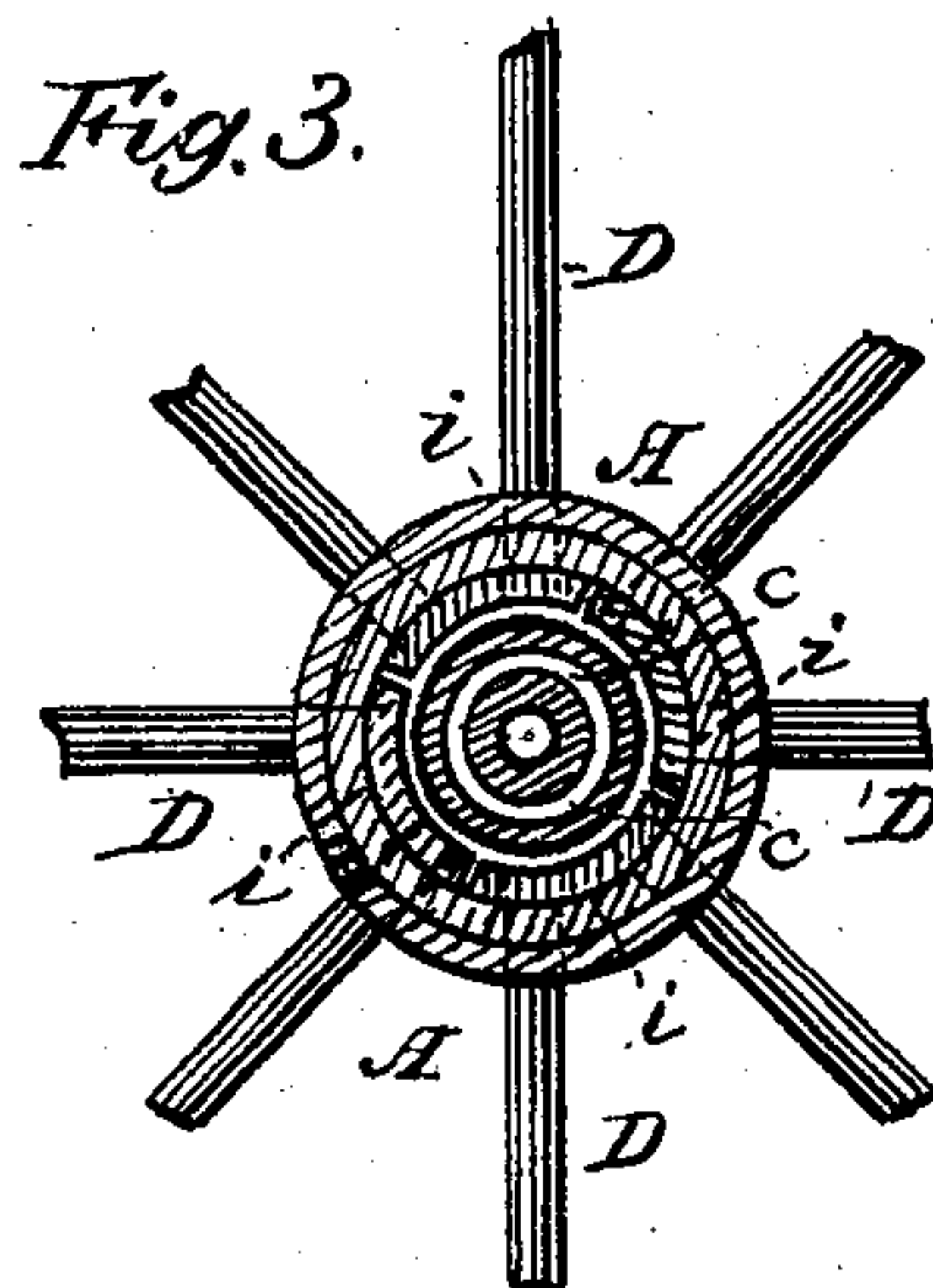
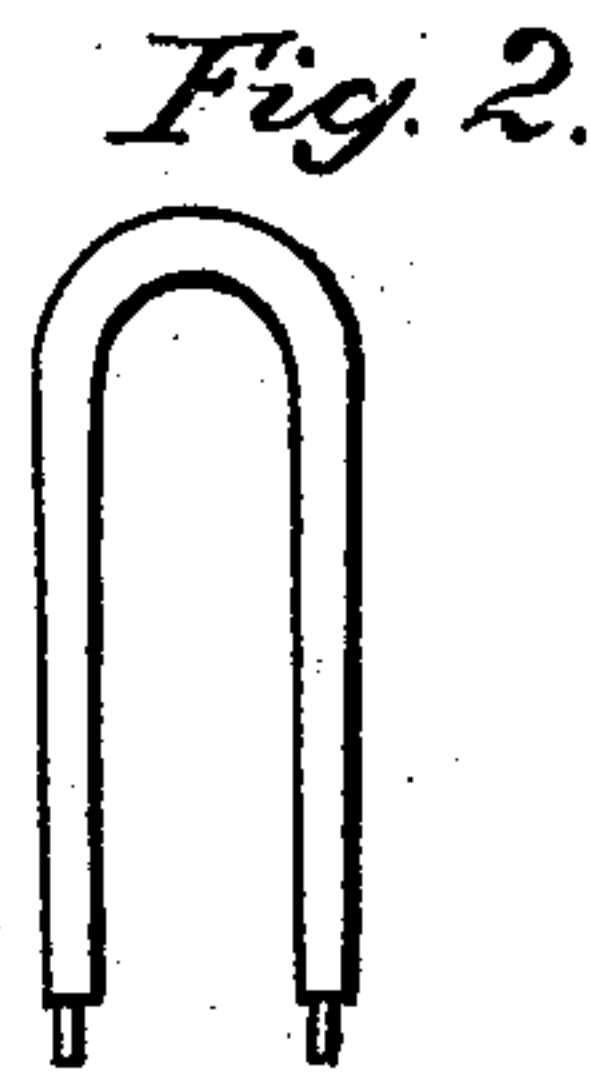
