

J. F. BEDNAR.
Hub Attaching Device.

No. 214,748.

Patented April 29, 1879.

Fig. 1.

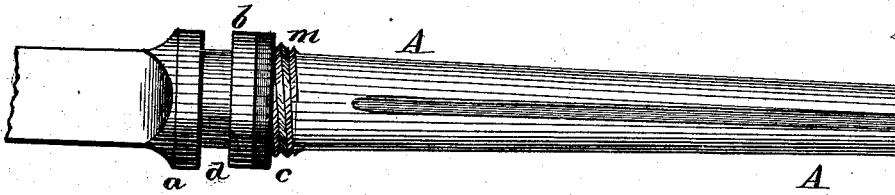


Fig. 2.

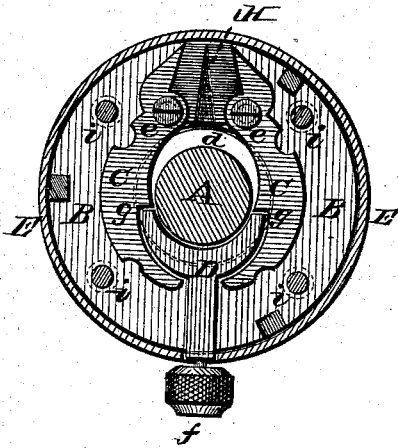


Fig. 3.

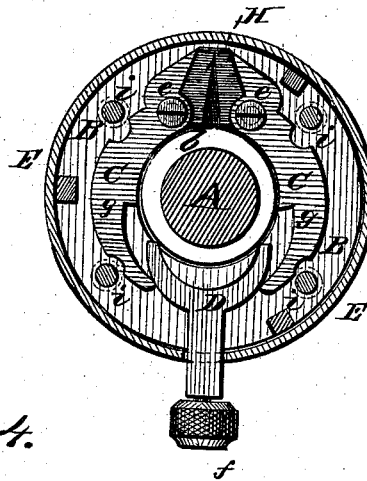
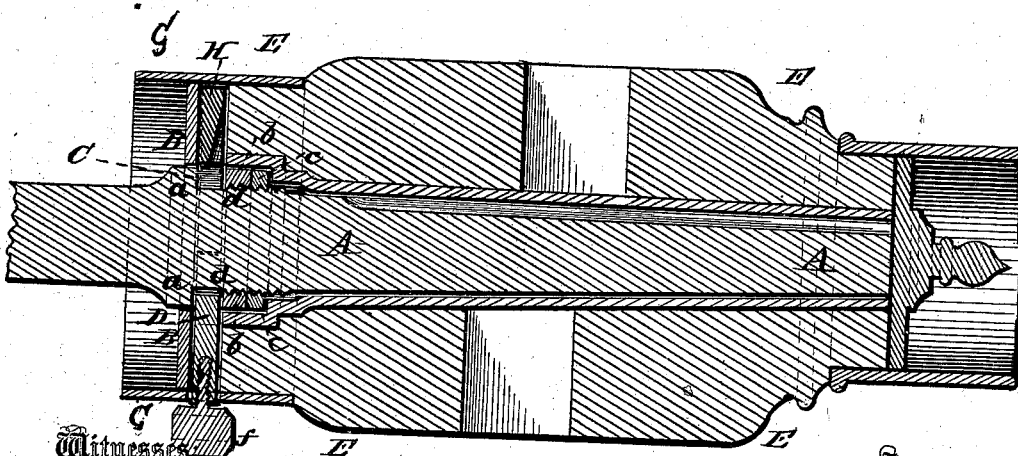


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

JOSEPH F. BEDNAR, OF STERLING, ILLINOIS, ASSIGNOR OF ONE-HALF HIS
RIGHT TO JOHN V. EMMITT, OF SAME PLACE.

IMPROVEMENT IN HUB-ATTACHING DEVICES.

Specification forming part of Letters Patent No. **214,748**, dated April 29, 1879; application filed
March 14, 1879.

