

J. P. CHAMBERS.
Vehicle-Hub.

No. 226,277.

Patented April 6, 1880.

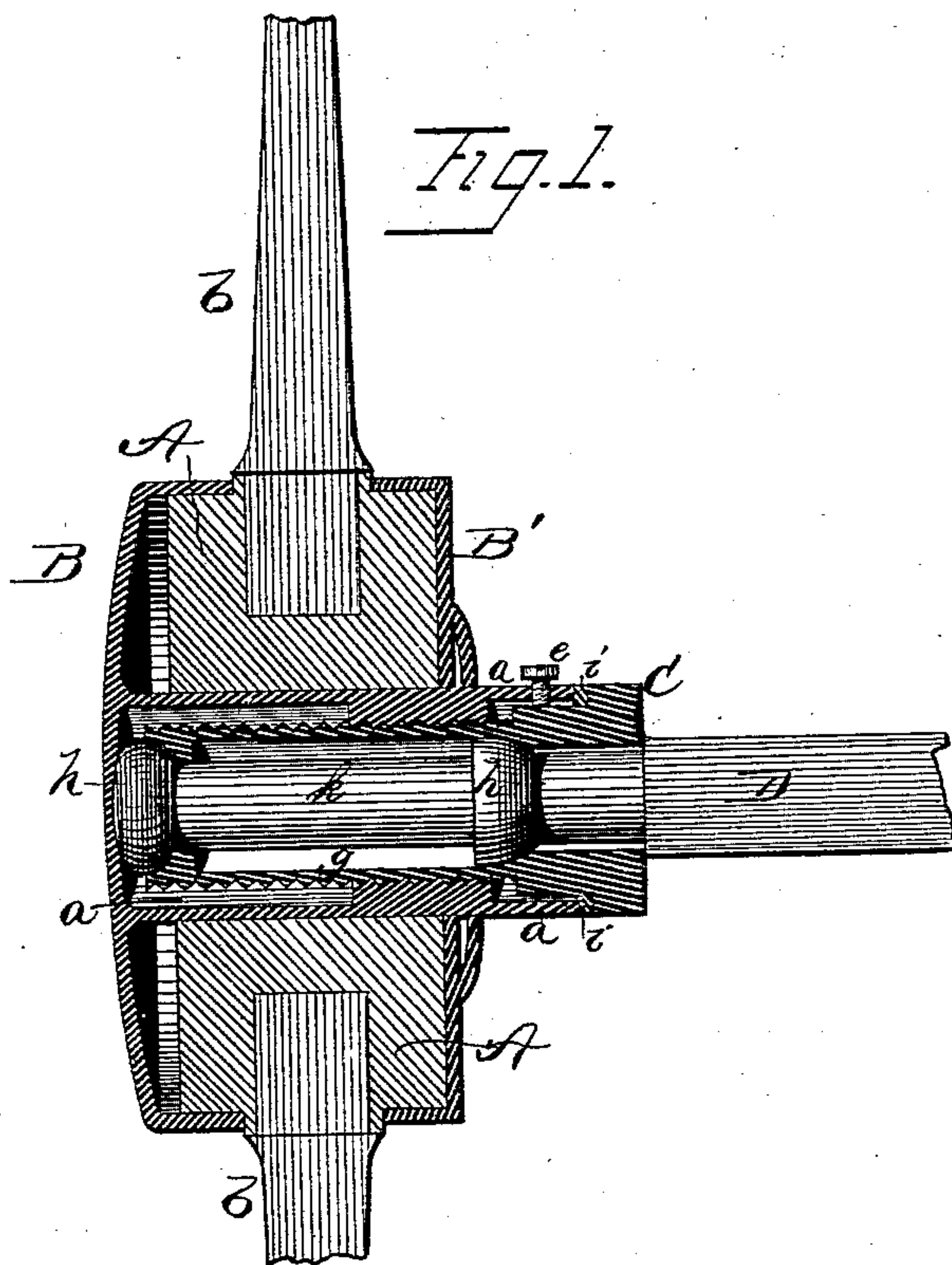
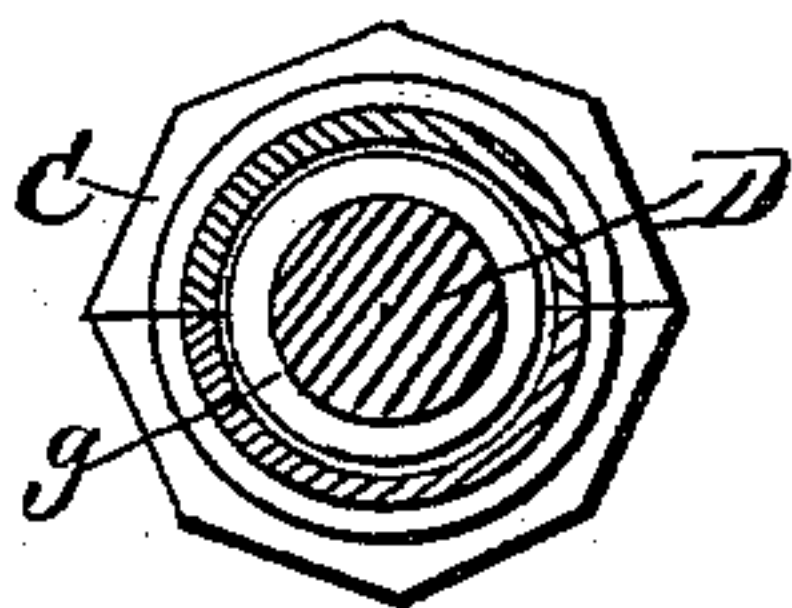


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES P. CHAMBERS, OF BLOOMINGTON, INDIANA.