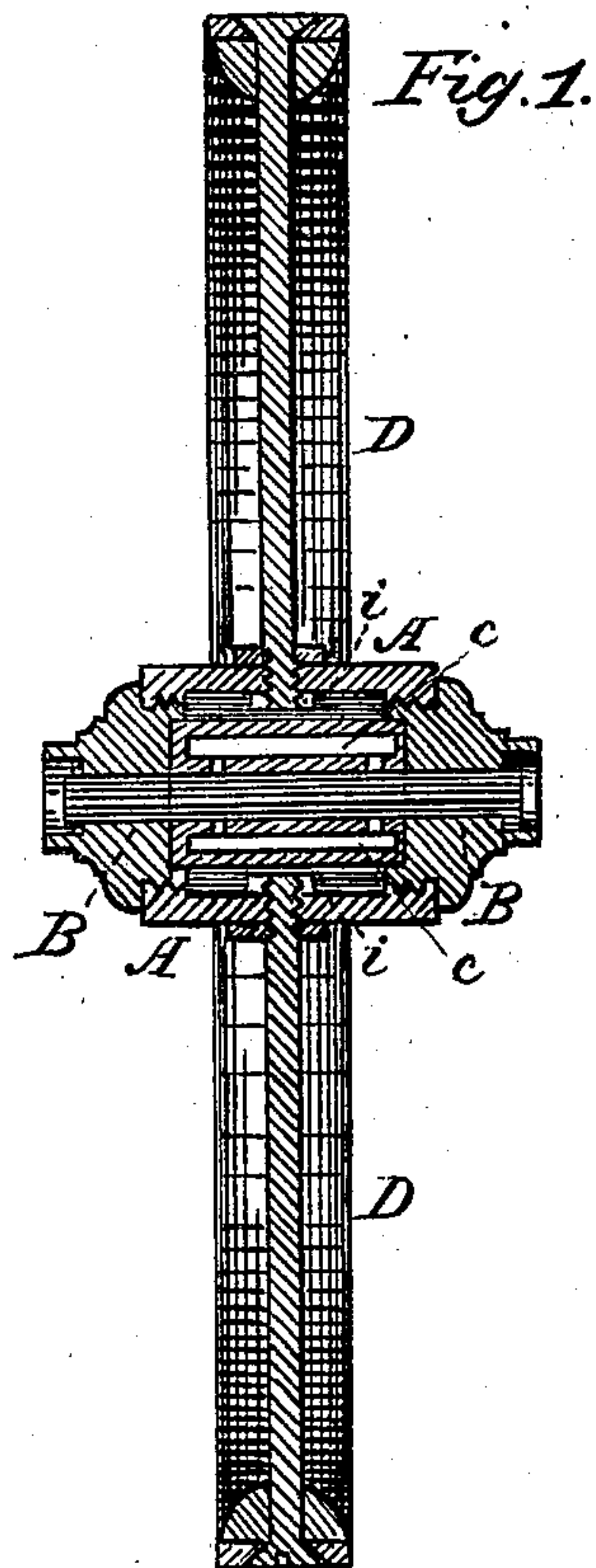


