P. H. BURNS.
Chill for Hub.

No. 204,479. Patented June 4, 1878.

Fig. 1

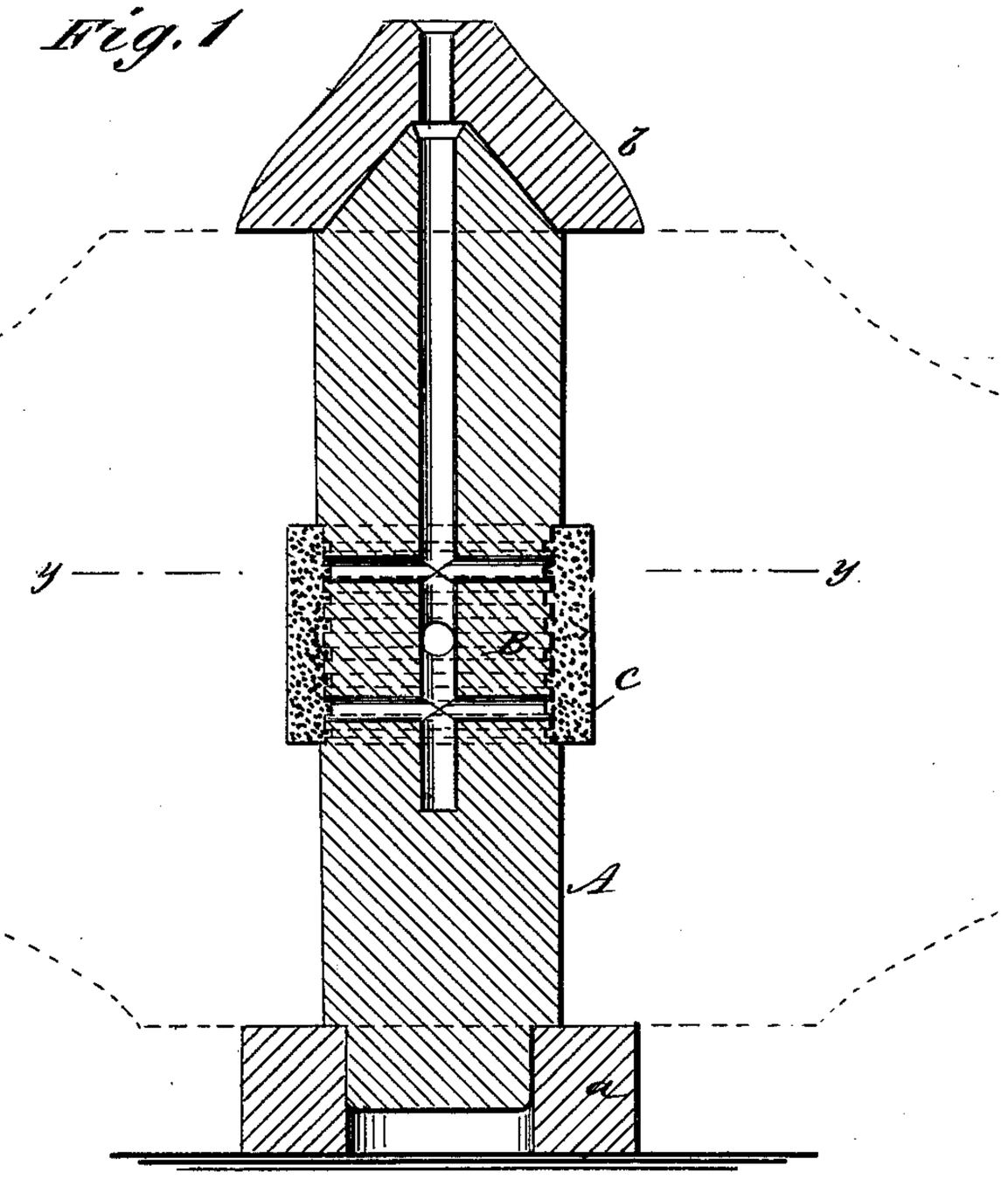
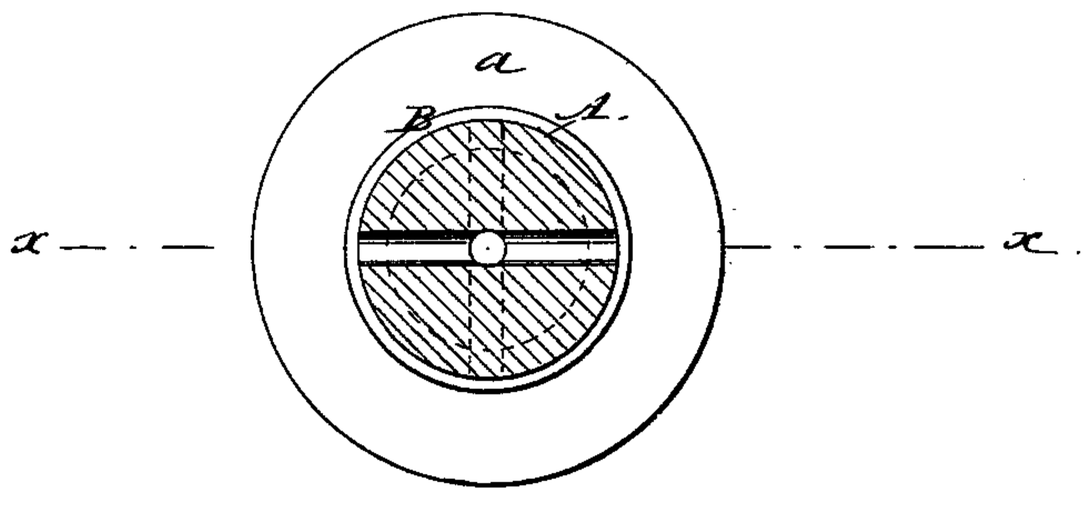