To all whom it may concern:

Be it known that I, JOSEPH F. BEDNAR, of the city of Sterling, in the county of Whiteside and State of Illinois, have invented certain new and useful Improvements in Wheel-Fastenings; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in wheel-fastenings; and consists, first, in an improved method of locking the wheel to the spindle; second, in a device for compensating for the end wear; and, third, in a provision to exclude the dust and sand from the inside of the hub.

Figure 1 is a side view of a spindle used in my invention. Fig. 2 exhibits the locking devices in position. Fig. 3 shows such devices when distended to allow of the removal or attachment of the wheel. Fig. 4 is a sectional view of the hub in place.

A is a spindle, having the fixed inner shoulder, *a*, and the loose collar *b*, abutting outwardly against the metallic follower *c*, the latter being fitted to traverse the threaded portion *m* of the spindle A. Although in the model the collar *b* is fixed, it sufficiently illustrates my invention.

C C are opposing clamps, pivoted to the inner face of the hub B at *e*, and having their inner faces concaved to conform to the bottom of the annular recess *d* between the shoulder *a* and collar *b* on the spindle A. D is a key inserted through the hub E, and having the outer head, *f*, and having its inner end partially circular, so as to play within the clamps C C, in the recesses *g g* therein, as shown, and resting, when in position, in the annular recess *d*, but not on the bottom thereof. H is a piece of rubber (of the kind prepared to resist the action of oil) placed between the outer ends of the clamps C C, and designed to compress the latter against the bottom of the recess *d*. This rubber has a V-shaped groove

lengthwise of its upper surface, to enable it to be compressed without bulging.

G is a plate covering the locking devices, and fastened to the inner face of the hub B by the screws *iii i*.

The operation of my invention is as follows: In withdrawing the key D its inner convex end acts as a wedge, and separates the clamps C C sufficiently to permit the insertion of the spindle A and the passage of collar *b* and follower *c*. Then the key is pushed in, and allows the clamps C C, acted upon by the rubber spring H, to engage the recess *d* on the spindle A. The wheel is then in position for use. The clamps C C and the inner end of the key D enter and traverse the recess *d*, and thus hold the wheel on the spindle. The shoulder *b* operates to exclude the sand and dust from entering the hub. Outside of the loose collar *b* is the follower *c*, screwed on a thread cut on the spindle, to advance toward the collar *b* by forward revolutions. The action of a vehicle-wheel in use is to work toward the end of the spindle. This has the effect of wearing away the inside face of the collar *b*, and the outside face of the clamps C C and key D. To compensate for this wear I provide the follower *c*, which can be screwed against the collar *b* as the latter wears, and thus obviate the looseness and rattling otherwise resulting from such wear.

Among the advantages of locking the wheel at or near the shoulder is the fact that here the spindle is larger, and the annular recess does not so much weaken the latter. Again, the locking devices are not so much exposed to injury from concussion as when placed outside of the spokes. The tendency of the oil on a spindle is to run toward the outer end.

In my invention I present a smooth unbroken cylinder from the collar *b* outward, and therefore there is nothing to prevent the inward flow of the oil when the outer end of the spindle should be at the greatest altitude. The oil in the recess *d* cannot escape, and, as the oil on the spindle is confined between the follower *c* and the outer end of the hub, (the latter being closed,) by the alternate raising and lowering of the respective ends of the spindle

as the vehicle passes over the undulations of the ground the oil is constantly moving over every part of the spindle, and no part of the latter is permitted to become dry. In practical use one oiling will last for months.

The outer end of the hub being closed, and the shoulder *a*, collar *b*, and follower *c* all preventing the escape of the oil and the ingress of dirt, makes the spindle as secure against such contingencies as it is practicable to provide.

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

1. The hub B, clamps C C, key D, rubber H, and plate G, in combination, substantially as shown, and for the purpose described.

2. In a vehicle, the combination of the axle A, provided with the shoulder *a*, collar *b*, and follower *c*, with the hub B, the latter having the clamps C C, key D, rubber H, and plate G, all constructed and operating substantially in the manner and for the purposes mentioned.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOSEPH F. BEDNAR.

Witnesses:

JOHN J. CUSHING,
S. H. KINGSEY.