

(No Model.)

J. KLAR.
HEAD FOR POLISHING STONE.

No. 416,462.

Patented Dec. 3, 1889.

Fig. 1.

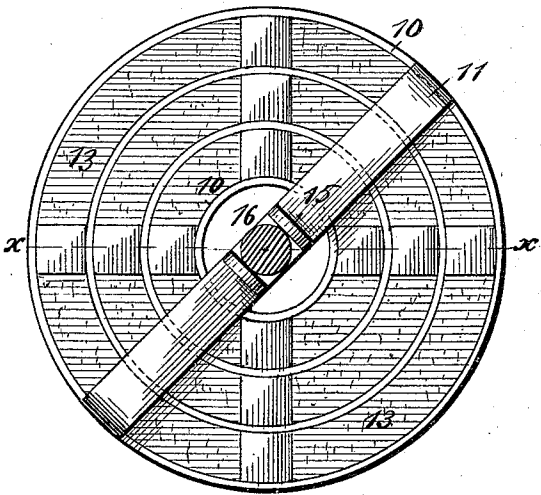


Fig. 2.

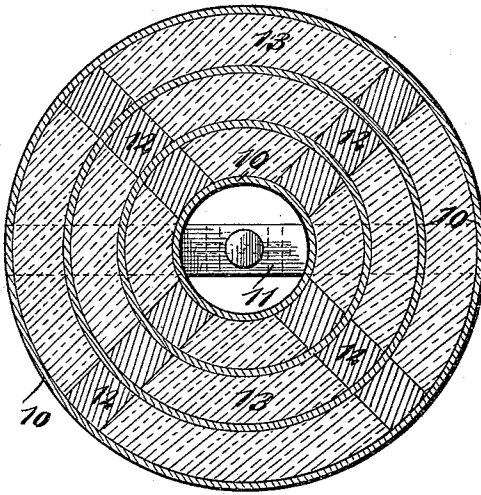


Fig. 3.

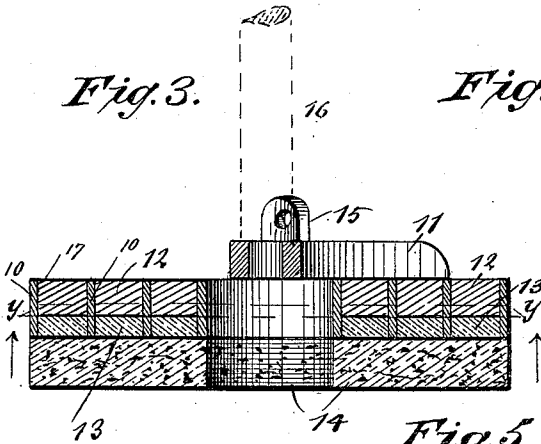


Fig. 4.

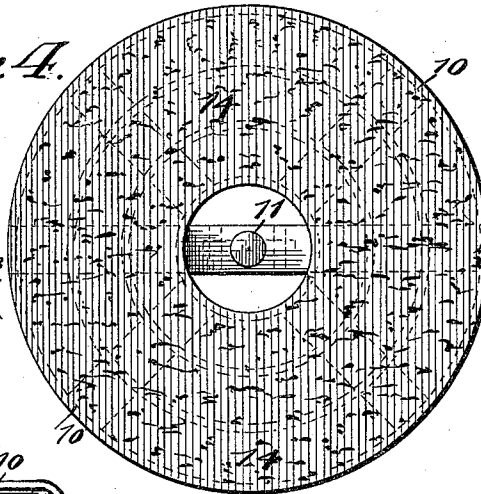
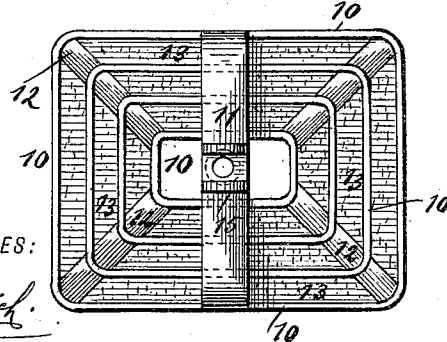


Fig. 5.



WITNESSES:

Phil C. Dierick

C. Sedgwick

INVENTOR:

J. Klar

BY *Munn & Co.*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN KLAR, OF WESTFIELD, MASSACHUSETTS.

HEAD FOR POLISHING STONE.

SPECIFICATION forming part of Letters Patent No. 416,462, dated December 3, 1889.

Application filed January 5, 1889. Serial No. 295,497. (No model.)

To all whom it may concern:

Be it known that I, JOHN KLAR, of Westfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Heads for Polishing Stone, of which the following is a full, clear, and exact description.

