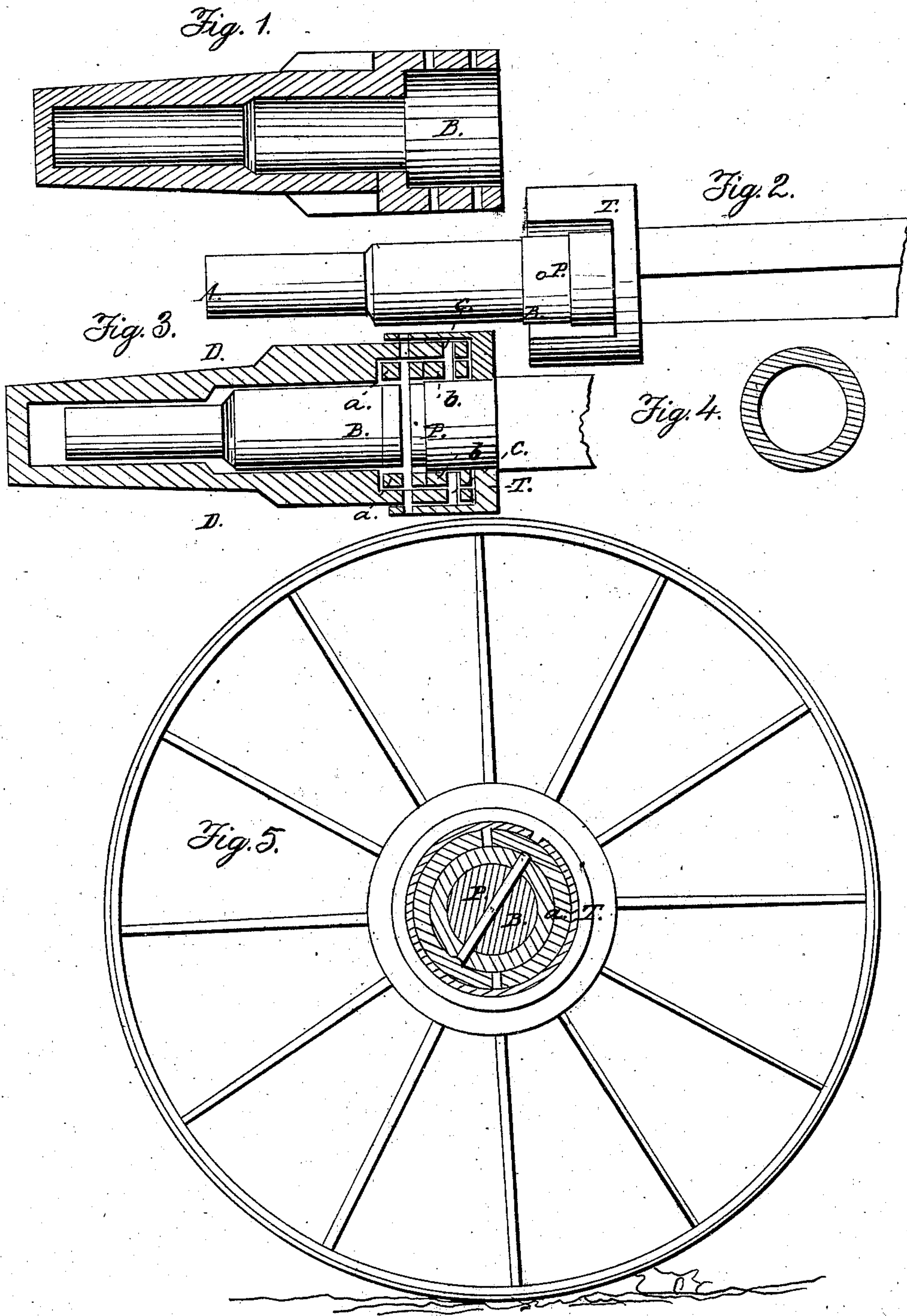


L. WINSLOW.

Axle.

No. 17,063.

Patented Apr. 14, 1857.



UNITED STATES PATENT OFFICE.

LORENZO WINSLOW, OF ROCHESTER, NEW YORK.

MODE OF ATTACHING HUBS TO AXLES.

Specification of Letters Patent No. 17,063, dated April 14, 1857.

To all whom it may concern:

Be it known that I, LORENZO WINSLOW, of Rochester, in the county of Monroe and State of New York, have made and invented certain new and useful Improvements in the Mode of Connecting the Boxes of Carriage-Wheels with the Axles; and I do hereby declare the following to be a full and accurate description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, same letters referring to like parts in all the drawings.

Of said drawings Figure 1 is a sectional elevation of the box. Fig. 2 is an elevation of the corresponding arm of the axle. Fig. 3 is a sectional elevation of both the above when combined, and Figs. 4, 5 are certain explanatory details.

The arm of the axle is formed substantially as seen in the drawings, the bearing surface extending from the shoulder to the point. The box is of course bored out to fit accurately the portion of the arm from A to B, with the exception of the space at the point D which is left to receive oil. At B Fig. 1 the box is enlarged as seen in the drawing and is made to receive the two rings or collars *a* and *b* (Figs. 3 and 4). One of these rings is firmly attached to the arm by the pin *p* passing through both; while the other ring *b* is secured by one or more pins or screws to the box—all which will be clearly seen on inspecting the drawing Fig. 3.

It is now evident that while the box is free to revolve on the axle it cannot be pulled off owing to the arrangement and mode of fastening of the rings *a* and *b*. But at the same time the box and with it the hub, may be very easily detached from the axle by simply taking out the pin *p*; while on the other hand it may be securely attached by the insertion of the same pin. The pin *p* is inserted through holes in the

box and also in the thimble T seen attached to the axle in Fig. 2. And it is easily pushed out by means of a pin driven in from the underside when the pin *p* and the holes in the box and thimble are brought into line. And it is evident that at other times it is impossible for it ever to get out as it is covered by the box and thimble. And as the head of said pin is made slightly rounding even if it should happen to spring up a little when the hole in the box was passing over it, it would be immediately pressed back again to its place. The pin is made slightly tapering toward the point so that it may not fall through the hole; and the hole is made to slant as shown in Fig. 5 by which means the blow produced by striking against any obstacle (O) will fall more nearly at right angles to the axis of the pin *p* and will have no tendency to impart a longitudinal motion to it.

The thimble T is of the usual construction and is designed to exclude dirt and grit from the arm and box where they join.

The advantages of this construction of axle are its simplicity and the ease with which it may be manufactured; its convenience and safety in use—there being no screws to work loose and roll off; and finally its freedom from all leakage of oil on the outside of the wheel—a feature common to most axles and boxes and one not only unsightly but inconvenient.

Having thus described my invention what I claim therein as new and desire to secure by Letters Patent is—

The method herein described of attaching the boxes of carriages to the axles thereof by means of the ring *a* and pin *p* operating in combination with the ring *b* and pin or pins *c c* in the manner set forth.

LORENZO WINSLOW.

Witnesses:

JOHN KLINE,
A. BABCOCK.