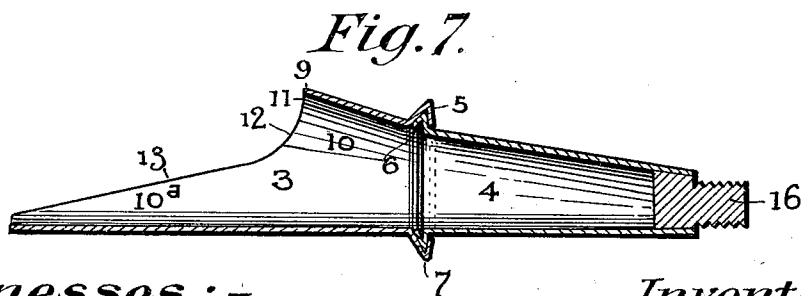
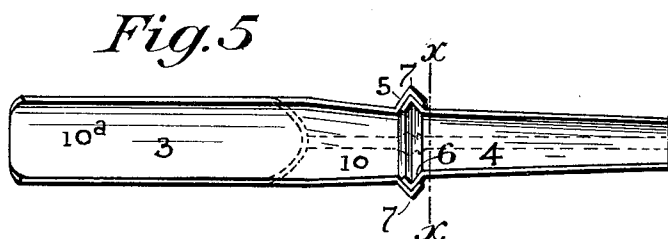
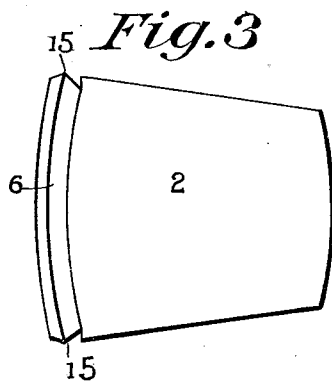
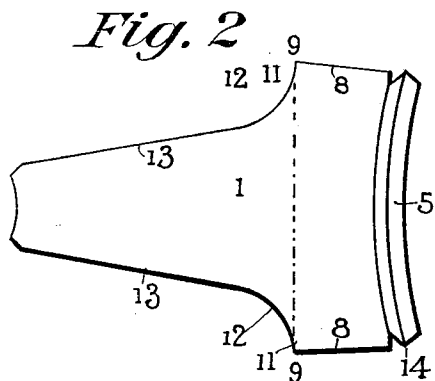
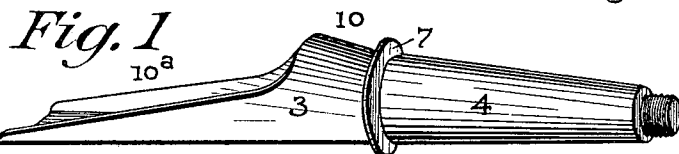


(No Model.)

J. SALAY.
AXLE SKEIN.

No. 544,325.

Patented Aug. 13, 1895.



Witnesses :-

Wm. H. Rowe,
C. H. Schafer.

Inventor:-

John Salay,
By his Atty:
J. B. Richelt

UNITED STATES PATENT OFFICE.

JOHN SALAY, OF SOUTH BEND, INDIANA.

AXLE-SKEIN.

SPECIFICATION forming part of Letters Patent No. 544,325, dated August 13, 1895.

Application filed April 25, 1895. Serial No. 547,109. (No model.)

To all whom it may concern:

Be it known that I, JOHN SALAY, a citizen of the United States, residing at South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Axle-Skeins, of which the following is a specification,

Heretofore malleable iron or steel axle-skeins have been made of a single piece of sheet metal struck up and joined at its side edges in a single longitudinal weld and comprising a skein portion proper, a collar portion, and a socket back portion, all made integral and fitted with a screw-threaded plug of suitable material and proper size to fill the tubular outer end of the skein portion in which it is placed, and to which it is secured by shrinking or welding. Axle-skeins so formed have been imperfect at the junction of the collar or shoulder with the journal and socket portions, where the greatest strength is required, and in some instances this weakness has been reinforced by a separate collar shrunk or applied thereon in various ways, and this expedient has also been found expensive and defective.

The object of my invention is to provide an axle-skein which will comprise a socket-collar and journal portion, both securely welded together, the collar portion being reinforced by additional folds or thicknesses of material, which will thus secure at the desired point the greatest degree of strength.

My invention consists, primarily and generally, in a wagon-axle skein made of two plates, welded together at the shoulder or collar section, and welded at their edges longitudinally, as will hereinafter appear.

