No. 639,035. Patented Dec. 12, 1899.

G. HART.

CHUCK FOR EMERY WHEELS.

(Application filed July 1, 1899.)

(No Model.)

Fig. 1.

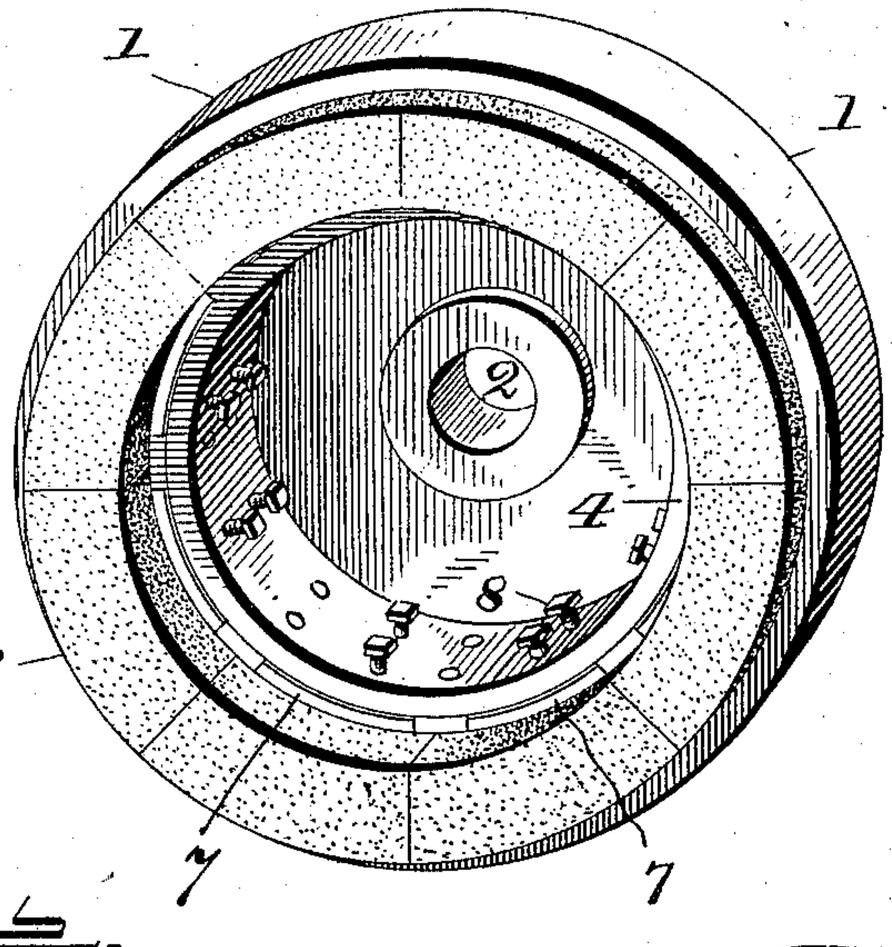
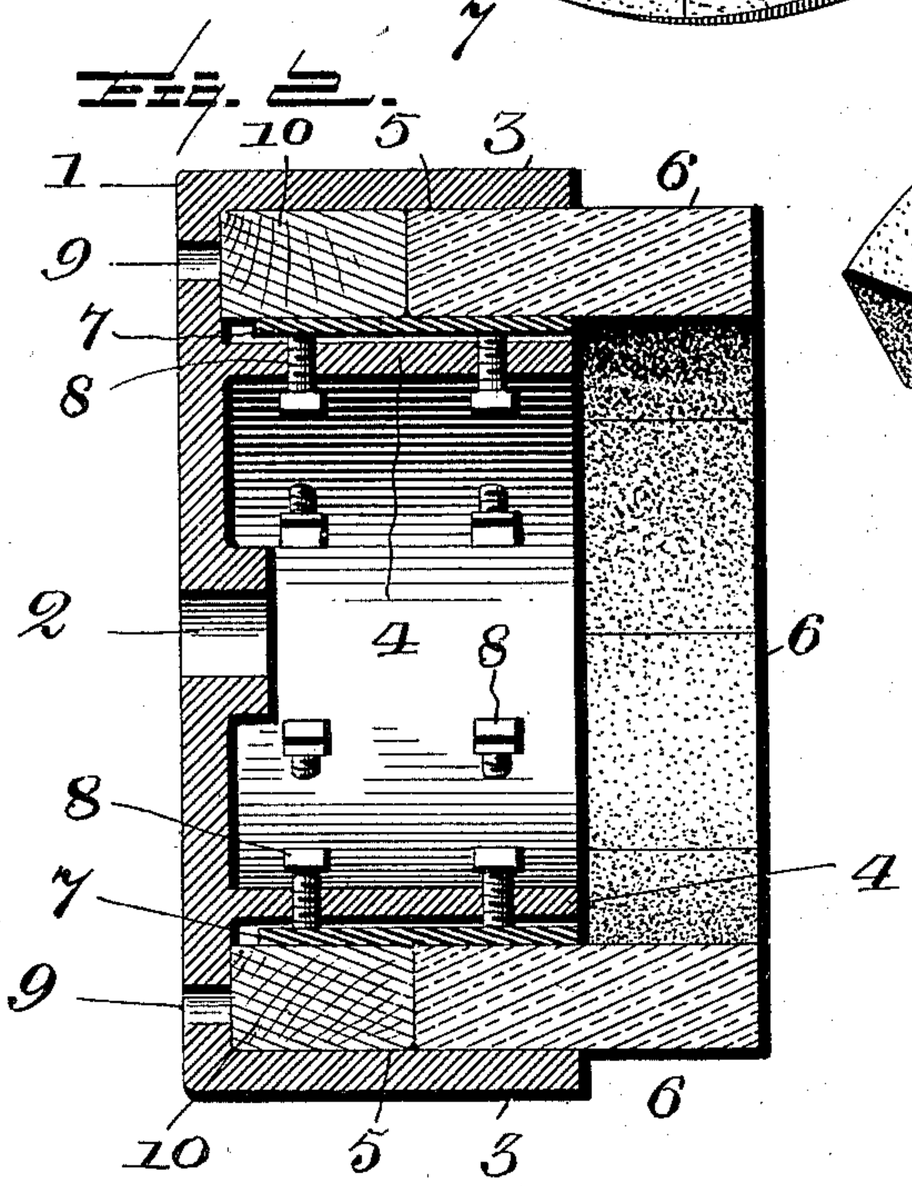


