

L. CRANE.
 POLISHING HEAD.
 APPLICATION FILED FEB. 19, 1915.

1,141,616.

Patented June 1, 1915.

Fig. 1.

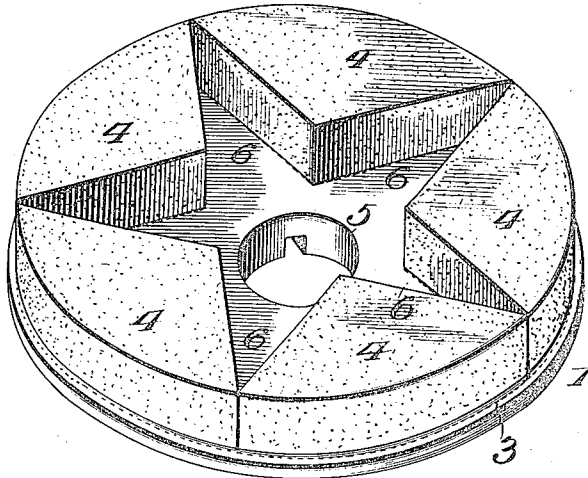


Fig. 2.

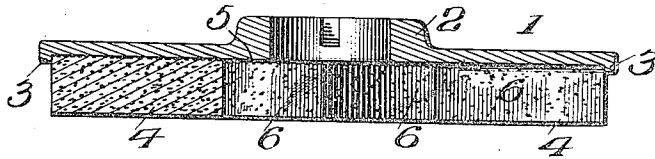
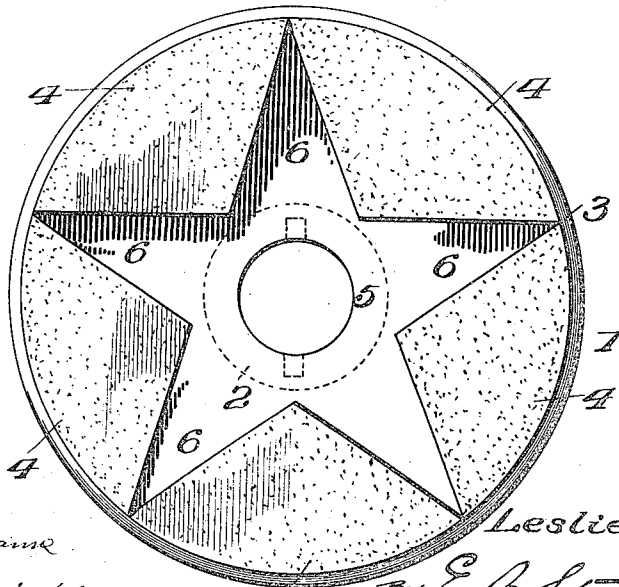


Fig. 3.



Inventor

Witnesses

W. A. Williams

and Dwight

Leslie Crane

By E. B. Stocking
 Attorney

UNITED STATES PATENT OFFICE.

LESLIE CRANE, OF RUTLAND, VERMONT, ASSIGNOR TO F. R. PATCH MFG. CO., OF RUTLAND, VERMONT, A CORPORATION OF VERMONT.

POLISHING-HEAD.

1,141,616.

Specification of Letters Patent.

Patented June 1, 1915.

Application filed February 19, 1915. Serial No. 9,280.

To all whom it may concern:

Be it known that I, LESLIE CRANE, a citizen of the United States, residing at Rutland, in the county of Rutland and State of Vermont, have invented certain new and useful Improvements in Polishing-Heads, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to certain new and useful improvements in polishing heads for stone polishing machines; the object of the invention being to provide a head formed of abrasive material having a central opening from which radiate chambers having converging walls into which the water fed to the head is placed under compression by centrifugal force so as to force the water under the abrasive material forming the head, thereby overcoming the difficulties now existing with polishing heads of this character in use by preventing the water from being thrown outwardly, whereby a lesser amount of water can be used and a better result is obtained.

