

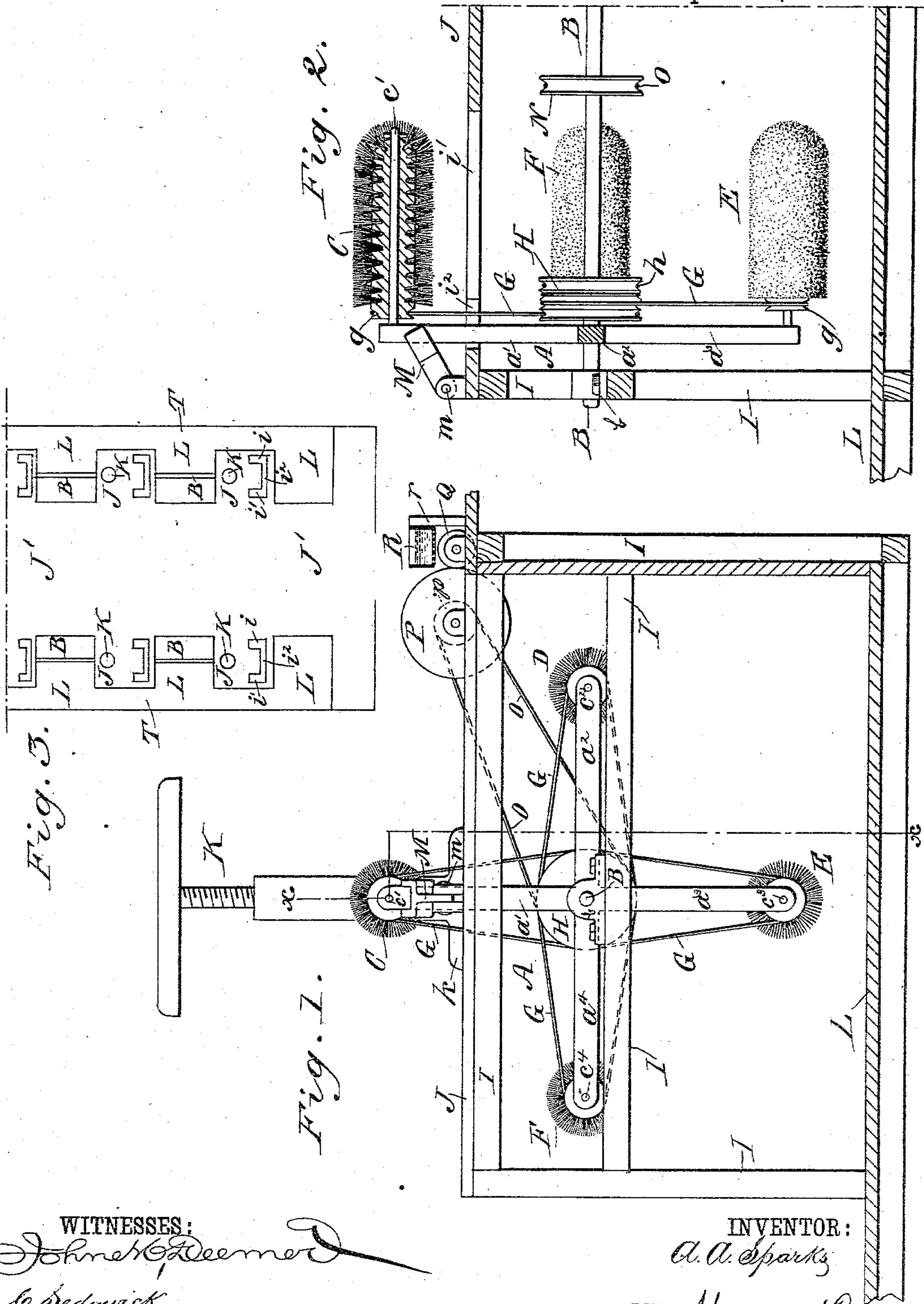
(No Model.)

A. A. SPARKS.

BOOT OR SHOE POLISHING MACHINE.

No. 305,856.

Patented Sept. 30, 1884.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

ARTHUR ALEXANDER SPARKS, OF TRENTON, NEW JERSEY.

## BOOT OR SHOE POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 305,856, dated September 30, 1884.

Application filed July 14, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR A. SPARKS, of Trenton, in the county of Mercer and State of New Jersey, have invented a new and Improved Boot or Shoe Polishing Machine, of which the following is a full, clear, and exact description.

My invention relates to machines or apparatus more particularly intended for cleaning and polishing boots and shoes, but applicable for polishing or finishing other work, the object of the invention being to provide a simple and inexpensive apparatus, which may easily be handled, and will work quickly and effectively.

The invention consists in a frame mounted loosely on a shaft and carrying a series of revolving brushes, which may be swung around to the work by turning the frame in vertical plane. The brushes are revolved by belts leading from a fixed pulley on the shaft, which connects also by pulley and belt with a feeding roller or device which supplies the polishing material, and is mounted at one side of the frame, and against which feed device one of the brushes, which moves through a larger circle than the others, is adapted to be pressed for transferring the polishing material to it.

The invention consists, also, in particular constructions and combinations of parts of the apparatus, including a lock device for the brush-frame, and an arrangement of the frame and its brushes with upper and lower floors to support the work and operator, respectively, all as hereinafter fully described and claimed.

