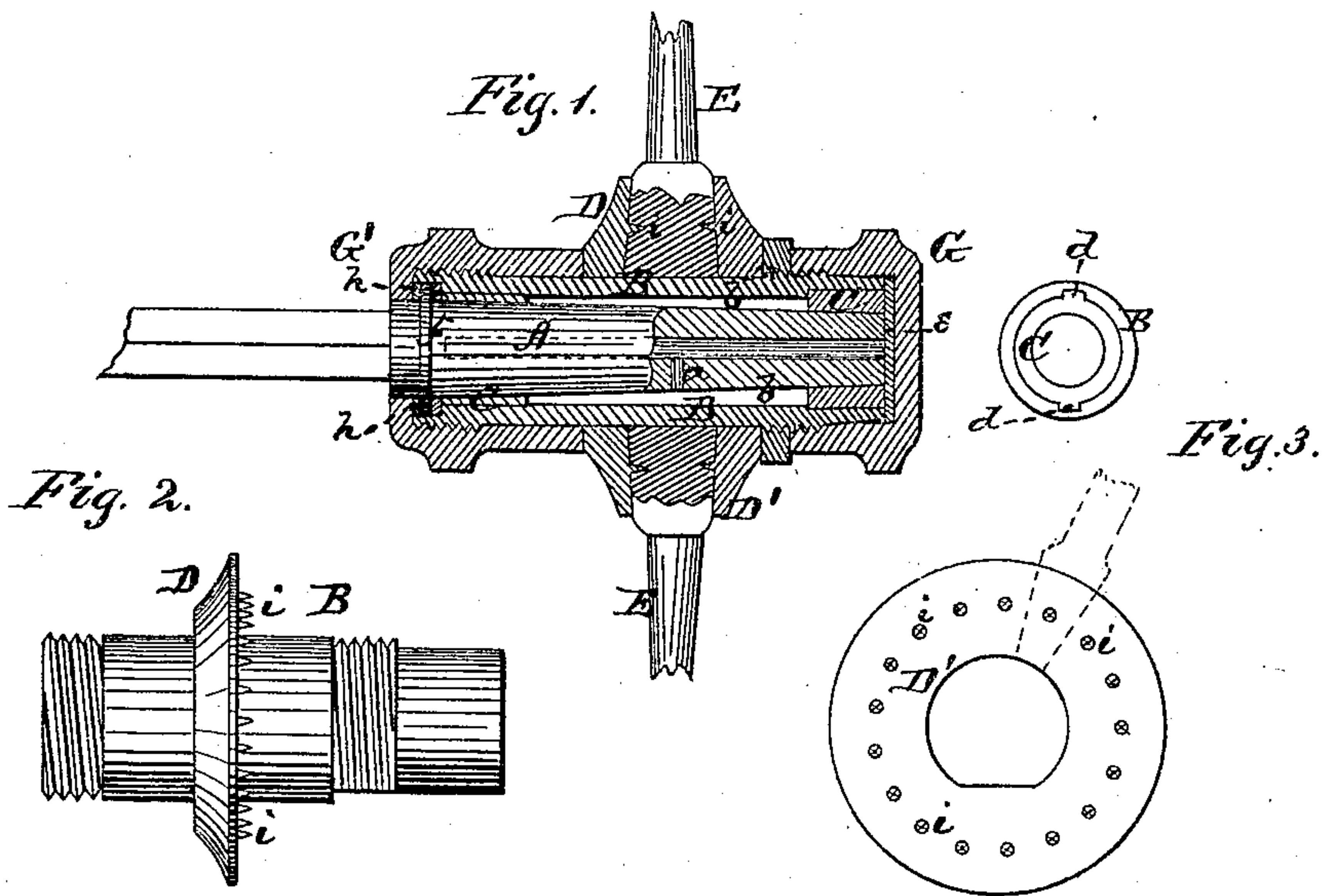


C. J. HARRIS.

Improvement in Hubs for Vehicle-Wheels.

No. 132,071.

Patented Oct. 8, 1872.



Witnesses:

Henry A. Miller
C. L. Ewert.

Inventor.

