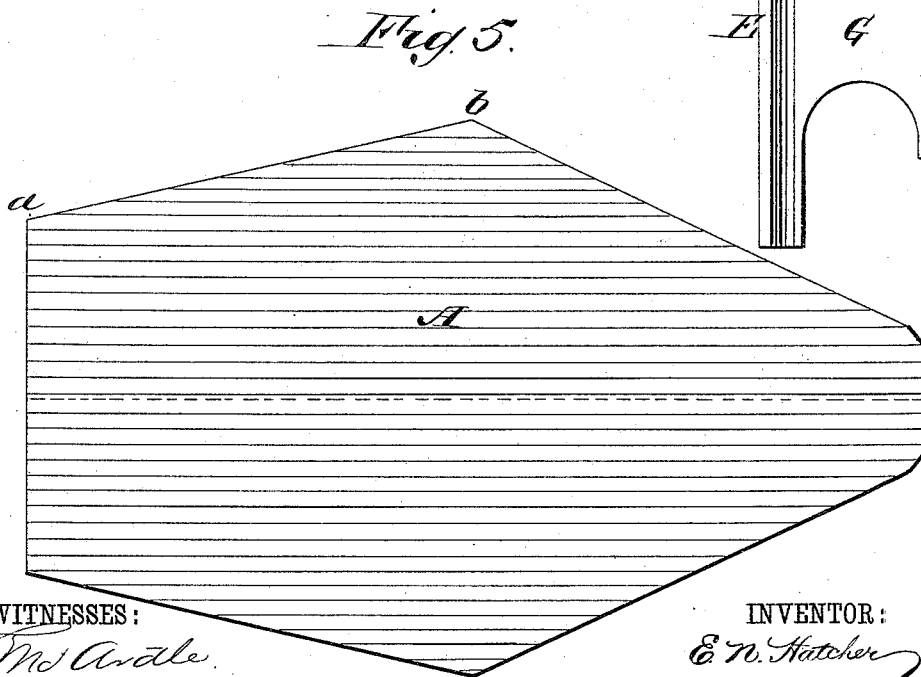
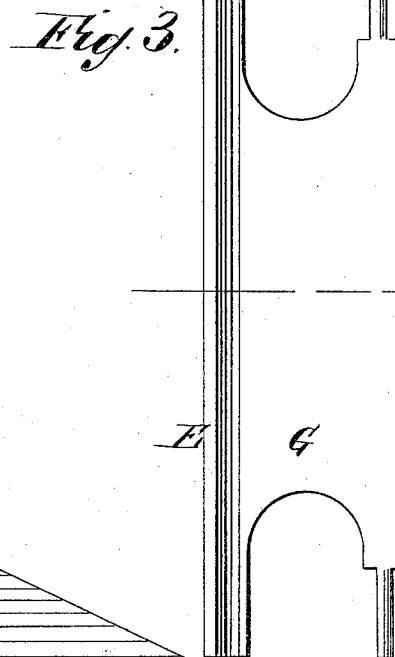
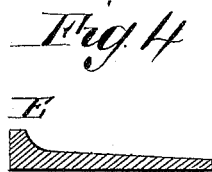
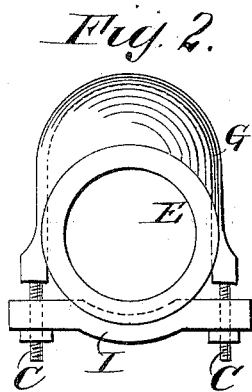
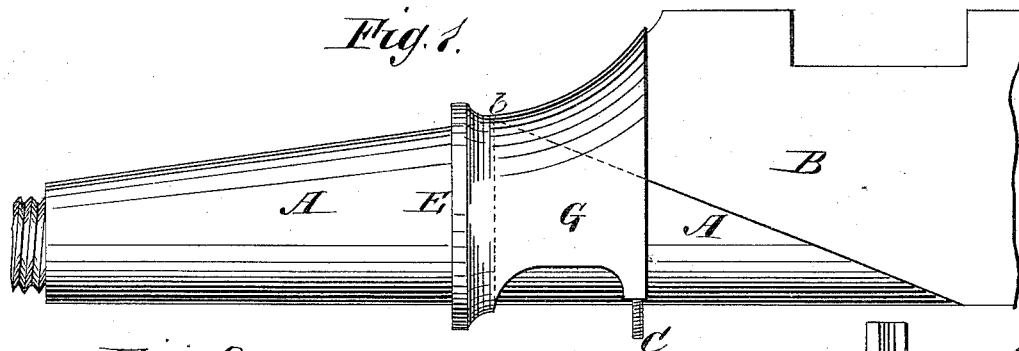