SHERMAN & PIPER.

Axle Lubricator.

Patented Aug. 3, 1869.

No. 93,357.



Witnesses

J. N. Schumann
C. L. Albert

Inventor.

S. S. Sherman
Silas D. Piper

per
Alexander Mason
Atty

United States Patent Office.

SAMUEL S. SHERMAN AND SILAS D. PIPER, OF WEST EAU CLAIRE,
WISCONSIN.

Letters Patent No. 93,357, dated August 3, 1869.

IMPROVED CARRIAGE-WHEEL.

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

To all whom it may concern:

Be it known that we, SAMUEL S. SHERMAN and SILAS D. PIPER, of West Eau Claire, in the county of Eau Claire, and in the State of Wisconsin, have invented certain new and useful Improvements in Wagon-Wheels; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of our invention consists in the construction of a wheel, provided with an adjustable oil-chamber, and having the spokes so arranged that the strain or pressure will bear equally upon them all.

Figure 1 is a section view of our wheel.

Figure 2 is a side elevation of the key, used in removing the ends from the hub.

Figure 3 is a vertical section view of the hub.

Letter A represents the hub of the wheel, which is provided with two adjustable sections B, which screw into the ends, one having a right and the other a left-hand screw, so constructed that they will not become loose by jarring or shaking, while the wagon is in motion.

Placed inside of the hub is the oil-chamber C, in which the oil is placed to lubricate the axle, and which has its ends resting in flanges formed on the inside ends of the sections B.

This chamber consists of an elongated hollow tube, one end of which is closed by any suitable kind of packing, and has a number of small holes made through its inside surface, through which the oil flows on to

the axle. The chamber should have a small quantity of cotton, or some substance which will prevent the oil from running out too rapidly, placed inside, and yet, at the same time, be of such a nature as to always keep the axle well lubricated.

The spokes D pass through the hub, and two or more of them are screwed into a single burr, *i*, placed inside, which prevents all possibility of their shaking loose. Each one is placed so as to bear exactly on a line with the centre of the hub, thus bringing the strain on all the spokes alike, except the one opposite that part of the wheel which bears upon the ground.

Having thus described our invention,

What we claim, and desire to secure by Letters Patent, is—

1. The oil-chamber C, consisting of an elongated tube, one end of which is closed by packing, and which has a number of openings made through its inside surface, substantially as set forth.

2. Securing two or more spokes by a single burr inside of the hub, substantially as described.

3. The hub A, provided with the two sections B, in combination with the oil-chamber C, burrs *i*, and spokes D, when arranged substantially as set forth.

In testimony that we claim the foregoing, we have hereunto set our hands, this 10th day of May, 1869.

SAML. S. SHERMAN.
SILAS D. PIPER.

Witnesses:

LEVI E. LATIMER,
W. F. BAILEY.