

(No Model.)

L. & W. BIMEL.
AXLE BOX AND SKEIN.

No. 310,778.

Patented Jan. 13, 1885.

Fig. 1.

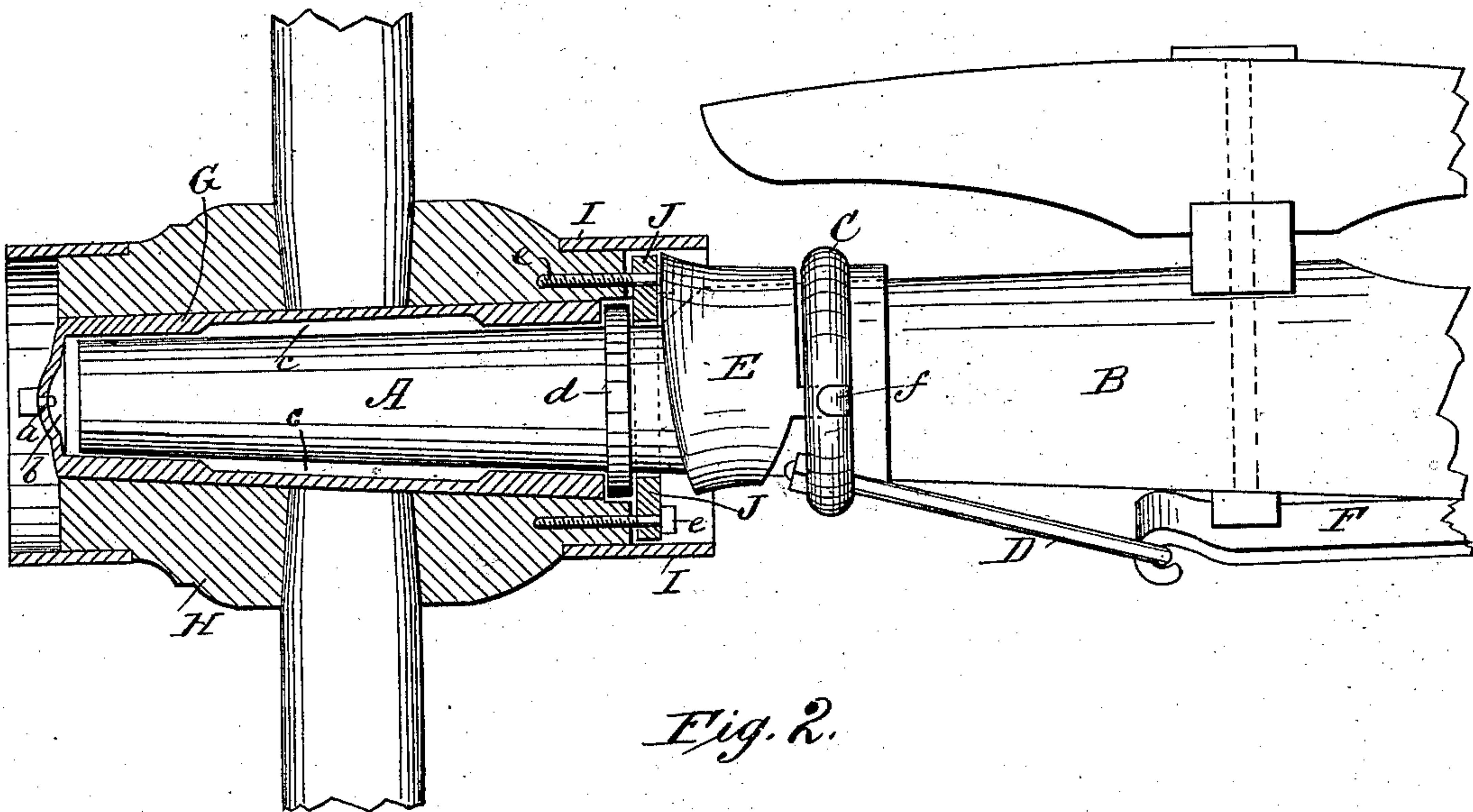


Fig. 2.

