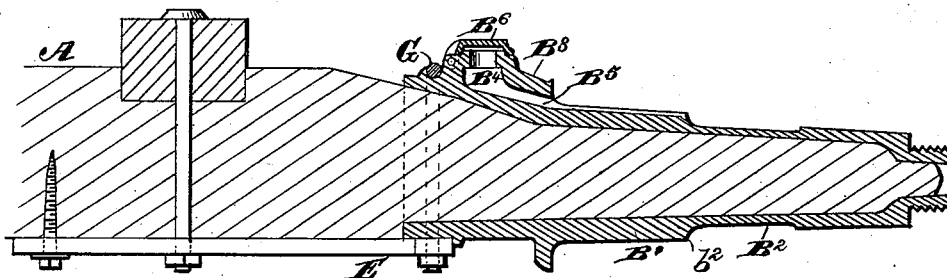
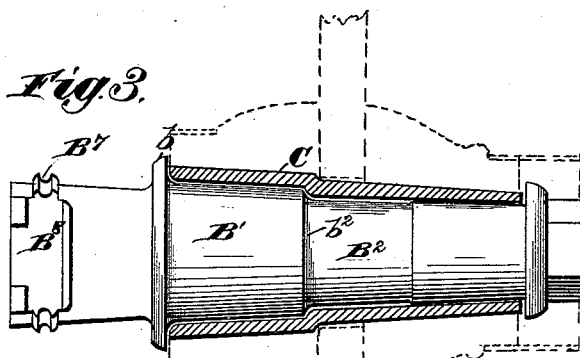


Fig. 3.



Witnesses.

Robert Emmett,
Charles H. Hays

Inventor,

Henry James.

By

James L. Norris,
Atty.

UNITED STATES PATENT OFFICE.

HENRY JAMES, OF MEMPHIS, TENNESSEE.

AXLE-SKEIN.

SPECIFICATION forming part of Letters Patent No. 304,202, dated August 26, 1884.

Application filed March 24, 1884. (No model.)

To all whom it may concern:

Be it known that I, HENRY JAMES, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented new and useful Improvements in Axle-Skeins, of which the following is a specification.

This invention relates to that class of wagon-axes which are strengthened and prevented from springing by means of truss-rods lying closely against the under side of the axle, and secured thereto and to the thimble-skeins fitted on the ends of the axle. Such a manner of arranging the thimble-skeins and trussing the axle is set forth in my Patent No. 267,084, dated November 7, 1882.

The invention consists in a thimble-skein of a peculiar construction that is designed to obviate the breakage thereof at or near its inner shoulder, or the part subjected to the greatest strain, and is also shaped to avoid weakening the middle portion of the hub where the spokes are located, all these results being obtained by distributing the metal of the skein in the manner hereinafter set forth and claimed.

In the drawings, Figure 1 is a perspective view of a wagon-axle having two thimble-skeins fitted thereon, which are braced or strengthened by truss-plates that do not extend to the central portion of the axle. Fig. 2 is a vertical longitudinal section of a wagon-axle, thimble-skein, and truss-plate, showing the manner of securing the latter to the axle and skein. Fig. 3 is a bottom plan view of the axle-skein and a section of the axle-box surrounding the same, the wheel hubs and spokes being indicated in dotted lines.

The letter A indicates a wooden axle-tree, and B are the metallic thimble-skeins fitted on the ends thereof for receiving the axle-boxes C of the wheel-hubs. Each skein has the customary inner shoulder, *b*, which rests against the inner side of the hub-box, and starting from the shoulder the metal or shell of the thimble is increased in thickness for a suitable portion of its length, so as to give the maximum degree of strength at the portion of the skein most subjected to strain. The thickened or enlarged portion of the skein (designated by the letter B') terminates at an offset, *b'*, located at the junction of said thickened

portion with a middle portion, B², of the skein that is made of the customary thickness. The axle-box C, fitted on the skein, conforms in shape with the enlarged inner portion and the smaller middle portion thereof, and it is evident that in this manner the middle portion of the hub where the spokes are located is not weakened or made with a bore of larger diameter than the remaining portions. This feature is clearly illustrated by the dotted lines in Fig. 3, representing the wheel hubs and spokes. It is also apparent that in this manner a greater and much stronger bearing is given the axle in the hub, and this without weakening the wheel in the least, it being evident that the offset *b'* is sufficiently far from the shoulder of the skein and the point in the hub where the spokes pass through.

In addition to making the skein as above described, it is proposed to form it with a lower bearing portion that is somewhat thicker than its upper portion, so that the thimble will be strong and durable and capable of resisting strain and wear.

The inner or butt portion of the thimble (marked B³) is formed with an upper oil-cup or lubricant-holder, B⁴, from which leads a duct, B⁵, that extends through the inner shoulder of the skein and delivers the oil upon the surface of the latter. Suitable groove or grooves may be made in the latter for distributing the oil. The oil-cup is provided with a hinged cap, B⁶, which is hung on an ear or projection of said cup, and serves to close the feed or filtering orifice thereof.

In rear of the oil-cup is located a circumferential groove, B⁷, which terminates at a flattened bottom surface, B⁸, of the butt portion of the thimble. A stay-plate, E, having a T-tread on its inner end, fits against the under side of the wooden axle, and said head is seated upon the flattened portion of the butt portion of the skein, and secured thereto by a clip, G, that enters the grooved part of the skein and is secured to the head of the stay-plate. The latter, instead of extending entirely across the axle as in the patent heretofore referred to, runs beneath the axle to the first "gear-bolt," the latter serving to secure it in place, in connection with a "lag-screw" passed through the axle inside or beyond the

gain into which the hound fits. Each side of the axle being the same, or having a truss or stay plate disposed alike, it follows that the central portion of the axle is not made too rigid or unyielding by a stay-plate extending from skein to skein, as in my former patent. Wagon-axles being generally made of hickory or other elastic wood, it follows that the spring or elasticity of the central portion of the axle will serve as a safeguard to prevent the breakage of the skeins, and the latter being re-enforced or strengthened at the parts most subjected to strain it is evident that I attain advantages not possessed by axle-skeins and truss rods or plates heretofore known.

Having thus described my invention, what I claim is—

The herein-described axle-skein, having the under side of its bearing portion made thicker throughout its entire length than the side and top surfaces, and having the inner bearing portion, B', adjoining the butt or inner hub-shoulder made larger in diameter than the remaining bearing portion, and having the middle portion, B², made smaller in diameter than the inner and outer portions, substantially as herein set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY JAMES.

Witnesses:

JOS. L. COOMBS,
J. A. RUTHERFORD.