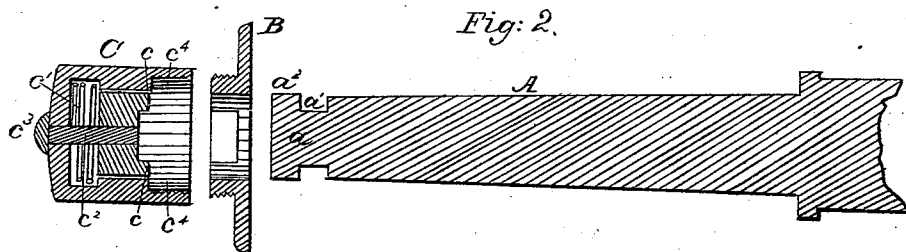
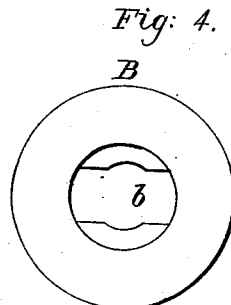
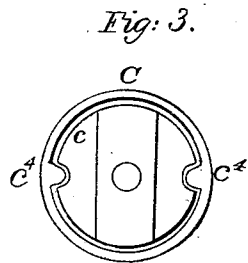
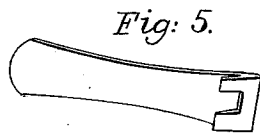
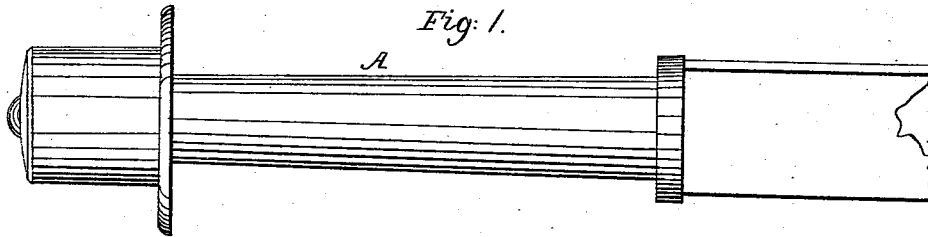


R. E. BEAN.
Axle Head.

No. 82,680.

Patented Oct. 6, 1868.



Witnesses
H. W. Beadle.
N. E. Humph.

Inventor
Rufus E. Bean by
H. W. Beadle atty

United States Patent Office.

RUFUS E. BEAN, OF FRANKLIN, NEW HAMPSHIRE.

Letters Patent No. 82,680, dated October 6, 1868.

IMPROVEMENT IN AXLE-HEAD.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, RUFUS E. BEAN, of Franklin, in the county of Merrimack, and State of New Hampshire, have invented a new and improved Axle-Head; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists of a novel device for attaching heads to axles, for the purpose of confining wheels in their places, which device is so constructed that the head cannot by any means be thrown off by the backing of the carriage, as is frequently the case when nuts are used, as will be fully described hereinafter.

In the drawings—

A represents one end of a carriage-axle, which is provided with the projection *a*, constructed as shown, with the circular part, *a*¹, and cross-bar *a*².

B represents a collar, provided with screw-threads, for the purpose of attachment to the head C, and with the opening *b* corresponding in shape with the projection *a*, the collar being the same in width as the length of the circular part *a*¹ of the projection.

When the projection is inserted in the opening, it will be observed that the parts *b*¹ form bearings for the circular part *a*¹, the ears of the cross-bar being upon the inside of the collar. When in this position, if a slight turn be given to the collar or to the axle, the ears of the cross-bar pass behind the collar, and it is impossible to remove the one from the other.

C represents the head, which is provided upon the inside with a plate, *c*, resting upon the spring, *c*¹, and kept in place by the rod *c*², with head or button, *c*³. Upon the face of the plate *c*, a slight depression is made, corresponding in length and width with the end of the cross-bar *a*² of the axle.

*c*¹ *c*² represent projections, extending up the sides of the head C, upon which the plate *c* slides, corresponding parts having been cut away.

By this arrangement, the plate is prevented from turning in the head. When the collar is screwed into the head, it will be observed that the depression in the plate *c* is at right angles, or nearly so, with the opening *b*.

It will also be observed that the distance between the bottom of the depression and the inside of the collar is the same as the width of the cross-bar *a*², but as the depression is not in line with the opening *b*, as before stated, it is evident that the projection cannot be inserted far enough into the head to allow the ears of the cross-bar to pass in behind the collar. But if pressure be applied to the head, the spring behind the plate will yield and allow the projection to enter the head far enough for this purpose.

The head then being turned sufficiently, and the depression being reached, the spring behind the plate forces the latter forward, and the projection is firmly held thereby.

By this arrangement the head is firmly secured to the axle, it being impossible for it to come off unless the plate *c* be withdrawn far enough to lose its hold upon the projection, and allow the head to be turned.

When it is desired to remove the wheel, a key, Figure 5, with suitable wedge-like claws, is slipped under the button *c*³, by which means the plate *c* is pulled back far enough to allow the head to turn until the opening *b* is in line with the projection. Other devices for preventing the head from turning may suggest themselves. Instead of a depression, points may be used upon the plate, or other means may be used for accomplishing the same result.

This construction and arrangement gives a simple and efficient fastening, one that admits of the removal of the wheel easily and readily, and at the same time is perfectly secure.

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

1. An axle, with a projecting cross-bar, in combination with a head, the latter having an opening in its inner face, corresponding with the cross-bar, and also a spring-plate, provided with a depression or points, by which latter means the cross-bar is prevented from turning when once secured in place.

2. The head C, plate *c*, constructed as shown, projection *c*¹, spring *c*¹, rod *c*², and button *c*³, in combination with collar B, with opening *b*, as and for the purpose described.

3. The head C, constructed as described, in combination with the projection *a* of axle A, substantially as and for the purpose explained.

This specification signed and witnessed, this sixth day of February, 1868.

RUFUS E. BEAN.

Witnesses:

E. B. S. SANBORN,
ROBT. W. BENNETT.