H. T. Stith,

Anti-Friction Roller.

No. 68,667. Patented Sep. 10, 1867.

Fig. 1.

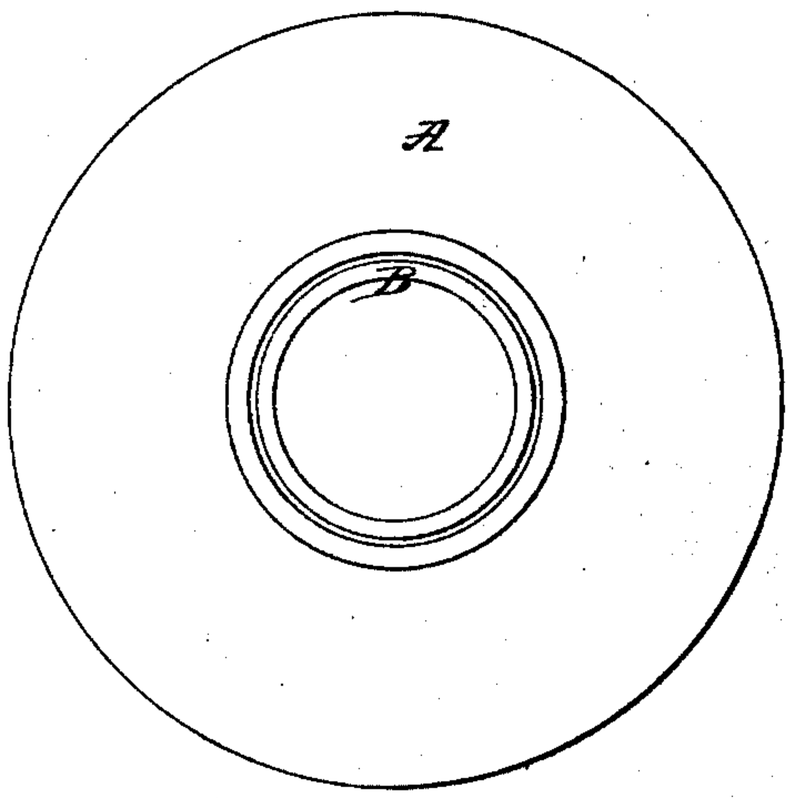


Fig. 2.

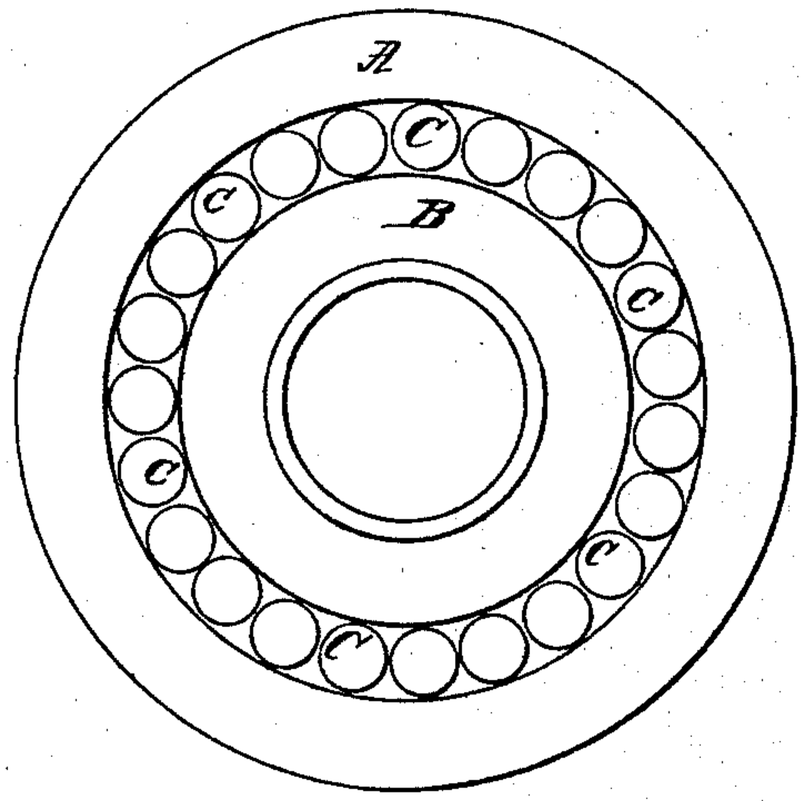


Fig. 3.

