

No. 791,237.

PATENTED MAY 30, 1905.

W. C. AVERILL.
ATTACHMENT FOR SURFACING MACHINES.
APPLICATION FILED AUG. 9, 1904.

Fig. 1.

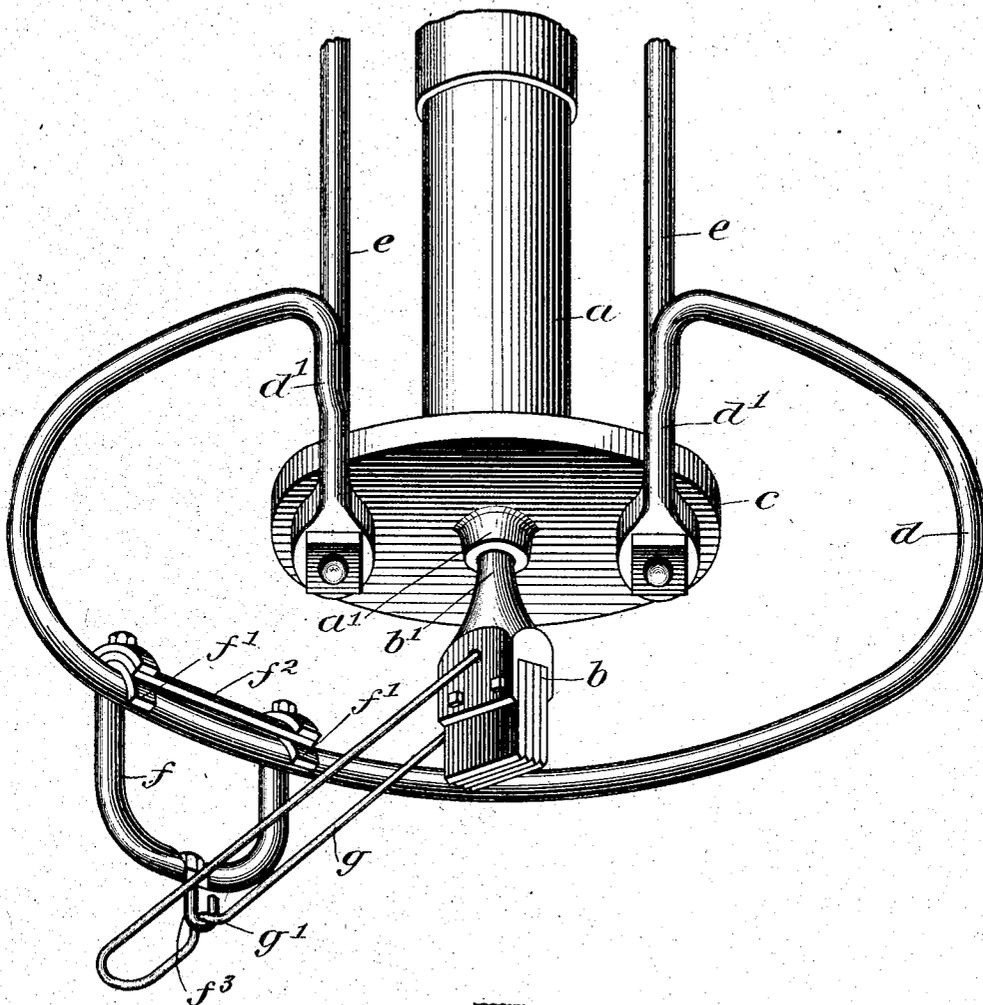
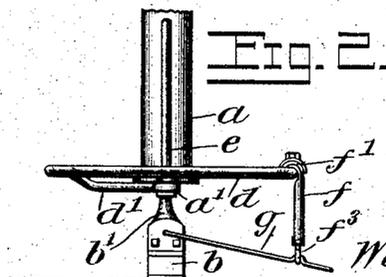


Fig. 2.



WITNESSES:

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WARREN C. AVERILL, OF FRANKFORT, MAINE.

ATTACHMENT FOR SURFACING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 791,237, dated May 30, 1905.

Application filed August 9, 1904. Serial No. 220,087.

To all whom it may concern:

Be it known that I, WARREN C. AVERILL, a citizen of the United States, and a resident of Frankfort, in the county of Waldo and State of Maine, have invented a new and Improved Attachment for Surfacing-Machines, of which the following is a full, clear, and exact description.

The invention relates to means for manipulating the tool on a stone-surfacing or equivalent machine.

