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J. F. STOLL.

HEAD FOR SURFACING MACHINES.

APPLICATION FILED OCT. 23, 1907.

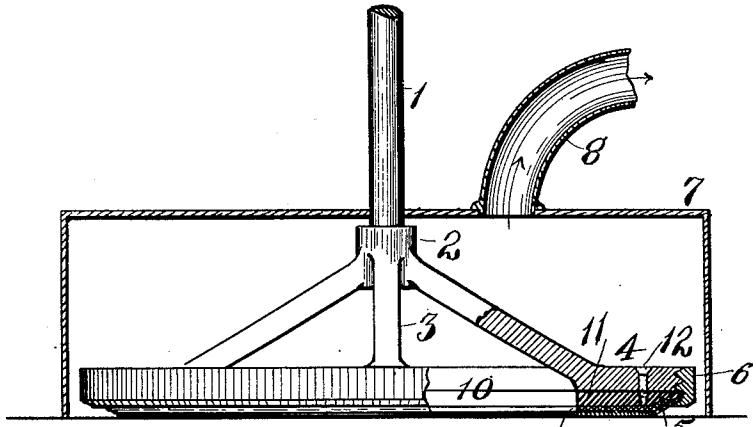


Fig. 1

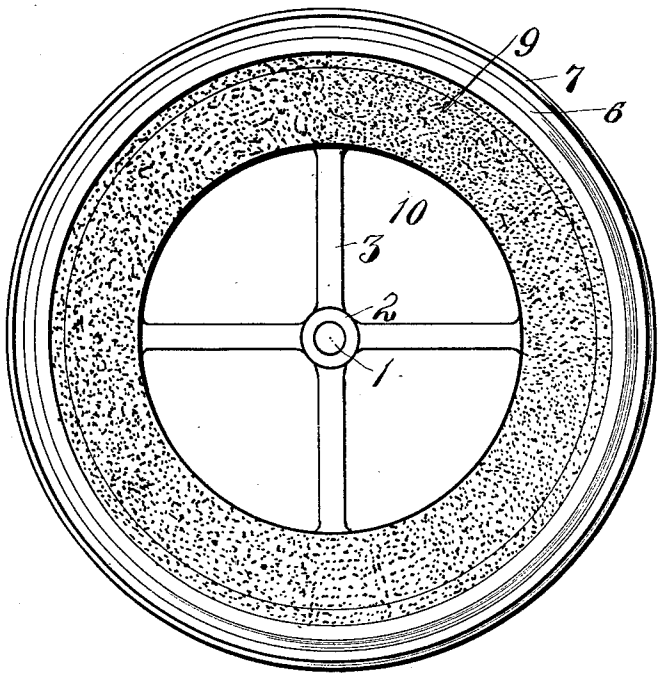


Fig. 2.

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UNITED STATES PATENT OFFICE.

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HEAD FOR SURFACING-MACHINES.

No. 883,920. Specification of Letters Patent. Patented April 7, 1908.

Application filed October 23, 1907. Serial No. 398,782.

To all whom it may concern:

Be it known that I, JOHN F. STOLL, a citizen of the United States, residing at Cuyahoga Falls, in the county of Summit and State of Ohio, have invented new and useful Improvements in Heads for Surfacing-Machines, of which the following is a specification.

This invention relates to heads for surfacing machines and especially those designed to be used on floors, bowling-alleys and the like, and the object thereof is to provide an improved head especially designed to carry sand or carborundum paper as the abrasive agent and having means by which the dust or particles due to the attrition of the abrasive agent may be constantly carried away to prevent its clogging and being filled, which in a short time would impair its action and render it inoperative.

Broadly speaking, the invention contemplates providing a head for surfacing machines having an annular member on which is held a ring of sand or carborundum paper and provided with means to draw the dust from and around the exterior of the ring of sand or carborundum paper as well as from the central opening therein.

Other advantages constituting objects of this invention will more fully appear in the subjoined description.

A practical embodiment of this invention is illustrated in the accompanying drawings in which similar reference numerals indicate like parts in the different figures.

Figure 1 is a side elevation with portions thereof in section to better illustrate the construction thereof; and, Fig. 2 is a bottom plan of the same.