In the accompanying drawings, Figure 1 is a perspective view of the axle-skein when finished. Fig. 2 is a plan or diagram of a blank to form the socket portion; Fig. 3, a similar view of a blank to form the journal portion; Fig. 4, a longitudinal section through the plates with the lap-joints crimped and joined together, ready to be swaged or forged to the required shape; Fig. 5, a plan, and Fig. 6 a cross-section in line *xx* thereof, showing the blanks after having received the first impression, Fig. 5 representing by dotted lines the overlapping edges of the said blanks after having received the second impression;

Fig. 7, a longitudinal section of an axle-skein when completed in accordance with my invention.

The blanks 1 and 2 are made of sheet metal, preferably steel, the blank 1 to form the socket portion 3 and the blank 2 to form the journal portion 4 of the axle-skein. A crimp 5, formed upon the inner edge of the blank 1, and a crimp 6, formed upon the adjacent inner edge of the blank 2, serve to unite the plates when stamped up and forged together, and also form a collar 7 between the plates, composed of double overlying plaits welded together, to provide a substantially solid collar of greater thickness of material where most required than at the other portions of the skein.

The blank 1 has rearwardly-expanding straight sides 8 extending to the line 9 of greatest width, to provide, when finished, a solid outwardly-tapering socket portion 10 to receive and completely span the end of the wooden axle, and at the line 9 the blank 1 is reduced first upon straight lines 11 and then upon curved lines 12, to form a fillet connection with remaining straight lines 13, which extend convergently to the inner end of the said blank 1, which is cut in a straight line at right angles to the longitudinal axis of the skein-blank. A rearwardly-extending trough or half-sleeve 10^a is thus formed upon the socket 10, which is held beneath the axle, and can be securely attached thereto. The forward ends and angles of the blank 1 are each notched and chamfered, respectively, at 14, to overlap each other with an interlocking joint, (shown in dotted lines in Fig. 5,) to more securely and accurately hold the said blanks at the point where they receive the final pressure or force of the blow when they are welded together. The blank 2 also has notches 15 at the ends of the crimp 6 for a like purpose, and the sides of said blank converge in straight lines to the forward end thereof, as shown in Fig. 3, both of the ends of the said blank being curved somewhat outwardly, to provide square ends both at the lap-joint and at the outer end of the journal, as will be well understood by pattern-cutters.

The blanks 1 and 2, after being crimped in any well-known or preferred manner, are placed together to overlap each other at their

adjacent inner edges, as shown in Fig. 4, and being held upon suitable dies are first stamped or struck up, as shown in Figs. 5 and 6, to a U shape in cross-section and then struck up a second time by the aid of dies and a mandrel in a well-known manner, to complete the forging and welding of the plates into the finished form shown in Figs. 1 and 7, the skein being supplied at its forward end with a plug 16 of suitable material and proper size to fit the inner portion of the outer end of the skein within which it is placed by passing through the tubular skein from its inner and enlarged end, and is preferably fixed in position within the skein by welding the parts. The two blanks will thus be solidly bound together to form a double lap-weld at their adjacent edges and are each welded longitudinally with a lap-weld in conjunction therewith, thus providing a hollow steel skein with a solid collar from two plates of sheet metal securely welded together, which is in finish and in every particular substantially identical with the axle-skeins in general use and which may furthermore be so hardened and tempered as to form in every respect a superior article, being lighter, less expensive to manufacture, stronger, more durable, and possessing a smoother, harder, and better journal-surface than with cast skeins, and possessing much greater strength at the vital point or collar connection between the spindle and

the socket than heretofore obtained with single sheets of metal forming the entire skein integral.

I claim as my invention and desire to secure by Letters Patent—

1. An axle skein comprising a socket, journal and collar formed of two sheet metal blanks, each welded at their longitudinal edges and lap welded together at the collar, substantially as described.

2. An axle skein comprising a socket section having a crimped inner edge, and a journal section also having a crimped inner edge adapted to be welded together to form an intermediate collar, substantially as described.

3. An axle skein comprising two sheet metal blanks, one to form the socket and the other to form the journal portion thereof struck up and welded together, substantially as described.

4. An axle skein of malleable sheet metal comprising two sections, each having flanges, one to overlay the other and welded together to form an intermediate collar, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOHN SALAY.

Witnesses:

WM. H. ROWE,

W. H. ROSENCRANS.