The special object of the invention is to enable the tool to be guided so as to strike the stone exactly on the desired spot and also to be turned so as to dispose the edge of the tool, and consequently the cut thereof, in any desired position with respect to the edges of the stone. I attain this object by providing a peculiar guide connected with a shiftable part of the finishing-machine, this part movably carrying the tool. On the guide is arranged a handle, by means of which said part of the finishing-machine may be shifted through the medium of the guide, and said handle has a connection directly with the tool, thereby enabling movement of the handle independently of the guide to impart to the tool an independent movement.

The invention resides in certain novel features of construction and relative arrangement of elements, as will be fully set forth hereinafter, and particularly pointed out in the claims.

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

Figure 1 is a perspective view of the invention, showing, as an example, its application to a pneumatic finishing-machine, this view illustrating the cylinder of the machine, the tool, and its stem movable in the cylinder, as well as the guide, the handle, and the connection between the handle and the tool; and Fig. 2 is a reduced side elevation of the same parts, showing their positions relatively to the surface being operated upon.

a indicates the cylinder of the pneumatic surfacing-machine, and *b* the surfacing-tool. Said tool *b* has its stem *b'* serving as a piston-

rod, this rod passing through a stuffing-box *a'* at the lower end of the cylinder, by which means a reciprocating movement may be imparted to the tool, thereby causing it to strike the surface of the stone. According to the example of the invention here given the cylinder is mounted to swing, so that the position of the tool with reference to the stone may be changed, thus covering the entire surface of the latter.

At its lower end the cylinder *a* is provided with an annular flange or projection *c*, to which is fastened—for instance, by means of the tie-rods *e*—the above-referred-to guide. This guide comprises a circular main part or guide proper, *d*, extending concentrically around the cylinder and combined with the flange through the medium of arms *d'*, which, as here shown, extend slightly downward and thence inward to the flange. A handle is arranged to slide freely on the guide *d* and comprises a U-shaped main part *f* with hooks *f'* at the ends of its limbs, these hooks engaging the guide and having fastened thereto a resilient pad *f²*, which enables the handle to be grasped by the operator without subjecting the operator to the annoyance and injury occasioned by the constant vibration of the machine. At its lower or middle part the main part *f* has a depending hook *f³*, with which is connected the bend *g'* of an arm *g*, said arm being here shown as formed of a rod bent doubly and the end of this rod being preferably connected to the tool, as shown.

In the operation of the device the tool is reciprocally driven against the stone in the usual manner; and the cylinder *a*, with its attached parts, may be swung bodily over the stone, so that the tool will strike the point thereof, by the operator grasping the handle and swinging the cylinder through the medium of the guide. In addition to this the tool *d* may be turned axially, so as to expose the cuts of the tools in any desired position, this second effect being attained by sliding the handle on the eccentric guide *d*. It therefore follows that by means of my invention the operator may conveniently control the operation of the tool in any manner desired.

Various changes in the form, proportions, and minor details of my invention may be resorted to without departing from the spirit and scope thereof. I consider myself entitled to all such variations as may lie within the scope of my claims.

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

1. The combination with a shiftable part of a surfacing-machine and with a driven tool carried relatively movable thereby, of a circular guide in connection with said part of the surfacing-machine, a handle movable thereon, and a connection between the guide and the tool.

2. The combination with a shiftable part of a surfacing-machine and with a driven tool carried relatively movable thereby, of a circular guide in connection with said part of the surfacing-machine, a handle movable thereon, and an arm having pivotal connection with the handle and with the tool.

3. The combination with a shiftable part of a surfacing-machine and with a driven tool carried relatively movable thereby, of a guide in connection with the said part of the surfacing-machine, a handle having a cushion, the handle being movable on the guide, and a connection between the handle and the tool.

4. The combination with a shiftable part of a surfacing-machine and with a driven tool carried relatively movable thereby, a guide in connection with the said part of the surfacing-machine, a U-shaped handle having hooks movably engaged with the guide, a pad in connection with the handle for the purpose specified, and a connection between the handle and the tool.

5. The combination with the pneumatic cylinder of a surfacing-machine, and the tool carried and driven thereby, said tool being axially movable independently of said cylinder, of a guide in connection with the cylinder, a handle movable on the guide, and a connection between the handle and the tool.

6. In a surfacing-machine the combination with a reciprocal tool and means for mounting the same, said tool being capable of turning independently of said means, of a guide in connection with said means, a handle movable on the guide, and a connection between the handle and tool for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WARREN C. AVERILL.

Witnesses:

DARIUS K. DRAKE,
GEO. B. HUGHES.