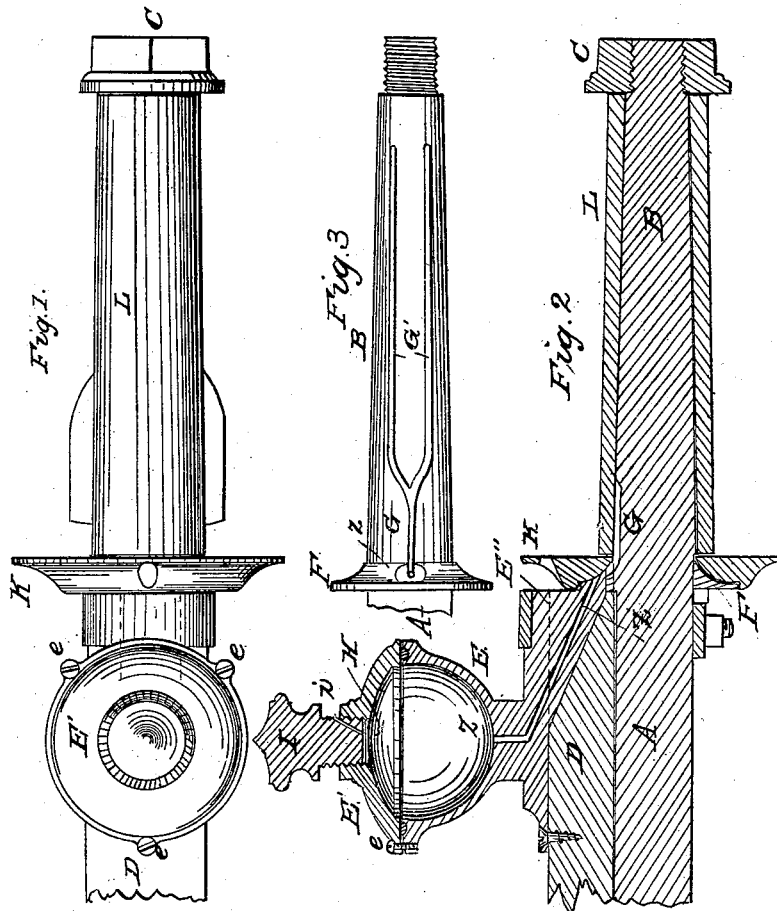


GLAD & BECKER.

Wagon Axle.

No. 108,903.

Patented Nov. 1, 1870.



Witnesses  
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# United States Patent Office.

GEORGE H. GLAD AND JOHN C. BECKER, OF BOSTON, MASSACHUSETTS.

Letters Patent No. 108,903, dated November 1. 1870.

## IMPROVEMENT IN WAGON-AXLES.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern :*

Be it known that we, GEORGE H. GLAD and JOHN C. BECKER, of Boston, in the county of Suffolk and in the State of Massachusetts, have invented certain new and useful Improvements in Wagon-Axles; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of the upper side of an axle with the skein in place;

Figure 2 is a vertical longitudinal section of the same, on the line *x x* of fig. 1; and

Figure 3 is a top view of the axle-arm with the skein removed.

Letters of like name and kind refer to like parts in each of the figures.

Our invention has for its object the lubrication of the journal of a wagon-axle in a thorough and easy manner; and

It consists, principally, in the construction of the plug used for closing the upper end of the oil-cup, and in its combination with said cup, substantially as hereinafter shown.

It also consists in the construction of the oil-cup, and in its combination with the grooved axle-arm, substantially as is hereinafter shown, and for the purpose specified.

In the annexed drawing—

A represents a metal axle, having upon each end an arm, B, and a nut, C, of usual construction.

Resting upon and secured to the upper side of the axle A, between its arms, is a bar of wood, D, upon each end of which is placed an oil-cup, E, having the general form shown in fig. 2, its upper half or cover, E', being detachable and secured to said cup by means of the screws *e* passing through the former into the latter.

Projecting downward and outward from the lower side of the cup E is a lug, E", which terminates at the inner end of the axle-arm B, within the face of the collar F, secured to and forming a part of the latter, and serves to contain an opening, *z*, for the passage of oil from said cup to said arm.

From the outer end of said opening *z* a half-round groove, G, extends along the arm B for a short distance, and then dividing the branches G, pass forward and downward in either direction until about one-half of an inch apart, and from thence extend outward in slightly-diverging lines to a point near the outer end of said arm.

By this arrangement of the grooves the oil naturally flows outward and thoroughly oils the entire length of the bearing.

Passing vertically downward through the center of the cover E' of the oil-cup is an opening, H, for the admission of oil, which opening is provided with a fe-

male-screw thread, and has fitted thereto a plug, I, having upon its periphery a corresponding male-screw thread, said plug being so closely fitted to said opening as to make between them a nearly air-tight joint.

A small opening, *i*, passing downward and inward, through the plug I, from a point a little below the upper end of the screw-thread, completes the oiling devices, the operation of which is as follows:

The cup being partly or entirely filled with oil, the plug is inserted and screwed downward, during which operation the air within the cup escapes through the opening *i* while the upper end of said opening is above the cover, after which, there being no vent for said air, it becomes compressed by the entrance within said cup of the lower end of said plug, and forces outward the oil contained therein.

When it is desired to again lubricate the axle-arm, the plug is withdrawn from the oil-cup until the upper end of the opening *i* is above the latter, when, by returning said plug to its place, a supply of oil is forced outward upon said axle-arm as before, the cup being capable of a like operation until the oil contained therein is entirely exhausted.

In order that dust or other abrading substances may be prevented from entering upon the inner end of the axle-arm, a circular disk or plate, K, having a size corresponding to that of the inner end of the hub, is provided upon its inner face with a recess which corresponds in size and shape with the collar F, so that, when said disk is placed against the outer face of said collar, the latter shall be wholly contained within said said recess, as shown in fig. 2.

As thus constructed, the disk K, being attached to the inner end of the hub by means of screws, serves not only to exclude from the bearing all dust and dirt, but also to firmly lock in place within the hub the skein L.

Having thus fully set forth the nature and merits of our invention,

What we claim as new is—

1. In combination with the oil-cup E and E', the plug I, provided with the opening *i*, substantially as shown and for the purpose set forth.

2. The oil-cup E and E', provided with the plug I and with the perforated lug E", in combination with the axle-arm B, provided with the oil-grooves G, substantially as and for the purpose shown.

In testimony that we claim the foregoing, we have hereunto set our hands this 17th day of June, 1870.

G. H. GLAD.  
J. C. BECKER.

Witnesses:

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