Another object of my invention, is to provide a polishing head in which the abrasive material is provided with a substantially star-shaped opening, whereby the abrasive surface will be increased at the point of greatest linear velocity so that a uniform working surface is formed so that the abrasive surface will wear uniformly.

Another object of the invention is to provide a polishing head having a circumference of abrasive material with openings and chambers so formed by the assembling of a series of segments of abrasive material, that a very strong and durable polishing head is formed.

Another object of the invention is to provide a polishing head in which the water is allowed to circulate more freely than with constructions of head now in use, means being provided for causing the water to circulate under the abrasive blocks constituting the head, instead of being thrown outwardly beyond the periphery thereof.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings Figure 1, is an inverted perspective of my improved construction of

publishing head; Fig. 2, is a transverse vertical section through the head; and Fig. 3, is an inverted plan view.

Like numerals of reference refer to like parts in the several figures of the drawings.

In carrying out my improved invention, I employ a body portion 1 which is in the form of a circular disk which is provided with a central opening surrounded by a boss 2 forming means for connecting the usual supporting tubular spindle, not shown, by means of which, the body is rotated and through which the water is supplied to the head.

The body is provided with a peripheral depending flange 3 in which is arranged an abrasive head having a substantially star-shaped opening formed therein and in this instance, the head is formed of a series of segments 4 arranged upon the body portion and secured thereto by suitable cement such as shellac, so as to form a central chamber 5 from which radiate substantially V-shaped chambers 6 having converging walls so that the liquid fed to the head through the tubular spindle into the chamber 5 will be thrown outwardly by centrifugal force so as to compress the same within the substantially V-shaped chambers which causes the liquid to pass under the abrasive blocks 4 allowing a free passage of water from the center to the outside and at the same time preventing the water from being thrown outwardly beyond the periphery of the polishing head. It will be seen that these segmental abrasive blocks 4 are so arranged that their wearing portions are decreased where they are subjected to the least linear velocity so that a polishing head is formed having a larger abrasive surface at the point where it is subjected to the greatest linear velocity, whereby the life of the polishing head is greatly increased as the abrasive blocks wear uniformly.

In the operation of a polishing head as hereinbefore fully described, and the head is in the position shown in Fig. 2 and is lowered until it is in engagement with the surface to be polished by the rotation of the tubular spindle, not shown, through which liquid is supplied to the head, the central chamber 5 as well as the radial chambers 6 will at once be filled with water and as the head rotates, the liquid will be compressed within the radial chambers and as the same is pre-

vented from being thrown outwardly as the ends of these chambers are closed, it is forced under the side edges of the abrasive blocks so as to distribute the liquid evenly over the wearing surfaces thereof. It will also be seen that by preventing the liquid from being thrown outwardly by centrifugal force beyond the abrasive blocks, the polishing head can be operated with a lesser amount of water.

From the foregoing description, it will be seen that I have provided a polishing head in which the abrasive surface thereof is reduced at a point where the same travels slower so as to cause the abrasive surface to wear uniformly; means being provided for distributing a liquid to the polishing surface.

I claim:

1. A polishing head, comprising a body having a series of abrasive blocks arranged thereon to form a substantially star-shaped opening between the series of said blocks.
2. A polishing head, comprising a body having a central opening, a series of segmental abrasive blocks having contacting

portions arranged upon said body to form radial chambers having converging walls.

3. A polishing head, comprising a body portion having means for supporting the same upon a tubular spindle and provided with a peripheral flange, a series of abrasive segments secured upon said body having contacting portions adjacent said flange forming a central opening, and radial chambers having converging walls.

4. A polishing head, comprising a circular body provided with a peripheral depending flange and a central opening, a series of abrasive blocks having two straight edges, and a curved edge arranged on said body with the curved edge in contact with the flange of said body, the outer corners of said blocks being in contact with one another, said blocks forming radial chambers having converging walls.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

LESLIE CRANE.

Witnesses:

GRACE I. TRUE,
GEO. C. COBB.