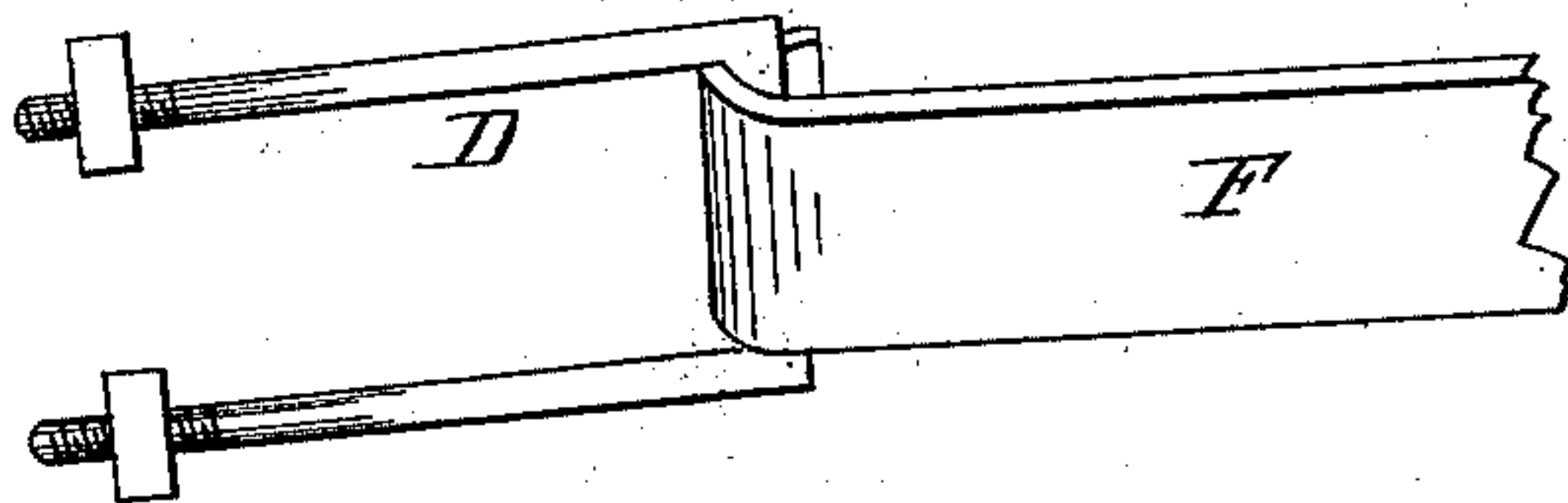
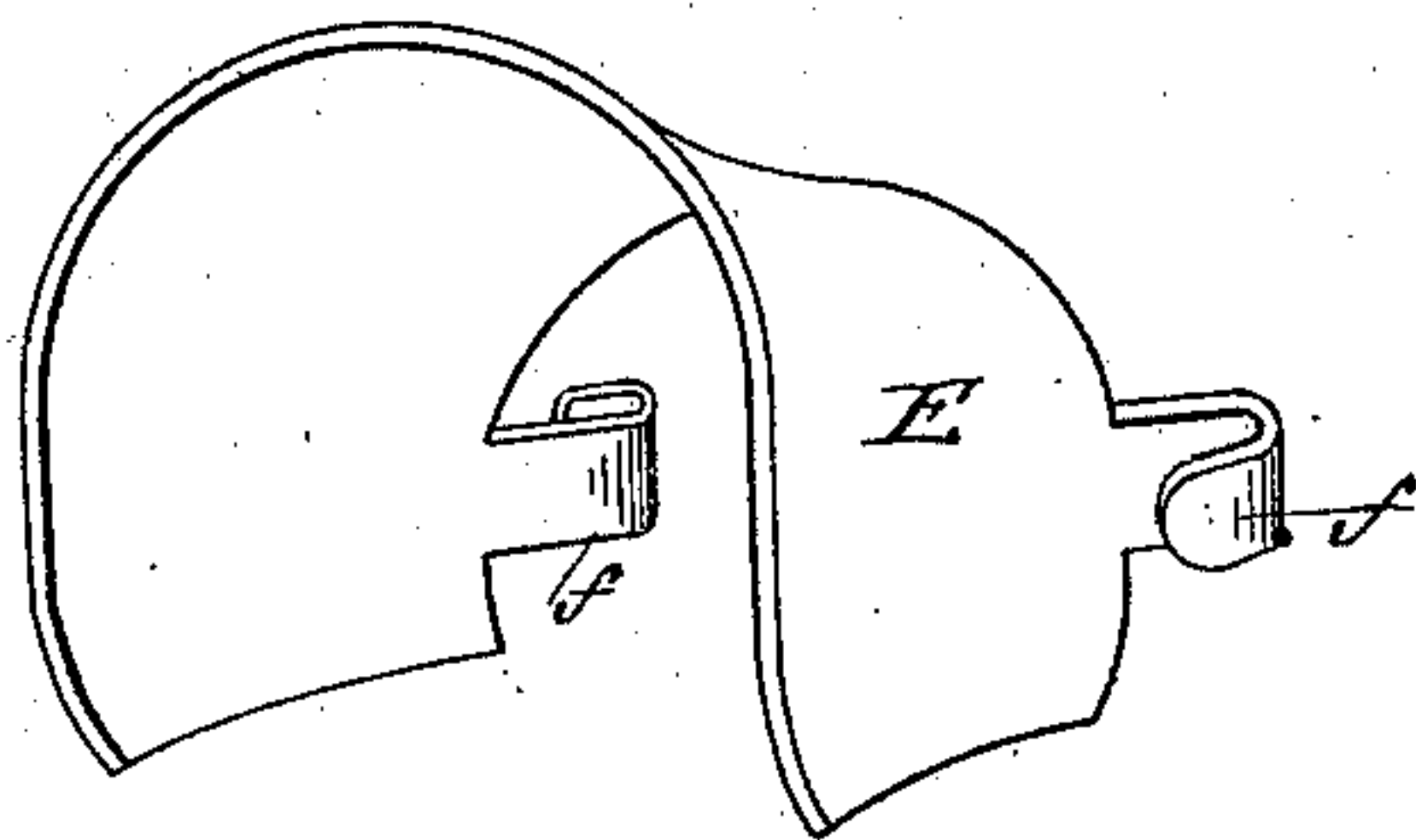


Fig. 3.