Charles J. Harris
per Alexander Thomson

Attorneys.

UNITED STATES PATENT OFFICE.

CHARLES J. HARRIS, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN HUBS FOR VEHICLE-WHEELS.

Specification forming part of Letters Patent No. 132,071, dated October 8, 1872.

To all whom it may concern:

Be it known that I, CHARLES J. HARRIS, of Louisville, in the county of Jefferson and in the State of Kentucky, have invented certain new and useful Improvements in Hubs for Wheels for Vehicles; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a hub for wheels for vehicles, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a longitudinal section of the entire hub; Fig. 2 is a side view of the axle-box with one of the flanges in place; and Fig. 3 is a view showing the inner side of one of the flanges.

A represents the spindle upon which the wheel is placed. This spindle is hollow from the outer end inward its entire length, and provided in the center on its under side with an opening or passage, *a*, as shown in Fig. 1. The hollow spindle A is to be filled with some suitable solid grease, and as the spindle becomes hot the grease will gradually melt, pass out through the passage *a* and oil the axle, the end of the spindle being closed, as will be hereinafter described. B represents the axle-box, provided at each end with an interior sleeve, C, which form the bearings on the axle or spindle, and leave between them, around the spindle, a chamber, *b*, into which the oil coming from the hollow spindle through the passage *a* passes to oil the bearings. The sleeves C C are each on the outside provided with longitudinal ribs *d d*, which fit in corresponding grooves on the inside of the box B, and the sleeves are dropped into their places loose enough to be readily removed when worn and replaced by others. On the box B, a suitable distance from the inner end, is a flange, D, which may either be cast with the box in one piece or made separate and permanently attached to it. On the inner face of the flange

D are a number of pins, *i i*, arranged in circular form around the box, and corresponding in number with the number of the spokes E E, one of which is placed on each pin. The inner ends of the spokes come close up against each other and rest on the outer surface of the box, the pins pressing into the spokes. A similar flange, D', is then put on the box over the outer end and fastened tightly by means of a nut, *d*, screwed on the box. This flange D' is also provided with pins or teeth *i i*, to penetrate one into each spoke, and when this flange is firmly pressed up by the nut *d* the spokes are held solidly in their places. After the rim is put on and any spoke becomes broken, it is only necessary to unscrew the nut *d* and take off the flange D' when such spoke may be removed without disturbing the rim. The outer end of the hub is closed by a cap, G, which is screwed onto the box B and jams up against the nut *d*, thus also answering the purpose of a lock for said nut. Inside of the cap G is a washer, *e*, of leather or other suitable material, which, by the cap, is forced tightly against the end of the spindle and box, preventing the grease from coming out of the end of the spindle. The inner end of the hub is closed in a similar manner by a cap, G', passing over the axle and screwing onto the inner end of the box B, the outer end of the cap coming against the flange D to make a better-appearing hub. The cap G' incloses the shoulder *f* on the inner end of the spindle and thus secures the wheel on the same. Between the shoulder *f* and a shoulder or offset in the box B, and the end of the sleeve C, as well as between the shoulder *f* and the cap G', is inserted a leather or other suitable washer, *h*, making close joint and preventing the grease from leaking through. The washers *e* and *h h* also prevent wearing of the metal at these points, for as soon as the washers are worn out they can readily be replaced with others before the metal is worn at all. The flange D' has a square or straight part in its central hole, as shown in Fig. 3, and the box B is made straight on one side to correspond, so that the said flange cannot turn on the box. The screw-threads must, of course, be made right and left hand, according to as the wheel is on the right or left-hand side.

Having thus fully described my invention,

what I claim as new, and desire to secure by Letters Patent, is—

1. The sleeves C C, provided with the longitudinal ribs *d d*, in combination with the box B and the caps G G', substantially as and for the purposes set forth.

2. The combination of the hollow spindle A with passage *a*, box B, sleeves C C, flanges D D', with pins *i i*, nut *d*, caps G G', and washers *e h h*, all constructed and arranged

substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 7th day of August, 1872.

C. J. HARRIS.

Witnesses:

C. L. EVERT,
A. N. MARR.