G. W. RISDON & C. E. GALE.

STONE-POLISHING MACHINE.

No. 184,428. Patented Nov. 14, 1876.

Fig. 1.

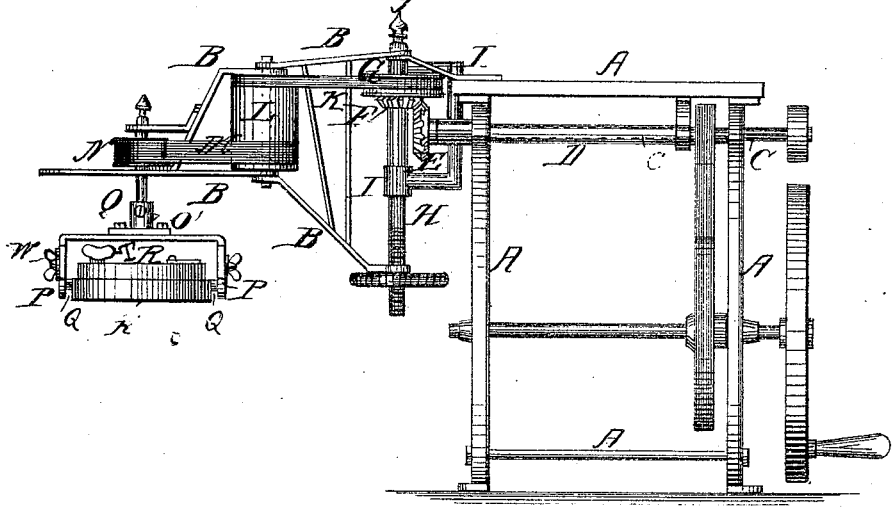


Fig. 2.

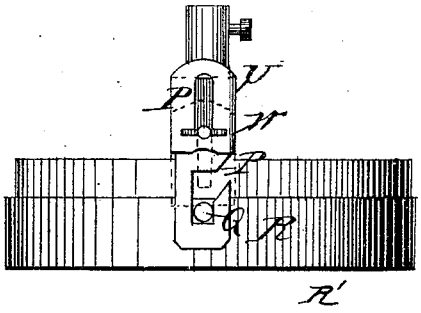


Fig. 3.

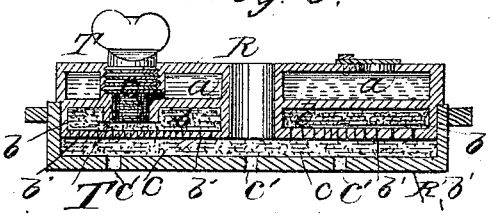


Fig. 4

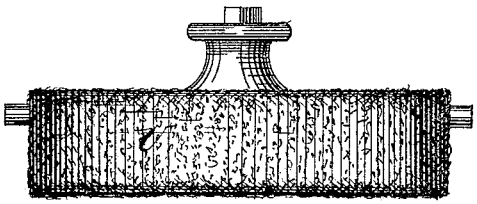
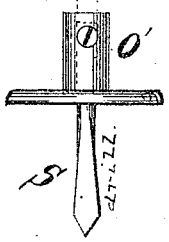


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE W. RISDON, OF SCHENECTADY, AND CHARLES E. GALE, OF AUBURN, NEW YORK.

IMPROVEMENT IN STONE-POLISHING MACHINES.

Specification forming part of Letters Patent No. **184,428**, dated November 14, 1876; application filed June 12, 1876.

To all whom it may concern:

Be it known that we, GEORGE W. RISDON, of Schenectady, in Schenectady county, and CHARLES E. GALE, of Auburn, Cayuga county, in the State of New York, have invented certain new and useful Improvements in Machines for Smoothing and Polishing Stone; and we hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

Our invention consists of a novel construction of yoke and its appurtenant devices, and the combination thereof with the rubber in a stone-polishing machine, all of which will be fully understood by the following description:

In the accompanying drawings, Figure 1 is a side view of a machine for smoothing and polishing stone, having our improvements. Figs. 2, 3, 4, and 5 are detached views.

The general arrangement of the frame A, flexible crane B, and the band-wheels, bands, pulleys, and the drum, &c., will be understood by reference to Fig. 1, and need not be described in detail.

The horizontal shaft C revolves in the sleeve-bearings D, and carries a bevel-gear wheel, E, which engages with, and transmits motion to, the gear-wheel F and pulley G, both of which turn loosely on the vertical shaft H, and are supported by the hanger or frame I. The band K transmits motion from the pulley G to the drum L, which, in turn, moves the band M, pulley N, and spindle O, as shown in Fig. 1. This spindle O has a socket, O′, Fig. 5, for the drill S, when desired; but the spindle is especially intended for operating the rubber R, which will soon be fully described. The rubber is attached to the spindle by means of the slotted yoke P, into which the journals Q of the rubber are inserted, as seen in Figs. 1 and 2.

The rubber, Figs. 2 and 3, is circular, and made in two pieces. It has three chambers: the upper one, *a*, being a water-reservoir; the middle one, *b*, a sand-box, and the lower one, *c*, being intended to supply the mixture of sand and water to the perforated face-plate R′ of the rubber.

The stopper or cork T bears loosely against a hole at the bottom of the reservoir, and thus allows the water to drip slowly into the sand-box, from which the mixture of water and sand passes through the perforations *b′* into the lowest chamber *c*; and, finally, the sand and water pass through the perforations *c′* to facilitate the scouring action of the rubber.

After the stone has been smoothed and polished as well as may be by means of the rubber R, the fine polisher V, Fig. 5, may be substituted for the rubber. This polisher consists of a thick piece of wood covered by woolen cloth or other suitable material, which is clamped in place by the clamping-washer, central screw bolt and nut, as seen in Fig. 5. Both the rubber R and this fine polisher V are set in rapid motion by means of the spindle O, pulley N, band M, and other devices already described.

As the rubber or fine polisher are operated they freely rise and fall by means of their journals, being in slots of the yoke P in connection with the slotted slides U and thumb-screws W, as seen in Fig. 2.

We do not make any claim to the general construction of the frame and the gearing for operating the flexible crane.

Having described our invention we claim—

1. The yoke P having vertical slots to permit the journal of the rubber R to rise and fall, and thus adapt the rubber to inclined or varying surfaces, as specified.

2. The slotted yoke P, provided with the slotted slides U, and thumb-screws W, in combination with the journaled rubber R, substantially as and for the purposes set forth.

In testimony that we jointly claim the above as our invention we hereunto sign our names as joint inventors in the presence of two subscribing witnesses.

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CHARLES E. GALE.

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