My invention relates to a head for polishing stone, especially marble, and has for its object to provide a device capable of attachment to a polishing-machine, and to provide a polishing or grinding head of simple and durable construction, and which will economize in grinding material.

The invention consists of the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the head. Fig. 2 is a horizontal section on line yy of Fig. 3. Fig. 3 is a transverse section on line xx of Fig. 1. Fig. 4 is a bottom plan view, and Fig. 5 is a plan view of a slightly-modified form of head.

In polishing marble or similar stone in order to secure good results it is absolutely necessary to remove the "sand pits" developed by the first process of polishing—namely, roughly grinding the surface. This is accomplished by rubbing the surface of the block to be polished with a sandstone or a stone of like formation.

Referring to the drawings by letter, the head is preferably constructed of a series of spaced concentric rings or bands 10, usually cast integral with the upper cross-bar 11, which bar serves to properly space and also brace and strengthen the rings or bands. These rings or bands 10, and likewise the cross-bar 11, are preferably made of metal, and are made either circular in contour, as illustrated in Fig. 1, or of any other desired contour—for instance, essentially rectangular, as illustrated in Fig. 5. Between the several contiguous rings or bands a block 12, of wood or like material, is secured, which blocks are preferably made of such thickness as that when placed in position the upper surface

will be flush with the upper edge of the rings or bands, as shown in Fig. 1, and the lower surface will be elevated a slight distance from the lower edge of said rings or bands, as best shown in Fig. 3.

Any number of the blocks 12 may be employed, and the said blocks may be located at any given point desired between the contiguous rings without departing from the spirit of the invention.

The space between the several rings is adapted to receive a plaster-of-paris filling 13, which filling also covers the lower or under surface of the several blocks 12, the lower surface of the said filling being smoothed off to provide a level under surface for the head. The upper portion of the head is preferably likewise leveled.

The space inclosed by the inner ring or band 10 is not filled with plaster-of-paris, but is left entirely open for the admission of water to the surface of the stone to be ground when the head is in operation.

In practice I render the entire exposed surface impervious to water by imparting to said surface a coating of oil or other similar water-proof substance 17.

In completing the head, the grinding or polishing material employed is cemented or otherwise attached to the under face of the head, as illustrated in Fig. 3, and a space or aperture 14 is provided in the center of the polishing or grinding material, corresponding in contour and size to the inner surface of the inner ring or band 10.

The cross-bar 11 is provided at the center with spaced lugs or ears 15, between which ears or lugs a shaft 16 is pivoted to connect the polishing-head with a machine adapted to give motion thereto.

I desire it to be distinctly understood that the blocks 12 may be omitted without departing from the spirit of the invention, as the said blocks are purposed only to facilitate the attachment of the plaster-of-paris, or other cement employed, to the frame of the head. As the said frame is not finished up after being cast, by which means it is preferably formed, the plaster-of-paris or cement will, under ordinary circumstances, readily adhere to the roughened surface of the said frame.

When the head is placed in contact with

the stone to be polished, the water is fed in through the space encircled or inclosed by the inner ring, from which it will be readily observed that the water in finding an exit at the periphery of the head must of necessity constantly flow in contact with the stone to be polished, and also in contact with the entire under surface of the head.

It is very necessary that a central aperture be provided for the head, not only to serve for introducing water to the stone, but also to preserve an even surface upon the bottom of the head, since, if the under surface of the head were continuous, the rotary motion imparted thereto would cause the surface at and near the periphery to wear much faster than the center; consequently in a short time the head would be as upon a pivot at the center, and the outer surface cease to contact with the stone.

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

1. A polishing-head consisting of a series of spaced bands or rings, a filling of plaster-of-paris introduced between the approaching surfaces of the several rings or bands, and a grinding or polishing material provided with

a central aperture rigidly secured to the under surface of the said rings and filling, substantially as shown and described.

2. The combination, with a series of concentric rings or bands, a series of blocks interposed between the rings or bands, and a filling of plaster-of-paris introduced between the approaching surfaces of the rings or bands, between the blocks and covering the lower face of the latter, of a grinding or polishing material provided with a central aperture rigidly secured to the under surface of the said rings and the filling, substantially as shown and described.

3. A head adapted for the reception of a grinding or polishing material, consisting of a series of spaced rings or bands, and a filling of plaster-of-paris introduced between the approaching surfaces of the said rings or bands, flush with their under surfaces, the whole surface of the said plaster-of-paris being provided with a water-proof coating, substantially as and for the purpose specified.

JOHN KLAR.

Witnesses:

W. H. WHITNEY,
A. E. WHEELER.