J. LATHROP & F. H. ALLEN.

HUB-ATTACHING DEVICE.

No. 190,052. Patented April 24, 1877.

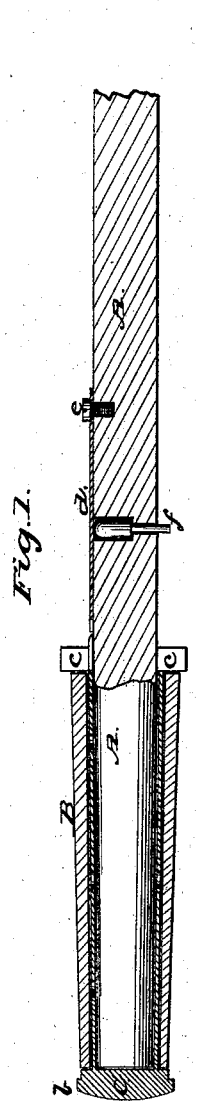

Fig. 1.

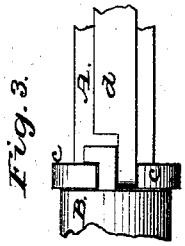

Fig. 3.

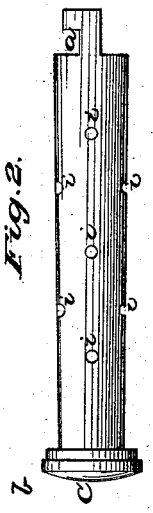

Fig. 2.

Attest:

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UNITED STATES PATENT OFFICE.

JAMES LATHROP AND FRANK H. ALLEN, OF NORWICH, CONN., ASSIGNORS TO JAMES LATHROP AND JOHN E. WARNER, OF SAME PLACE.

IMPROVEMENT IN HUB-ATTACHING DEVICES.

Specification forming part of Letters Patent No. **190,052**, dated April 24, 1877; application filed February 21, 1877.

To all whom it may concern:

Be it known that we, JAMES LATHROP and FRANK H. ALLEN, both of the city of Norwich, county of New London, and State of Connecticut, have invented certain Improvements in the Method of Securing Vehicle-Wheels to Axles, of which the subjoined is a specification:

Our especial object is to so construct an axle and wheel that the wheel may be instantly removed from or attached to the axle without detaching or unscrewing a nut or bolt.

In the accompanying drawing, designated as Figure 1, A represents a carriage-axle; B, a hub; and C, an intermediate tube, on which the hub B rotates. On one end of the tube C is a head or flange, *b*, Fig. 2, which, when the tube is in place, holds the hub B on the axle. On the other end of the tube C are provided lugs having transverse slots, as shown at *a*, Fig. 2, by which the tube C is locked or made fast to the flange of the axle at *c*, Fig. 1. This flange *c*, Fig. 2, has slots extending lengthwise or parallel with the axle A, through which the lugs *a*, Fig. 2, pass as the tube C is slipped onto the axle A. *d*, Fig. 1, is a flat spring, held in place by a screw at *e*, and operated by a headed rod or bolt-blank seated in a suitable opening in the axle, and beneath the spring *d*, so that when it is forced upward the spring *d* is thrown up, thereby releasing the tube C, which in turn releases the hub B.

This device is intended to be used in connection with the jack ordinarily used for raising the wheel from the ground or floor to lubricate or wash it.

To operate our device, place the jack underneath the rod *f*, which, as it receives the upward pressure from the jack, will raise the spring *d* to a height sufficient to allow the tube C to be removed, which is done by turning the wheel and tube backward until the lugs *a*, Fig. 2, are released from the flange *c*, Fig. 1, when the wheel and tube may be withdrawn from the axle. The tube may then be removed from the hub and cleaned or repaired at pleasure.

The wear in this device comes on the tube C, and not on the axle, as is usually the case, so that should the tubes become worn and reduced in size new ones may be substituted at a trifling cost.

The tube C is provided with suitable holes, through which the oil or axle-grease may penetrate, and, after passing around the axle, (inside of the tube,) will again pass out of the holes in the bottom of the tube and be carried around by the hub as it rotates.

We claim—

1. In combination with the axle A, the tube C, provided with the flange *b*, locking-lugs *a*, and openings *i*, as described, and for the purpose specified.

2. In combination with the axle A and tube C, the spring *d* and rod *f*, all arranged and operated as and for the purpose specified.

In witness whereof we have hereunto set our hands and seals this 19th day of February, A. D. 1877.

JAMES LATHROP. [L. S.]
FRANK H. ALLEN. [L. S.]

In presence of—
JNO. DUNHAM, Jr.,
LESLIE W. BEACH.