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

PATRICK H. BURNS, OF INDIANA, PENNSYLVANIA.

IMPROVEMENT IN CHILLS FOR HUBS.

Specification forming part of Letters Patent No. **204,479**, dated June 4, 1878; application filed April 16, 1878.

To all whom it may concern:

Be it known that I, PATRICK H. BURNS, of Indiana, in the county of Indiana and State of Pennsylvania, have invented a new and useful Improvement in Chills for Hubs, of which the following is a specification:

Figure 1 is a longitudinal section of my improved chill, taken on line *x x* in Fig. 2. Fig. 2 is a transverse section taken on line *y y* in Fig. 1.

Similar letters of reference indicate corresponding parts.

My invention relates to chills for chilling the hubs of wheels, more particularly the hubs of car-wheels, such as revolve on their axles; and it consists in a cylindrical chill having end pieces for chilling the cheeks of the hub, and having a portion at the middle reduced in diameter and grooved circumferentially to receive an annular core, which forms a chamber in the hub. The chill is provided with several transverse and longitudinal vent-holes for the escape of gas generated in the core.

In the drawing, A is a cylindrical chill, which is reduced in diameter at its lower end to receive the chill *a* for the cheek or end of the hub, which also forms a support that keeps the chill A in an upright position.

The upper end of the chill is conical, and to it is fitted a conical cap, *b*, which is larger in diameter than the chill, and forms a chill for the upper end of the hub.

The middle portion B of the chill is reduced in diameter, and grooved circumferentially to receive the annular core C, which surrounds it and forms the oil-cavity in the center of the wheel-hub. The chill at this point is drilled transversely from different directions, and a longitudinal hole, which communicates with all of the transverse holes, extends to the upper or lower end of the chill. The conical cap *b* is also apertured to permit of the escape of gas.

The chill is placed in prints in the mold in the same manner as cores are placed, and, after the casting is formed around it and it becomes cool, it is forced or driven out of the hub.

The annular core C forms a cavity in the hub.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A chill having longitudinal transverse vent-holes, and having its middle portion reduced in diameter to receive an annular core, substantially as herein shown and described.

2. A chill for hubs whose middle portion B is circumferentially grooved to receive the core C, as and for the purpose specified.

PATRICK H. BURNS.

Witnesses:
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