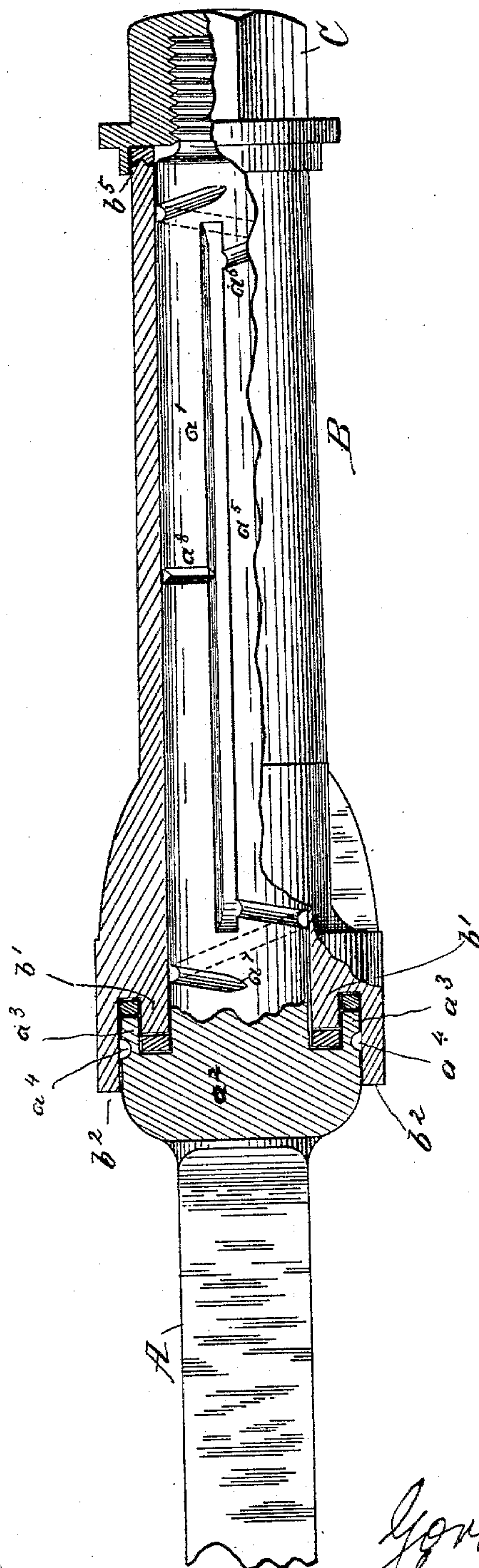


(No Model.)

G. M. MATHER.
LUBRICATING AXLE.

No. 597,910.

Patented Jan. 25, 1898.



WITNESSES

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GORDON M. MATHER, OF CANTON, OHIO.

LUBRICATING-AXLE.

SPECIFICATION forming part of Letters Patent No. 597,910, dated January 25, 1898.

Application filed August 14, 1897. Serial No. 648,214. (No model.)

To all whom it may concern:

Be it known that I, GORDON M. MATHER, a citizen of the United States, and a resident of the city of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Lubricating-Axles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, making part of this specification.

My invention relates to an improvement in dust-protecting and lubricating axles; and it consists of the spindle proper, provided with a longitudinal groove for the purpose of carrying oil and returning spiral grooves at each end thereof, passing around the spindle and terminating at points beyond the ends of the longitudinal groove, by means of which the spindle and box are constantly kept lubricated and the oil is returned to the longitudinal groove, as is hereinafter more fully described and claimed.

In the accompanying drawing similar letters of reference refer to similar parts.

The figure is a side elevation of the spindle and box, with a portion of the box and axle cut away, showing the relation of the various parts.

A represents the axle proper, which terminates in a spindle a' . At the end of the axle and intermediate the spindle there is formed a cup-shaped projection or collar a^2 , having a tubular flange a^3 , upon the outer surface of which there is provided a circumferential groove a^4 for the purpose of preventing the passage of dust into and upon the spindle. Upon the upper portion of the spindle there is provided a longitudinal groove a^5 , the ends of which terminate a short distance from the inner and outer ends of the spindle. At either end of the longitudinal groove a^5 there are provided spiral grooves a^6 and a^7 , which pass clear around the spindle and terminate at points on the upper part of the spindle opposite the ends of the longitudinal groove a^5 . In the middle of the longitudinal groove there is provided a distributing-groove a^8 , which terminates a short distance therefrom. The object of these several grooves is to provide a means for carrying back and distributing the oil or lubricant over all the portions of the spindle and the interior of the box. The

small groove a^8 carries the oil out upon the surface of the spindle, while the spiral grooves a^6 and a^7 at either end take up the oil and return it to the longitudinal groove a^5 , thus preventing the exudation of oil at either end of the spindle.

B represents the box, which is of tubular form, its interior adapted to conform in size to the spindle. At the inner end of the box there is a raised collar carrying two tubular flanges. The inner flange b' is on the same plane as the interior of the box, which rests upon the spindle, and passes between the spindle and the flange a^3 upon the cup-shaped portion or collar of the axle. The outer flange b^2 , being longer than the inner flange, passes over the flange a^3 and the circumferential groove a^4 formed thereon, completely covering the same, so as to make a substantially dust-proof connection of the box and the axle.

The outer end of the spindle is screw-threaded, so as to carry the ordinary form of nut C, by means of which the box is held in engagement with and in position upon the spindle, and upon the outer end of the box there is formed a raised rib b^5 , which when the nut C is screwed down becomes embedded in the washer carried in the nut and prevents the exudation of oil or the passage of dust into and upon the spindle.

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

An imperforate axle-spindle having a longitudinal groove which ends short of the spindle ends, a distributing-groove leading from the longitudinal groove and terminating a short distance therefrom, and spiral grooves communicating with the longitudinal groove near its ends, said spiral grooves extending around the spindle and merging into the plane of the spindle at points beyond the ends of the longitudinal groove, substantially as set forth.

In testimony whereof I have hereunto set my hand this 10th day of August, A. D. 1897.

GORDON M. MATHER.

Witnesses:

CHAS. R. MILLER,
CHAS. M. BALL.