VEHICLE-HUB.

SPECIFICATION forming part of Letters Patent No. 226,277, dated April 6, 1880.

Application filed February 18, 1880.

To all whom it may concern:

Be it known that I, JAMES P. CHAMBERS, of Bloomington, in the county of Monroe and State of Indiana, have invented certain new and useful Improvements in Vehicle-Hubs; and I 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, which form part of this specification, in which—

Figure 1 is a vertical longitudinal section of the hub and its parts, and Fig. 2 a cross-section of the divided screw-box.

The objects I have sought to accomplish in the peculiar construction of my hub are, first, an increased strength and capability of resistance to the lateral strain to which the lower portions of the spokes are subjected; secondly, lessening the friction upon the axle-arm; thirdly, providing a ready means for the compensation of wear; and, fourthly, so inclosing the arm as to better enable the lubricating substance to be retained, and at the same time to prevent as far as possible the admission or accumulation of dust and dirt around it.

To these ends, therefore, my invention consists in the combination of the two metal caps referred to above with a divided screw-box and axle-arm, and in the combination of these with such other devices as will be hereinafter fully set forth and claimed.

To enable others skilled in the art to make and use my invention, I will now fully describe its construction and operation.

A represents a wooden wheel with parallel sides, which constitutes the hub proper, and in which are inserted the spokes *b b* in the usual manner.

B B' are metal caps with circular flanges, which fit snugly over each side of the hub and against a central circumferential elevation around the hub. The cap B is cast or formed with the tubular tongue *a*, which should be of sufficient length to extend not only through the hub, as shown in the drawings, but also far enough beyond a suitable hole in cap B' to admit of the screw *e* entering it. This tongue is provided on its inner surface, near its outer end, with a thread-screw, which may either

be cut in the tongue itself and the rest of its inner surface on both sides of the screw made a little larger in circumference, or a short tube previously cut with an internal screw may be soldered in the tongue, thus leaving a space on each side thereof.

C represents a divided screw-pipe box, with sufficient screw-surface to admit of it extending almost to the inner end of the tongue, while its head projects a little beyond the open end of the tongue. The two parts forming the divided screw-box are stepped between its head and screw-surface, in order that it may fit loosely against the shoulder formed in tongue *a*. The head of box C should, of course, be so formed as to enable it to be easily operated or turned by means of a wrench, and its opposite end is to be rounded or reamed out to allow the enlarged and rounded end of the arm to fit therein, as seen in Fig. 1. Each part of the box is troughed out, so that when they are brought together a circular flange will be formed near their outer end, and a diminished bore for the neck of the axle-arm to fit in at their opposite end, while at the same time a lubricating-chamber, *g*, will be formed, which slopes into the neck-chamber, thus furnishing bearings for the arm only at its outer and inner ends, as fully shown.

D represents the axle, with its arm provided with the enlargements *h h* and neck *k*.

It will be observed very readily that when any wear occurs it will be easily compensated by simply tightening the screw-pipe box against the enlargements *h h*; and to provide for this contingency I employ the washer *i*, which is to be removed when it becomes necessary to take up the wear. The hub A may, of course, be constructed of either wood or iron, and the caps made to screw on or be bolted through the hub, as desired.

The operation of oiling is as follows: After removing the wheel, which is done by grasping the head of the pipe-box with a wrench and revolving the wheel backward until it is unscrewed from the box, I then remove the washer and take one side of the boxing off, but hold the other side under the axle-arm. I now pour in the oil, replace the other half of the box, slip the washer on, and, after properly adjusting the wheel, turn it until the box-

ing is tight, and then finally tighten the set-screw.

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

1. In a hub for vehicle-wheels, the combination of cap B, formed or provided with tubular tongue *a*, with divided screw-box C, both being constructed and arranged to take up or
10 compensate for the wear of axle-arm, substantially in the manner set forth.

2. In a hub for vehicle-wheels, the combination of metal caps B B', both constructed as described, with divided screw-box C and axle-
15 arm having enlargements *h h* at each end thereof, all arranged substantially as and for the purpose set forth.

3. The divided screw-box C, adapted to receive washer *i*, and centrally troughed out, in combination with cap B and set-screw *e*, all
20 constructed and arranged to operate substantially as and for the purpose described.

4. The combination of hub A, metal caps B B', tubular tongue *a*, divided screw-box C, washer *i*, and set-screw *e*, all constructed and
25 arranged to operate substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JAMES P. CHAMBERS.

Witnesses:

JACOB R. CHAMBERS,
ELBERT SADLER.