Fig. 2.



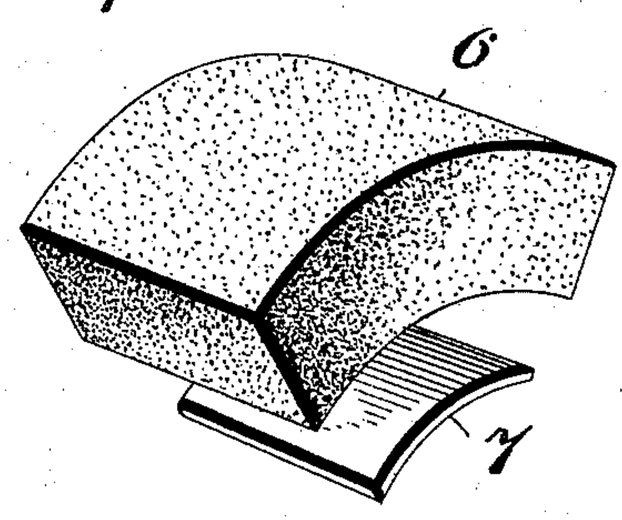


Fig. 3.

Witnesses
L. C. Hills.
J. B. Keller

Inventor,
Gilbert Hart,
By James L. Norris.
Attorney

UNITED STATES PATENT OFFICE.

GILBERT HART, OF DETROIT, MICHIGAN.

CHUCK FOR EMERY-WHEELS.

SPECIFICATION forming part of Letters Patent No. 639,035, dated December 12, 1899.

