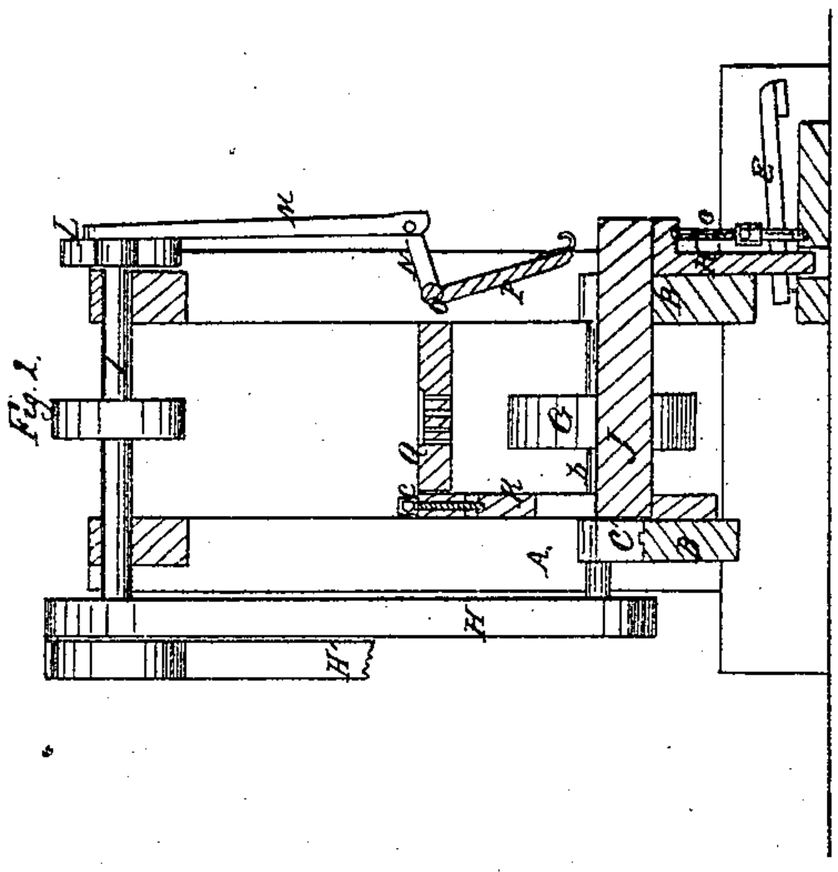
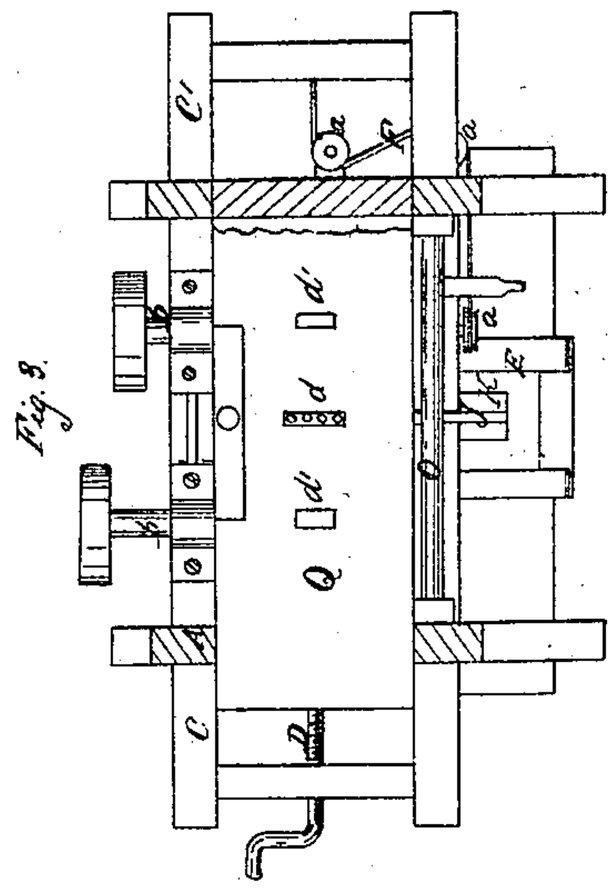
