

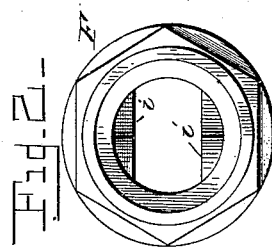
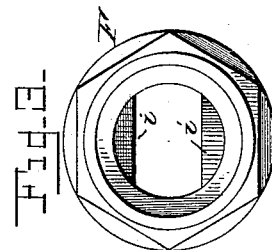
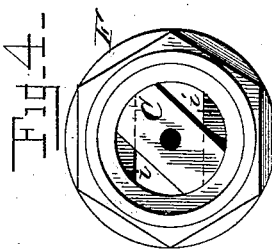
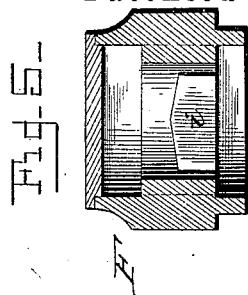
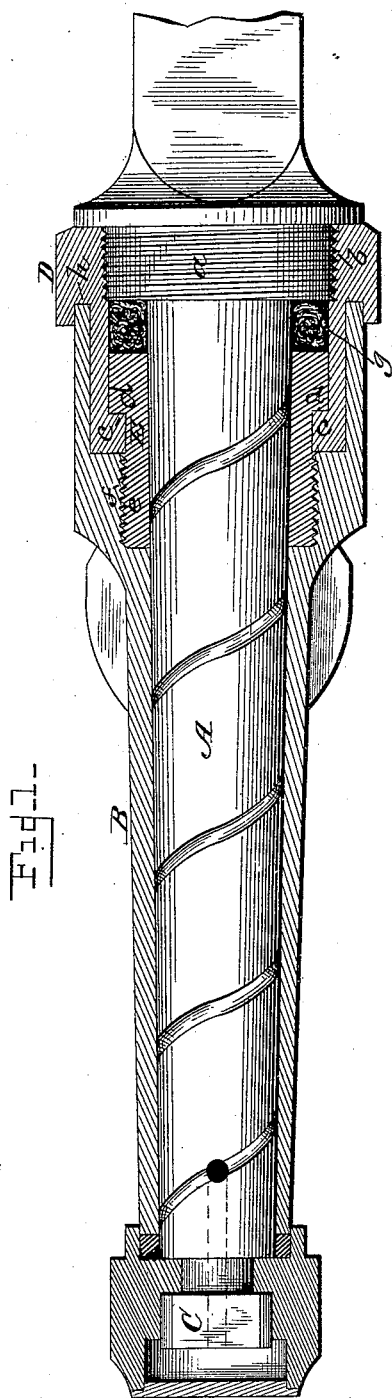
(No Model.)

T. J. SEARLS & A. HARRINGTON.

HUB ATTACHING DEVICE.

No. 306,964.

Patented Oct. 21, 1884.



WITNESSES

Walter S. Rodge.  
W. C. Chaffin

INVENTOR

Theodore J. Searls.  
Alexander Harrington  
per Chas. H. Fowler  
Attorney

# UNITED STATES PATENT OFFICE.

THEODORE J. SEARLS AND ALEXANDER HARRINGTON, OF AUBURN, N. Y.

## HUB-ATTACHING DEVICE.

SPECIFICATION forming part of Letters Patent No. 306,964, dated October 21, 1884.

Application filed June 28, 1884. (No model.)

*To all whom it may concern:*

Be it known that we, THEODORE J. SEARLS and ALEXANDER HARRINGTON, citizens of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Hub-Attaching Devices; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a longitudinal section of our invention. Fig. 2 is an end view of the nut or cap. Fig. 3 is a modification thereof. Fig. 4 is an end view of Fig. 3, and Fig. 5 a longitudinal central section of Fig. 2.

The present invention has relation to certain new and useful improvements in the means for attaching the hubs to the spindle of the axle, and also the axle; and it consists in the several details of construction, substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A represents the axle, and B the axle-box, the former having at its outer end a suitable T-shaped head, C, which may be either beveled on the top, under side, or ends. The inner end of the axle A has screw-threads *a* for attaching thereto a collar, D, provided with screw-threads upon its interior, as shown at *b*, to engage with those on the axle. The collar D has at its outer end a circumferential shoulder, *c*, which abuts against a similar shoulder, *d*, upon the inner end of a thimble, E, provided at its opposite end with screw-threads *e*, which engage with screw-threads *f* on the interior of the inner end of the axle-box. The screw-threaded portion of the axle-spindle A is of increased diameter, and between it and the shouldered or inner end of the thimble E is left a space for a sponge or filling of cotton wick, as shown at *g*, to contain the supply of lubricant for the spindle.

The above-described means of attaching the axle-box and spindle together renders it impossible for the box to work loose, while

there is no danger of dust or dirt working in between the two, and also its durability is greatly increased. The collar D, as will be seen, has a circumferential groove or socket, *h*, for the reception of the inner edge of the box B, thus providing increased surety against dirt or dust, with a more perfect connection between the axle-box and collar. The hub of the wheel is retained on the axle-box and spindle by a nut or cap, F, provided upon its interior with a double cam, *i*.

In Figs. 2 and 5 the cam *i*, upon each side of the interior of the nut or cap, has a double incline to adapt it to a right or left hand cap or nut, as circumstances require, while in Fig. 3 a modification is shown, in which case, the incline on each cam being single or continuing the entire length thereof, the highest point of one of the cams being opposite the lowest point of the other, thus forming a double cam for a right or left hand cap or nut, but arranged differently than that before described.

The cap or nut may be of any suitable form, and, if desired, may be provided with longitudinal slots upon the interior, arranged diametrically opposite each other, to allow it to drop down over the T-shaped head of the axle-spindle in case it should become loose.

The double-cam device for securing the nut or cap to the spindle of the axle renders it almost impossible for it to become accidentally disconnected, this being one of the essential features of the invention. The under side of the projecting ends of the T-head, acting against the incline face of the cams, draws the nut or cap tightly against the end of the spindle, whether turned to the right or left.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination, with an axle-spindle provided at its outer end with a T-shaped head, of a cap or nut having upon its interior a double-cam device, substantially as and for the purpose set forth.

2. An axle-spindle provided at its inner end with screw-threads, and an axle-box having interior screw-threads, in combination with a collar having screw-threads to engage

with those on the spindle, a circumferential  
groove or socket to receive the inner edge of  
the box, and at its opposite end a shoulder,  
and a thimble connected to the box by screw-  
5 threads, and having a shoulder to abut against  
that on the collar, substantially as and for the  
purpose specified.

In testimony that we claim the above we

have hereunto subscribed our names in the  
presence of two witnesses.

THEODORE J. SEARLS.

ALEXANDER HARRINGTON.

Witnesses:

D. B. McNEIL,

W. SEARLS.