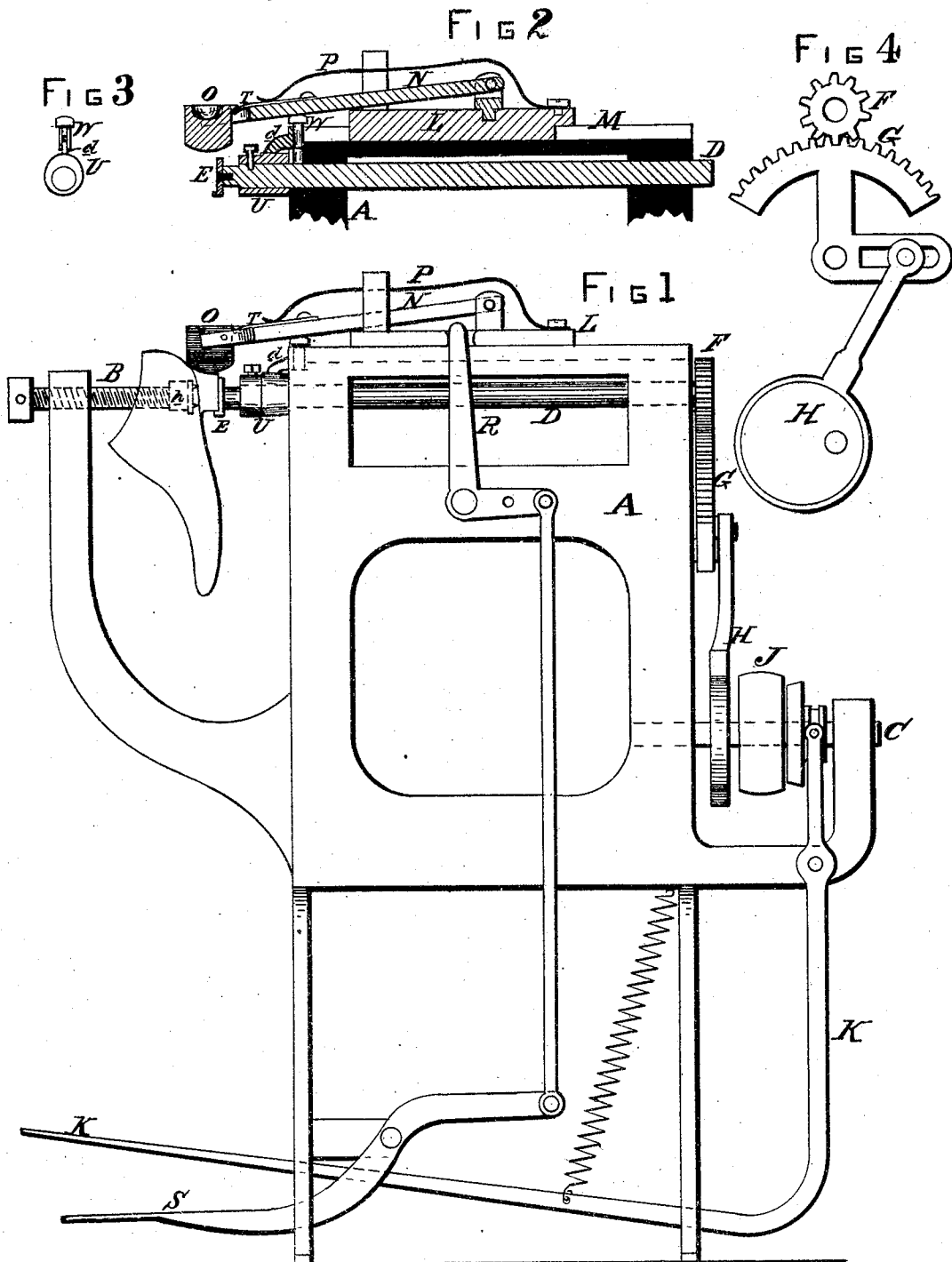


A. C. M^cKNIGHT.

Machine for Polishing Boot and Shoe Heels.

No. 123,785.

Patented Feb. 20, 1872.



Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER C. MCKNIGHT, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN MACHINES FOR BURNISHING BOOT AND SHOE HEELS.

Specification forming part of Letters Patent No. 123,785, dated February 20, 1872.

Specification describing certain Improvements in Machines for Polishing Boot and Shoe Heels, invented by ALEXANDER C. MCKNIGHT, of the city and county of Philadelphia and State of Pennsylvania.

The first part of my invention relates to the arrangement of the framing of the machine, and of the mechanism for producing a vibrating motion of the boot or shoe to bring the whole edge of the heel under the action of a stationary polisher. The second part of my invention relates to the construction and arrangement of the slide and lever carrying the polisher, and also the arrangement of a spring for retaining it in close contact with the heel, and of a lever and treadle for producing a rectilinear motion of the slide in order to project the polisher a variable distance, according to the height of the heel. This part of my invention, also, relates to the method adopted for attaching the polisher to the lever, which consists in suspending it on a pivot and applying a spring in such a manner as to permit it to vibrate sufficiently to accommodate itself to the pitch of the heel. The latter part of my invention relates to the application of a cam to the oscillating shaft carrying the boot or shoe, which operates an upright rod in such a manner as to gradually raise the polisher and equalize the pressure at all points on the edge of the heel.

Figure 1 is a side elevation of my improvements in machine for polishing boot and shoe heels. Fig. 2 is a sectional view of the upper portion of the same. Fig. 3 is an end view of the cam and lifting-rod. Fig. 4 is a side view of the mechanism for transmitting motion to the shaft carrying the boot or shoe.

A is the frame of the machine, which is provided with two projections for supporting a screw-clamping device, B, and the outer end of the driving-shaft C. D is the shaft which communicates a rocking motion to the boot or shoe, and is provided at one end with a plate, E, to receive the heel, and at the opposite end with a pinion, F. This shaft receives an oscillating movement from a segmental gear, G, actuated by an eccentric, H, on the driving-

shaft, as shown at Fig. 4 in the drawing. J is the driving-pulley, which is loose on the shaft and has fitted to it a frictional clutch, which slides upon a key fixed on the shaft, and is provided with a lever and treadle, K, for throwing it in and out of gear. L is a slide placed on the upper part of the machine, on the lower side of which is formed a rectangular-shaped projection, which is fitted to and works in a groove, M, made in the frame. N is a lever, which is attached to the slide, and has its outer end made in the form of a yoke, in which is pivoted a polisher, O. P is a spring secured to the slide L, with one end extended out and resting upon the upper edge of the lever, and is of proper elasticity to press the polisher continually down on the heel. The lever R, which moves the slide and projects the polisher the required distance, is operated by the treadle S. T is a spring secured to the lever N, and has its front end passed under a small offset formed on the upper part of the polisher, the object of which is to permit a slight vibration of the polisher in order that the lower edge of it may assume a position suitable to the pitch of the heel. U is an elliptical-shaped cam secured on the shaft D. W is a lifting-rod fitted to a circular groove in the frame, and provided at its lower end with a projection, *d*, which rests upon the cam U. This cam imparts a vertical movement to the rod, and is so fixed on the shaft that the highest point or elevation of it coincides with the highest part of the heel. By this means the lever N and spring P are gradually pressed upward, thus equalizing the pressure of the polisher and avoiding the possibility of spreading or opening the lifts of the heel which would otherwise occur should the pressure be the greatest at the highest point. B is a screw-clamp, which retains the heel of the boot or shoe upon the plate E, the head *h* of which is loose and rotates with the boot or shoe, and is provided with spurs for retaining it in position.

I claim as my invention—

1. In combination with the frame A the shaft C, pulley and frictional clutch J, lever K, eccentric H, segmental gear G, shaft D,

pinion F, heel-plate E, and screw-clamping device B, substantially as and for the purpose specified.

2. The combination of the slide L, lever N, polisher O, springs P and T, lever R, and treadle S, substantially as and for the purpose described.

3. In combination with the lever N and pol-

isher O the cam U, shaft D, and lifting-rod W, substantially as and for the purpose described.

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Witnesses:

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