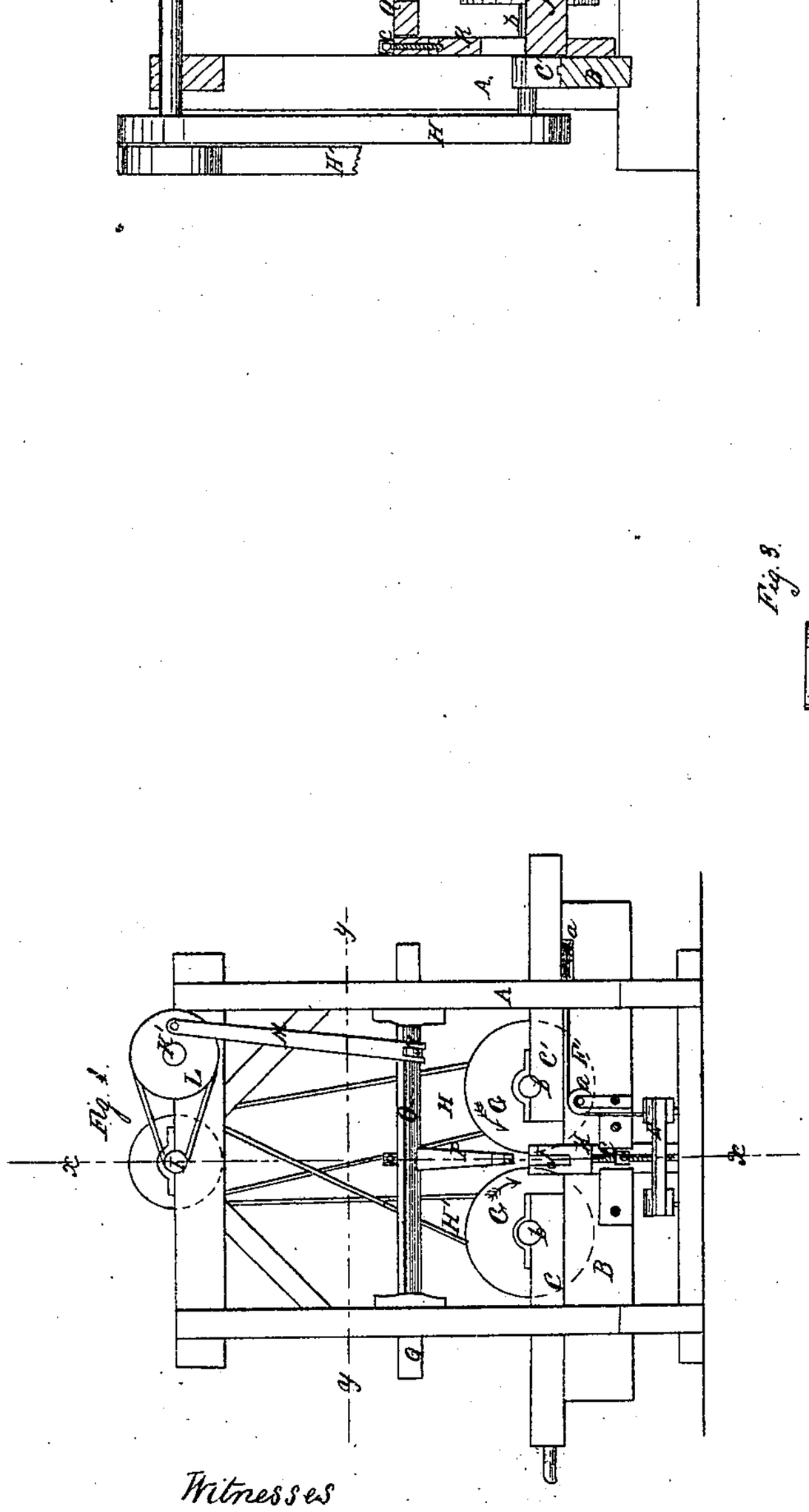
J. A. Whelpley.