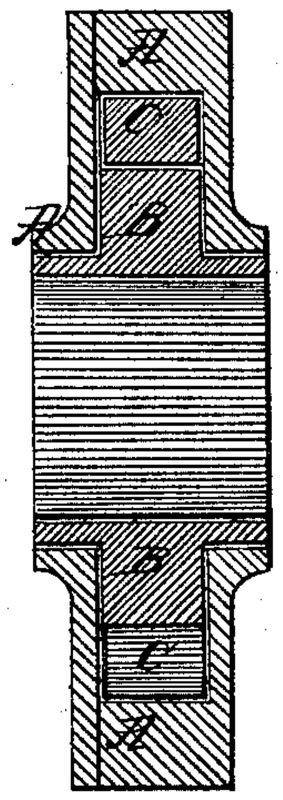
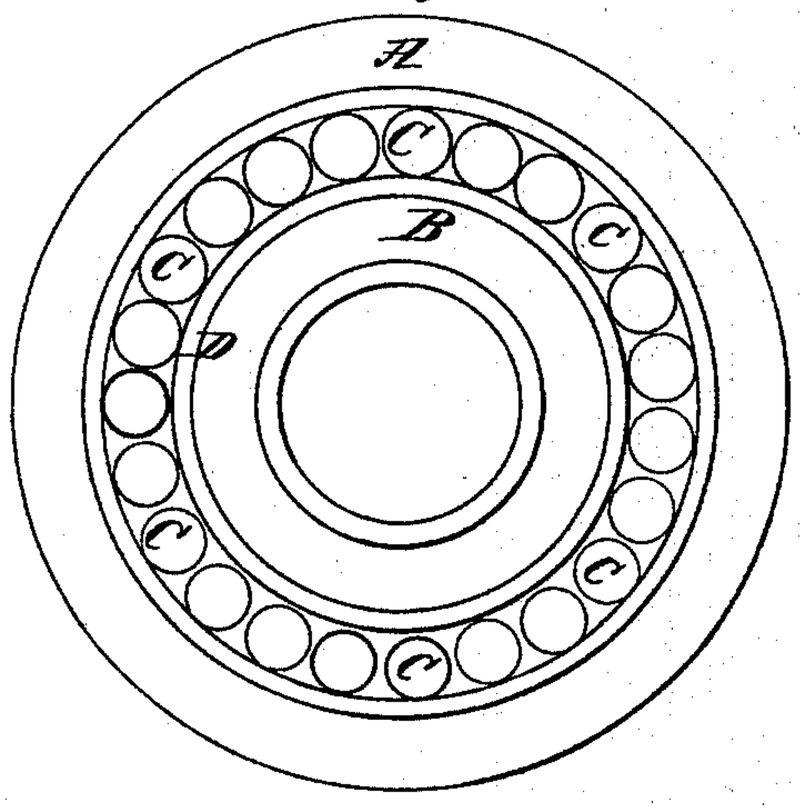


Fig. 4.



Witnesses
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HENRY T. STITH, OF STANTON, KANSAS, ASSIGNOR TO HIMSELF AND MYRON DICKSON.

Letters Patent No. 68,667, *dated September* 10, 1867.

IMPROVEMENT IN ANTI-FRICTION JOURNAL-BOX.

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, HENRY T. STITH, of Stanton, in the county of Miami, in the State of Kansas, have invented new and useful improvements in Anti-Friction Journal-Boxes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification.

This invention relates to the peculiar construction and arrangement of the boxing in which the journals of machinery revolve, or which revolve around the axles of vehicles, with a view to lessen the expense and render more practicable the application of that class of journal-boxes called anti-friction,

Figure 1 is an end view of my anti-friction journal-box, which may be considered as the hub of a carriage or wagon-wheel.

Figures 2 and 4 is a view of the interior, shown by removing the end plate A′, fig. 3.

Figure 3 is a section view.

Similar letters of reference indicate corresponding parts in the several figures.

The following description will enable those skilled in the art to make and use my invention.

A is the external case, which represents either the hub of a wagon-wheel, or the box or bearing in which the journal of a shaft revolves. This case is turned out on the inside, as shown. B is an annular ring, made to fit upon and secured to the axle or shaft, and is made as much less in diameter than the inside diameter of the external case as is required for the small rollers C, so as to form an annular chamber to receive these rollers, which are small cylinders of steel, with square ends, and are a little shorter than the length of the chamber, so as not to rub on the sides of the chamber. These rollers are loose, but are of the proper size, diameter, and number to neatly fill the annular chamber. The ring B is provided with tubular projections that extend through the centre opening of the external case, as shown in fig. 3. This ring is made fast to the axle or shaft, and its perimeter rests and revolves upon the small rollers C, and the latter rest and revolve against the inner surface of the external case. These rollers revolve between the two surfaces, and at the same time travel around in the annular groove or chamber between the ring B and case A, thus distributing both the motion and the friction in such a manner as to avoid heating and wear of the parts, and consequently the use of a lubricator.

Access is had to the interior of the box by removing the plate A′, which forms one end of the journal-box, and is secured to the box A by screw-bolts. The perimeter of the ring B may be faced with a band of hardened steel, or other suitable metal, as shown at D, fig. 4, and so also may the inner surface of the box, as shown at E in the same figure. These facing rings are not shown, but I contemplate using them in this manner as a convenient means of removing these surfaces when they become worn.

It will be seen that the simplicity of the construction and arrangement of the several parts forming this journal-box are such as to be very strong and durable, and the axle may be very large in proportion to the size of the wheel, without increasing proportionately the friction on the axle.

I do not make any claim to the use of the rollers C, in themselves considered, as they have before been used for a similar purpose.

I claim the box A and ring B, in combination with the rollers C, all constructed, arranged, and applied in the manner and for the purpose substantially as set forth.

HENRY T. STITH.

Witnesses:

O. F. MAYHEW,

W. E. DICKSON.