Application filed July 1, 1899. Serial No. 722,578. (No model.)

To all whom it may concern:

Be it known that I, GILBERT HART, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Chucks for Emery-Wheels, of which the following is a specification.

The ordinary hollow cylindrical or cup-shaped emery-wheels are extremely difficult to make, owing to the danger of breaking or cracking the same, and are objectionable on this account.

My invention is designed for the purpose of avoiding the objections to this class of devices, while obtaining all the advantages thereof. The same consists in constructing the wheel in sections and in providing an improved form of chuck in which the sections may be firmly clamped and held in proper relation to each other and in which the position of the sections may be readily and accurately adjusted. The chuck comprises a body having two parallel annular flanges thereon forming an annular channel between them, emery-wheel sections in said channel, clamping means therefor, and blocks in said channel beneath said wheel-sections.

The invention also consists in certain details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 is a perspective view illustrative of my improved chuck with the sectional emery-wheel therein. Fig. 2 is a central longitudinal section of the same, and Fig. 3 is a detail perspective view of one of the wheel-sections and one of the clamping-plates therefor.

Like reference-numerals indicate like parts in the different views.

My improved chuck is formed with a circular base 1, having a central aperture 2 therein, providing means for its attachment to a rotary shaft or other part. The base 1 has an annular flange 3 extending around its outer edge and a similar flange 4 parallel to but located within the flange 3. In the annular channel 5, between the flanges 3 and 4, the emery-wheel 6 is located, the same being made up of a plurality of sections, the adjacent edges of which lie in close contact with each other and the outer or end surfaces of which are in the same plane. This construction of wheel provides for the safe and convenient manufacture of the same. The ends of the wheel-sections project beyond the ends of the flanges 3 and 4, and said sections are held in place in the chuck by the arc-shaped clamping-plates 7, which lie within the channel 5, adjacent to the flange 4, and are adapted to be forced outwardly toward the flange 3 by the screws 8, which pass through the flange 4 and engage threaded openings therein. Openings 9 extend through the base 1 into the channel 5, and beneath the sections of the emery-wheel 6 are adapted to be introduced the blocks 10, of wood or other suitable material, all of which blocks are of exactly the same height.

When the wheel 6 is first secured in the chuck, the outer end thereof projects beyond the flanges 3 and 5. Eventually, however, it will wear down to a level with said flanges. When this takes place, the wheel is removed by releasing the clamping-screws 8 and applying pressure to the rear or lower end of the wheel by passing an instrument of suitable size through the openings 9. The blocks 10 are now inserted into the bottom of the channel and the wheel-sections reapplied and reclamped. The blocks will resist the inward or rearward movement of the wheel-sections, and as the former are all of the same height they will maintain the engaging surfaces of said sections in exactly the same relative positions which they had before removal.

It will be noted that by the construction described the emery-wheel may be used until nothing is left of the same but a short or thin ring. To cause the wheel to project from the ends of the flanges 3 and 4 as it continuously wears down, blocks 10 of different heights will be employed. It is important, however, that all of the blocks of a set be of exactly the same height. It will be further noted that the inner flange 4 is separate from the central boss on the base of the chuck. In this way provision is made for the use of ordinary screws 8 for actuating the clamping-plates 7, the said screws extending entirely through the flange 4, with the heads thereof projecting from the inner surface of said flange.

Having now described my invention, what

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

1. A chuck for a hollow, cylindrical sectional, grinding-wheel, having two parallel annular flanges thereon, forming an annular channel between them, the inner of said flanges being independent of the central boss in said chuck, clamping-plates in said channel, and screws extending entirely through the inner of said flanges and engaging said plates for operating them.

2. The combination with a chuck having an annular channel therein, openings in its base leading into said channel, and clamping means in said channel, of a sectional grinding-wheel in said channel adapted to be engaged by said clamping means, and blocks in said channel engaging the base of the chuck and the under side of said wheel, as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

GILBERT HART.

Witnesses:
A. A. BALLOU,
FRANK H. WHELDEN.