Referring specifically to the drawings, the reference numeral 1 denotes a rotatable shaft adapted to be carried by the surfacing machine and revolved at high speed by any motive power carried thereby.

Fixedly secured to the lower end of the shaft 1 is a hub 2 from which extend arms 3 preferably inclined at an angle and having formed integral therewith an annulus 4. This annulus 4 has a flat under surface to which is secured a similarly constructed member 11 preferably made of wood or its equivalent and held fixedly in position by means of hold-fast devices 12. The under face of the wooden member 11 is approximately flat from which extends a beveled edge 5. The annulus 4 is provided with a threaded outer periphery arranged to receive an internally-threaded annularly-formed clamping member 6 provided with an inclined portion to engage the beveled edge 5 of the member 11. Secured to the under faces of the wooden member 11 preferably by means of an adhesive material is a layer of non-heating substance such a asbestos 13 for a purpose to be stated.

Surrounding the entire device and fitting closely to the shaft 1 is an irrevoluble hood 7 adapted to be carried with the head by being attached, if desired, to the frame of the surfacing machine, so that at all times it incloses the head and a part of the shaft 1. This hood 7 is provided with an off-take pipe 8 connected with a suitable exhaust means such as a fan (not shown) by which the dust laden air within the head is carried off to some suitable receptacle. In setting up a device such as is shown in the drawings, the clamping member 6 is unscrewed from the annulus 4 and a ring of sand or carborundum paper or other suitable abrasive material 9 is placed on the under surface of the member 11 and the outer edge thereof is lapped over the beveled edge 5. The clamping member 6 is then secured in place, its lower inwardly-inclined surface clamping the abrasive agent securely against the beveled edge 5, thereby holding the same fixedly in position. Motion is then communicated to the shaft 1 which rapidly revolves the abrasive agent over the surface which it is adapted to finish and the dust thrown off into the hood is carried away by means of a suitable exhaust agent through the off-take pipe 8. Of course, in practice, the surfacing machine will be provided, if desired, with a suitable means to propel it over the floor or like surface which the device is adapted to operate on, so that all portions thereof are treated alike by the operation of this head. It will be noted that the dust driven outward by the centrifugal action of the ring of abrasive material 9 will be forced upward around and outside of the clamping member 9 and from thence to the off-take pipe 8, and also any dust which accumulates in the space 10 inclosed by the annulus 4 will escape to the pipe 8 by reason of the annular formation of the head. The obstruction offered to the passage of dust upward by the spokes 3 is so insignificant as to be unimportant.

In practice, it is common to place a plurality of layers of abrasive material in posi-

tion at one time, and as rapidly as one becomes clogged or inoperative, it is torn loose and the next succeeding layer under it is utilized, thus avoiding the necessity of removing the clamping member 9 each time a piece becomes worn, thereby increasing the effectiveness and speed of the entire device.

Experience has demonstrated that if the abrasive material is placed in immediate contact with the metallic annulus 4, the heat generated by the rapid motion of the device is so great as to be communicated to the shaft 1 and from thence upward to the bearing in which it runs which rapidly impairs the action thereof. In order to eliminate this trouble the wooden member 11 is placed beneath the annulus 4 and the under surfaces of the wooden member 11 are covered with a sheet of heat-resisting material such as asbestos which tends to keep the metallic portions of the device cool, thereby permitting the machine to run a longer period and at a higher speed than would be possible if the abrasive material was placed immediately on the metal surface of the annulus 4.

It will be seen from the foregoing that the member which holds the abrasive material is really a composite member composed of a metallic backing to insure sufficient strength and rigidity on which is secured a wooden member covered with asbestos for preventing the transmission of heat from the abrasive material to the metallic member, thus providing the abrasive material with a heat insulating device.

What I claim and desire to secure by Letters Patent, is:—

A head for surfacing machines comprising a rotatable shaft, a hub mounted thereon provided with a plurality of arms, an annular member on the end of said arms, said member being provided with a threaded periphery and a beveled portion extending from said threaded portion to the face of said member, a strip of heat-resisting material on the face of said member, a piece of abrasive material covering said heat-resisting material, and a clamping element for securing said heat-resisting and abrasive material to said annular member.

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

JOHN F. STOLL.

Witnesses:
C. E. HUMPHREY,
GLENARA FOX.