G. FINKBEINER.
Hub-Attaching Device.

No. 217,086. Patented July 1, 1879.

Fig. 1

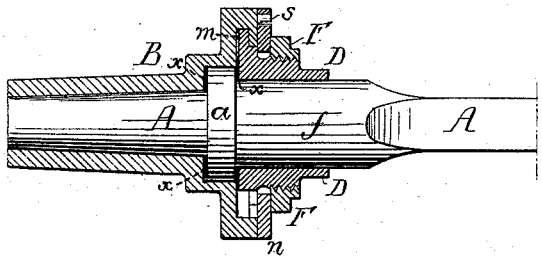


Fig. 2

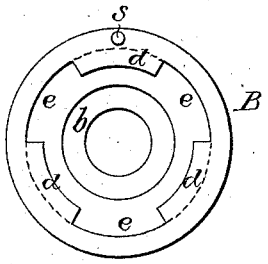
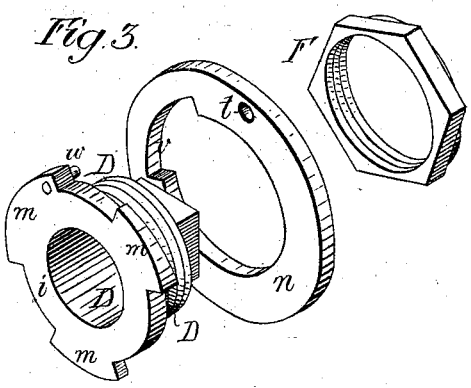


Fig. 3



Witnesses
Henry Howson Jr
Harry Smith

Inventor
Gottlieb Finkbeiner
by his Attorneys
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UNITED STATES PATENT OFFICE.

GOTTLIEB FINKBEINER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HUB-ATTACHING DEVICES.

Specification forming part of Letters Patent No. **217,086**, dated July 1, 1879; application filed May 9, 1879.

To all whom it may concern:

Be it known that I, GOTTLIEB FINKBEINER, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Carriage-Axle Boxes, of which the following is a specification.

My invention relates to certain improvements in the carriage-axle boxes for which Letters Patent of the United States were granted to Louis A. Mayall and myself on the 28th day of January, A. D. 1879, No. 211,767, the objects of my present improvements being to simplify and cheapen the construction of the box and increase the efficiency of the same—objects which I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view of an axle-box with my improvements, the axle being shown in elevation; Fig. 2, a view of the rear face of the box with the axle and the fastening devices removed therefrom, and Fig. 3 a perspective view of the different parts of the fastening detached from each other.

A is the axle, which has a collar, *a*, formed thereon, and B is the axle-box, which is adapted to the central opening of the hub in the usual manner, and is enlarged in diameter at and near the inner end, a recess, *b*, being formed in this part of the box for the reception of the collar *a* on the axle, as shown in Fig. 1.

The rim of the enlarged portion of the axle-box has on its inner edge segmental ribs *d*, with intervening spaces *e*, three ribs and three spaces being formed in the present instance, but more or less being used in practice, if desired.

Fitting snugly, but so as turn freely, on the portion *f* of the axle A is a sleeve, D, on one end of which is formed a ring, *i*, with ribs *m*. The ring *i* is maintained in its proper longitudinal position within the box B by means of a cover-plate, *n*, adapted to the inner face of the box, this cover-plate being so secured to the box as to be capable of turning independently of the same, a pin, *s*, on the box, adapted to an opening, *t*, in the cover-plate, being relied upon in the present instance to prevent such turning.

The sleeve D is threaded, and to this thread is adapted a nut, F, which acts as a jam-nut, as described hereinafter, to prevent the backward movement of the sleeve.

In fitting the box to the axle and securing it against longitudinal displacement, the box is first slipped on the axle until the collar *a* rests in the recess *b*. The ring *i* is then fitted to the opening in the inner end of the box, the ribs *m* coinciding with the spaces between the ribs *d* of the box. The cover-plate *n* being applied, the sleeve D is turned so as to cause the ribs *m* of the ring *i* to engage with the ribs *d* of the box, and after the sleeve D has been turned to the proper extent the jam-nut F is screwed up against the face of the plate *n*, so as to prevent backward movement of the sleeve. The box and sleeve now form, in effect, one structure, which can turn freely on the axle, but which cannot move longitudinally on the same, owing to the collar *a*.

To prevent rattling, a washer, *x*, of leather, cork, or other elastic material, is introduced between one face of the collar *a* and the shoulder formed by the enlargement of the box B, and a similar washer between the other face of said collar and the ring *i;* and in order to compensate for the effects of wear on these washers and on the ribs *m*, so as to keep the box constantly tight, the said ribs *m* are made tapering, as shown in the perspective view, Fig. 3.

Undue movement of the sleeve D and its ring *i* may be prevented by means of a pin, *w*, adapted to a segmental slot, *v*, in the cover-plate *n;* but this is not necessary, and may be dispensed with.

I claim as my invention—

1. The combination of the axle A, having a collar, *a*, the axle-box B, having a recess, *b*, and ribs *d*, the sleeve D, having a ring, *i*, with ribs *m*, the cover-plate *n*, and the jam-nut F, all substantially as specified.

2. The combination of the box B, having ribs *d*, with the sleeve D, having tapered ribs *m*, as described.

3. The combination of the recessed box B, having ribs *d*, the axle A, having a collar, *a*, the packing-rings *x*, and the sleeve D, having ribs *m*, with tapered faces, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GOTTLIEB FINKBEINER.

Witnesses:

WILLIAM J. COOPER,

HARRY SMITH.