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LAWRENCE BIMEL AND WILLIAM BIMEL, OF ST. MARY'S, OHIO.

AXLE BOX AND SKEIN.

SPECIFICATION forming part of Letters Patent No. 310,778, dated January 13, 1885.

Application filed June 14, 1884. (No model.)

To all whom it may concern:

Be it known that we, LAWRENCE BIMEL and WILLIAM BIMEL, of St. Mary's, in the county of Auglaize and State of Ohio, have
5 invented an Improvement in Axle Boxes and Skeins, of which the following is a full, clear, and exact description.

Our invention relates to thimble-skeins employed in connection with wooden axles of
10 wagons and other vehicles; and it consists in the construction, arrangement, and combination of parts, as will be hereinafter fully described and claimed.

Reference is to be had to the accompanying
15 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, partly in section, of a portion of a wagon showing the application of our improvement. Fig. 2 is a detail view of the stirrup and end of the truss-rod, and Fig. 3 is a perspective view of the sand-shield.

The hollow arm A is fitted to the end of the
25 wooden axle B and secured by means of a suitable cement. Upon the inner end of the arm A is formed a flange, C, having four transverse apertures—two near the lower edge for receiving the ends of a stirrup, D, and two on
30 diametrically-opposite sides for receiving ears *f*, projecting from the sand-shield E. The stirrup D consists of a rod of iron threaded at the ends and bent twice at right angles. The ends are passed through the lower holes in
35 the flange C and secured by nuts. The stirrup D inclines downward under the axle and receives the hooked end of a flat truss-rod, F, the other end of which is connected in a similar way to a stirrup at the opposite end of the
40 axle. The axle-box G, which is fixed in the wheel-hub H and fitted to the arm A, is closed at its outer end, with the exception of a small central screw-plugging orifice, *a*, in the end for the introduction of oil. The end of the
45 axle-box is made outwardly convex to furnish a cavity, *b*, at the end of the arm A for the reception of oil. The middle part of the axle-box G is enlarged in internal diameter, forming, in connection with the arm A, a chamber,
50 *c*, into which oil finds its way from the cavity *b* at the end of the box. The chamber *c* retains the oil when the wheel is at rest, but

when the wheel revolves the oil is carried upward and delivered to the bearing-surfaces of the skein, whence it flows back again into the
55 oil-chamber *c*, to be used over and over. The arm A, near its inner end, is provided with a collar, *d*, fitting in an annular recess, *d'*, in the inner end of the hub H. Beyond this collar, and within the ordinary hub-band I, a ring, J,
60 is secured to the hub by bolts *e* entering the end of the hub. The internal diameter of the ring J is smaller than the collar *d*, and the ring, by engaging the said collar, holds the wheel on the axle. A sand-shield, E, preferably made of wrought-iron, and of approximately circular form, is secured to the flange C
65 by two ears, *f*, passing through holes in opposite sides of the flange C and bent outwardly against the flange. The sand-shield envelops only the upper portion of the arm A between the ring J and the flange C, and its outer end, which projects into the hub-band I, is flared so that it nearly touches the inner
70 surface of the hub-band. The ring J may be placed on the arm A in any convenient way; but we prefer to place it in the sand when the arm is molded, and then cast the said arm according to the method well known to foundrymen.
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Our improvement insures the continuous oiling of the axle for a long time, and permits of the ready application of a fresh supply of oil without the necessity of removing the wheel from the axle. The bearing of the axle is protected at both ends from sand and mud, and
85 will therefore run with the minimum of wear.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—
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1. The combination, with the axle-arm A, having the flanges C and *d*, of the ring J, loosely fitted upon the arm between the said flanges, substantially as described, whereby the ring may be retained in place and hold
95 the wheel in place.

2. The combination, with the arm A, provided with the apertured flange C, of the flaring sand-shield E, having ears *f*, adapted to engage the apertures in the flange C, as and
100 for the purpose specified.

3. The combination, with the arm A, having the flanges *d* and C, and the hub H thereon, of the ring J, loosely fitted upon the arm

between the said flanges, and secured to the hub by bolts *e*, and the flaring shield E, having ears adapted to engage the flange C, as shown and described.

- 5 4. The combination, with the arm A, having the flanges C and *d*, and the ring J, loosely fitting the arm between the flanges, of the axle-box G, having the internal enlargement, *c*, and the convex inclosed end *b*, provided with

an oil-hole, and a screw-plug, *a*, therefor, substantially as described, whereby an oil-chamber is formed in the said convex inclosure and around the arm, as set forth.

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Witnesses:

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