Grinding & Polishing Metals.

No. 72951 Patented Dec. 31, 1867.







Witnesses

Wm. Keenan

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J. ALBERT WHELPLEY, OF GREENWICH, NEW BRUNSWICK.

Letters Patent No. 72,951, *dated December* 31, 1867.

IMPROVEMENT IN MACHINE FOR GRINDING AND POLISHING ARTICLES OF METAL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. ALBERT WHELPLEY, of Greenwich, in the Province of New Brunswick, have invented a new and improved Machine for Grinding and Polishing Metal Articles; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front elevation of my invention.

Figure 2, a transverse vertical section of the same, taken in the line *x x*, fig. 1.

Figure 3, a horizontal section of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved machine for grinding and polishing metal articles which have two finished sides of the same shape or form, as, for instance, skate-runners, razor and knife-blades, saws, &c.

The invention consists in the employment or use of two grindstones or polishing-wheels fitted in adjustable frames, and used in connection with a rest, and also, in certain cases, with a means for vibrating the article to be operated upon, all arranged in such a manner that metal articles may be ground and polished with much greater facility than heretofore, and the stones or polishing-wheels also kept much truer or made to wear in a more even manner than by the ordinary mode of grinding and polishing.

A represents a framing, which may be constructed in any proper manner, to support the working parts, and B B are two horizontal parallel ways, secured permanently in said framing, and having two adjustable or sliding frames C C′ fitted on them, one frame, C, being moved by a screw, D, or its equivalent, and the other, C′, by a foot-treadle, E, which is connected to C′ by a cord, F, passing around pulleys *a a a*, (see figs. 1 and 3.) In the frames C C′ there are placed, on suitable arbors *b b*, grindstones or polishing-wheels G G, a stone or wheel being in each frame, and both stones or wheels in the same plane. The stones or wheels are made to rotate in reverse directions by means of belts H H′ from a driving-shaft, I, on the top of the framing A, H′ being a cross-belt. J is a rest placed between the two stones or wheels G G, and having its ends fitted in uprights K K, which are adjusted by screws *c c*, as shown clearly in fig. 2. By this means the rest J may be raised or lowered, as required, the work or article to be ground or polished being placed on the rest, and consequently raised or lowered, as circumstances may require. K′ is a shaft placed on the framing A, parallel with shaft I, and having a crank-wheel, L, at one end of it. M is a pitman, which connects the crank-wheel L with an arm, N, projecting from a shaft, O, which is fitted in the framing A, at right angles with the arbors of the grindstones or polishing-wheels, said shaft O having a pendant, P, attached to it, to the lower end of which one end of the article is secured by any suitable fastening.

The operation is as follows: The article to be ground or polished is fitted on the rest J, and connected at one end to the pendant P. Motion is given the driving-shaft I by any convenient power, the grindstones or wheels being rotated in the direction indicated by the arrows shown in fig. 1. One stone or wheel, G, is pressed against the article by the operator, who actuates for that purpose the treadle E, and thereby moves the frame C′, which contains said stone or wheel, the stone or wheel G, in the other frame C, being only adjusted from time to time to suit the thickness of the article to be operated upon. By this arrangement it will be seen that the article to be ground or polished will be effectually acted upon by the two stones or wheels G G, and while thus acted upon, it has a reciprocating motion imparted to it in consequence of being connected by the pendant P to the rock-shaft O, the latter being operated from the shaft K by means of the crank-wheel L and pitman M.

In certain cases the article to be ground or polished may be operated or drawn back and forth between the stones or wheels by hand instead of by the mechanism described, but the latter would be preferable.

The parts, as above arranged, are adapted for polishing articles having slightly concave sides, such, for instance, as skate-runners, razor-blades, &c., &c. In grinding and polishing articles, the sides of which are planes, the former are passed between the stones or wheels in a direction transversely with their arbors *b*, the parts being arranged with a view to that end. In the framing A there is placed a horizontal board, Q, having three holes, *d d′ d′*, made in it, the central one, *d*, being for the purpose of dropping water through between the stones, and the others, *d′ d′*, for passing bars through to turn off the stones when they require it.

By this simple device, articles may be ground or polished at both sides simultaneously, and in a far more perfect manner than can be done by placing the article by hand against a single stone. The stones or wheels will also wear evenly, and will consequently not require to be turned off very frequently, and the operator or attendant will not be annoyed by water being thrown upon him from the stones, as is now the case.

I claim as new, and desire to secure by Letters Patent—

The combination of the two grindstones or polishing-wheels G G, rest J, rock-shaft O, and arm P, arranged and constructed as and for the purposes described.

J. ALBERT WHELPLEY.

Witnesses:

M. AHEARNESS,

WM. TREURIR.