(No Model.)

E. N. HATCHER.
AXLE SKEIN.

No. 306,250.

Patented Oct. 7, 1884.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDMUND N. HATCHER, OF COLUMBUS, OHIO, ASSIGNOR TO HIMSELF AND
ANDREW C. EMMICK, OF SAME PLACE.

AXLE-SKEIN.

SPECIFICATION forming part of Letters Patent No. 306,250, dated October 7, 1884.

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

To all whom it may concern:

Be it known that I, EDMUND N. HATCHER, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Combined Collar, Hood, and Clip for Axle-Skeins, of which the following is a full, clear, and exact description.

With axle-skeins having the collars or bands shrunk on, as is usual, the axles are apt to swell the skeins and loosen the bands unless they are securely welded.

The object of my invention is to obviate that difficulty, and also to strengthen the parts at the points usually weakest; and to those ends it consists in the construction and arrangement of parts, as will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation showing an axle-skein with my improvements. Fig. 2 is an end view of the hood. Figs. 3 and 4 show the blank used in making the combined parts, and Fig. 5 shows the blank from which the skein is formed.

A is the body of the skein; B, the wooden axle. G is the hood; E, the collar-band formed in one with the hood. C C are the clip-bolts, and I the clip-bar, by which the hood and collar are held in place on the axle and skein.

The skein-body A is formed from a blank of the form shown in Fig. 5, which is bent and welded along the line *a b*, the weld being thus at the top, where there is no bearing, while the bearing-surfaces at sides and bottom are left smooth. The hood G, when in place, entirely surrounds the body where the seam ends at *b*, thus forming practically a continuous piece or skein.

The blank shown in Figs. 3 and 4 has the collar-band E formed on it, so that when the blank is bent and the band welded by dies a continuous ring is formed. This is pressed upon the skein-body while red-hot, and shrinks thereon, so that the parts are nearly as firm as if in one piece. All looseness from wear and use is prevented by the clip of the hood, the

bar I being tightened up as required. Usually for attachment of the clip-bar the sleeve or body A has holes punched through for the bolts, thereby weakening the sleeve at that point; but with my construction the sleeve is not punched, and is strengthened at that point by the clip-bar. By the projection of the hood G down over the sleeve portion of skein A double strength and thickness are obtained, and, in addition, the blank from which the body is formed can be sheared down, so as to form a truss that is re-enforced by the band E and hood G, and by its width and its projection upon the sides of the skein the axle and skein are re-enforced at the place of strain. This construction allows the use of a sheet-metal blank that is so sheared as to be stronger than others, as the shape allows no overcut that would become the starting-point for splits in bending the blank. The collar being in one piece with the hood and the hood held securely by the clip, the band has a firm support against the pressure of the hub-box, and can move neither forward nor back. The hood strengthens the axle at its weakest point, and by the projection of the hood to the top of the axle water and oil are prevented from soaking into the wood, thereby making the skein and axle water-tight and preventing swelling and decay of the wood. The hood being open at the sides, allows bar I to bear directly on the skein, so that as the nuts are tightened the hood is drawn down and the skein brought up tightly to the wood, and in the same manner the parts can be tightened at any time.

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

1. The combined hood G and band E, formed with the bolts C for a clip-bar, substantially as described.

2. The combination, with the axle and its skein A, of the hood G, band E, and bolts C, all formed in one piece, substantially as set forth.

EDMUND N. HATCHER.

Witnesses:

CHARLES G. WILLISON,
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