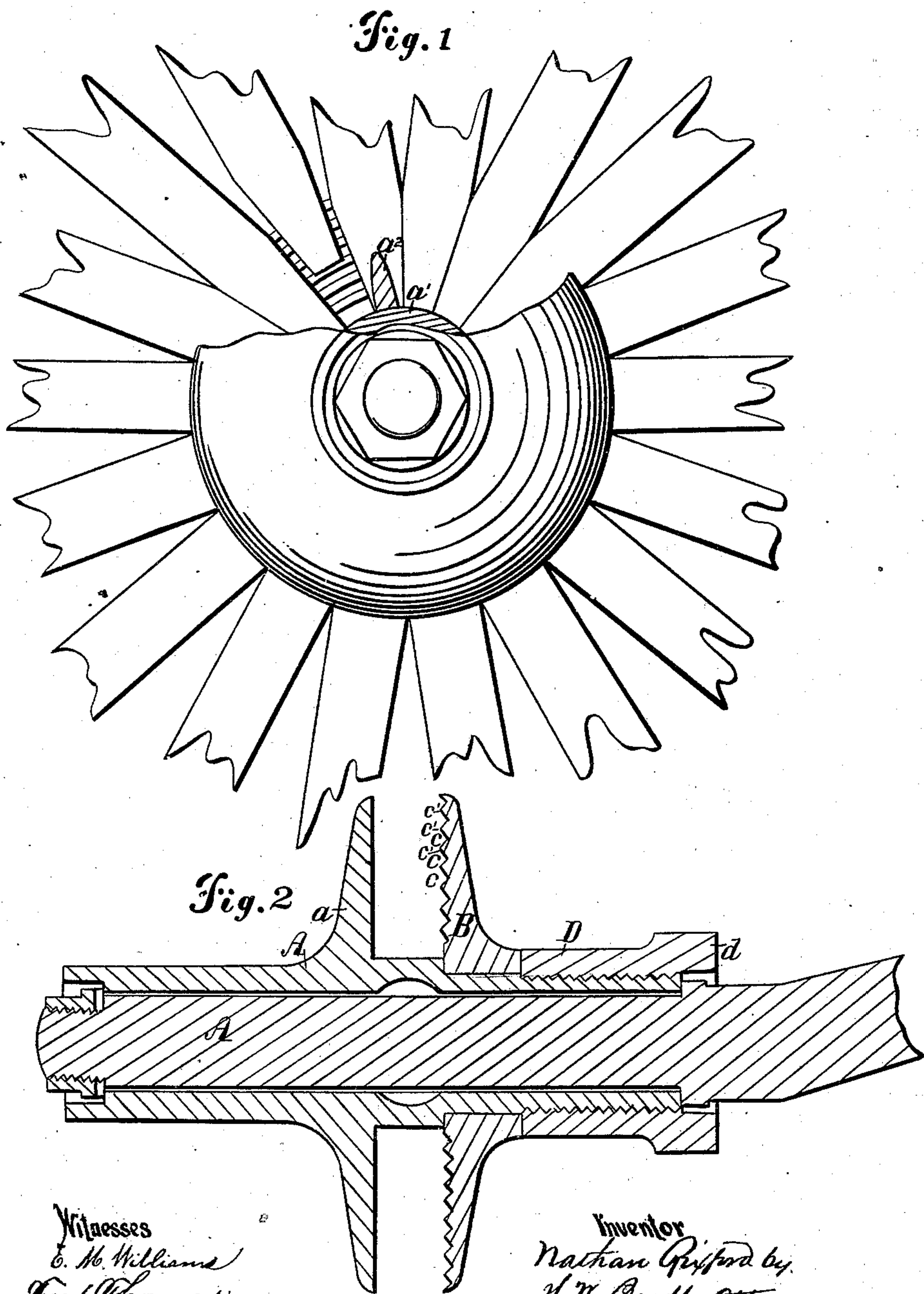


N. RIXFORD.  
Wagon-Wheel Hub.

No. 86,451.

Patented Feb. 2, 1869.



# UNITED STATES PATENT OFFICE.

NATHAN RIXFORD, OF MANSFIELD CENTRE, CONNECTICUT.

## IMPROVEMENT IN WAGON-HUB.

Specification forming part of Letters Patent No. **86,451**, dated February 2, 1869.

*To all whom it may concern:*

Be it known that I, NATHAN RIXFORD, of Mansfield Centre, in the county of Tolland and State of Connecticut, have invented a new and Improved Wagon-Hub; 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 relates to a metallic wagon-hub; and consists in certain details of construction, which will be fully described hereinafter.

In the drawings, Figure 1 represents a side elevation of my invention, with a portion of the flange broken away. Fig. 2 is a longitudinal vertical central section of the same.

To enable others skilled in the art to which my invention appertains to make and use the same, I will proceed to describe its construction and operation.

A represents the hub, with the box A' cast in pipe form, as shown.  $a$  represents a clamp-flange cast thereon at a suitable distance from one end, and  $a^1$  a ring also cast thereon, which is provided with the spurs or projections  $a^2$ , as shown in the drawings.

B represents a loose flange, which fits snugly about the box and bears against the ring  $a^1$ . This flange is provided with V-shaped concentric grooves  $c$  upon its inner side, by means of which the sharp ridges  $c^1$  are formed. It has, however, smooth bearing-surfaces upon the inner side, where it rests against the ring  $a^1$ , and upon the outer sides, where it comes in contact with the nut D, at the point  $c^2$ . This latter bearing-surface, it will be observed, is very small.

The nut D turns upon the inner end of the box, which is provided with a screw for that purpose. It is provided with the hexagonal band  $d$ , which extends beyond the box and forms the sand-band.

The operation will be readily understood.

The spokes, two of which should be formed with a depression corresponding to the spurs  $a^2$ , are placed in position about the hub, their butt-ends resting upon the ring  $a^1$ , these ends being so constructed as to bear against each other, as shown.

The loose flange B is now placed over the box and forced to its place by means of the nut D, the sharp ridges  $c^1$  indenting themselves into the spokes, and thus holding them until the tire is set.

The object of this construction is to secure for the flanges a large bearing-surface against the spokes, and at the same time have a small friction-surface between the flange and the nut, which secures it in place.

By this construction a man can easily, with an ordinary wrench, take the hub apart and insert a new spoke without removing the tire or felly—an operation which is impossible in the ordinary form of metallic hubs.

I am aware that constructing a metallic hub with a loose collar secured by a nut is not new, and that I do not claim in itself; but,

Having fully described my invention, what I do claim, and desire to secure by Letters Patent of the United States, is—

The wagon-hub described, consisting of the box A' with flange  $a$  and ring  $a^1$ , with spurs  $a^2$ , in combination with the loose flange B with groove  $c$ , having the small bearing-surface  $c^2$  and nut D with sand-band  $d$ , the whole being combined and arranged as described, for the purpose set forth.

This specification signed and witnessed this 21st day of December, 1868.

NATHAN RIXFORD.

Witnesses:

JOHN T. FANNING,  
W. H. RICHARDS.