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

Figure 1 is a front elevation of my improved polishing-machine with parts of the surrounding frame in section. Fig. 2 is a sectional side elevation taken on the line  $x x$ , Fig. 1, and Fig. 3 is a diagram view illustrating the arrangement of a number of the machines in two rows.

The letter A indicates the brush-carrying frame, which consists of a pair of bars connected rigidly at the center and mounted loosely thereat on the driving-shaft B, so that

the frame may freely be swung around by hand either way on the shaft. The four arms  $a' a^2 a^3 a^4$  of the frame A carry fixedly at their outer ends the shafts or rods  $c' c^2 c^3 c^4$ , respectively, on which shafts are loosely mounted the brushes C D E F, respectively. The brush C is for removing the dirt, dust, or mud from the boots or shoes. The brush D or dauber applies the liquid blacking or polishing material, and the brushes E F are intended to give the final polish to the boots or shoes or other work. Each of the brushes has a belt-groove,  $g$ , formed in it or a pulley fixed to it at its end next the frame to receive a driving-belt, G, and each belt passes into a groove,  $h$ , in the face of a pulley, H, which is fixed to the shaft B, so that all the brushes will rapidly be rotated from the same driving-shaft. The driving-shaft B is journaled in suitable boxes,  $b$ , fitted to cross-bars of a frame, I, which supports the floor J on which the revolving and tilting stool or seat K is placed directly behind the uppermost brush of the frame A, which swings up and down through openings  $i i'$  in the floor J, while the brush-arm and belt pass through the transverse opening  $i''$  connecting the openings  $i i'$ . Any one of the brushes on the frame A may be swung up from either side above the floor J a sufficient distance to pass the boot or shoe to be polished below and around the brush, and while the boot or shoe is on the foot of a customer seated on the stool K, which is held firmly to the floor J by its base  $k$ . I arrange the floor J a suitable distance above a lower floor, L—say about three feet—so that an operator standing on floor L in front of the brush-frame A may conveniently turn the frame to bring the desired brush uppermost, and may hold the boot or shoe of a person firmly to the brushes. A forked bar, M, pivoted to the floor J at  $m$ , may be swung over to engage each side of the uppermost brush-arm to hold its brush firmly against the thrusts or pressure on it.

N is a pulley fixed on the shaft B, and a belt, O, passes from the pulley N to a pulley,  $p$ , on a roller, P, suitably journaled so as to revolve with its face or periphery against the face of a journaled roller, Q, onto which the liquid blacking drops from a box or trough,



R, supported by a post, *r*, above the roller Q, and having a perforated bottom, as shown. The arms of the frame A, which carry the brushes C E F are shorter than the arm *a*<sup>2</sup>, which carries the dauber-brush D, and so that the brush D alone will come in contact with the roller P, and so that the blacking, which is distributed evenly on the roller P by the feed-roller Q may be applied to the dauber-brush D by holding the latter against the roller P a longer or shorter time, depending on the amount of blacking it is desired to transfer to the brush, as the work may require.

In operating the machine, the person whose boots or shoes are to be polished will seat himself on the stool K, facing the operator, who stands below on the floor L. The operator first swings the brush C uppermost and locks it in place by engaging the catch-bar M with the brush-arm. He then takes the person's foot, with the shoe on it, and passes the shoe around and against the brush to remove the dirt from every part of the shoe. The catch-bar M now is thrown back and the brush D is brought against the roller P to receive the blacking, and then is swung up and secured by the catch-bar M. The blacking is now applied to the shoe by passing the shoe against the brush D, whereupon the catch-bar M again is thrown back and the frame A turned to carry the brushes E F in turn uppermost, where they are held by the catch-bar while the operator holds the shoe against them to give it the final polish. Either one of the brushes E F may be used to apply oil to the shoes for giving them an oil-polish, as will be readily understood. It is evident that boots or shoes may thus expeditiously and thoroughly be cleaned and polished without removing them from the foot. The machine is of course adapted for cleaning boots or shoes when removed from the foot, and the machine also is not restricted in its uses to the polishing of boots or shoes alone, but may be employed in a large variety of work where a finish may be given to any goods by the successive action of a series of revolving brushes or finishing-heads, and the number of brushes may vary with the work required of them.

The diagram Fig. 3 shows an arrangement for a series of polishing-machines in two parallel rows, each row being driven by a continuous shaft, B, astride of which the operators may stand on the lower floor, L, or they may sit on a seat or saddle over the shaft, while the customers will be seated on the stools K, fixed to the upper floor-sections, J, which are but extensions of the main floor J' of the room. I propose to provide a continuous passage-way, T, along the lower floor, L, for the convenience of the operators in passing to and from their respective polishing-machines. Any desired number of the machines may thus be set up in single or double row, and may be driven from one shaft for each row, thus economizing space and motive power, and lessening the expense

of fitting up the machines, and also avoiding delay of the customers by one waiting for the other.

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

1. A polishing-machine consisting, essentially, of a revolving frame provided with a series of fixed shafts near its outer edge or ends, brushes mounted loosely thereon, and a driving-shaft adapted to rotate the brushes, but not the frame, substantially as set forth.

2. A polishing-machine constructed with a frame, A, carrying a series of revolving brushes arranged at right angles on the frame, which is mounted loosely on a shaft, B, a driving-pulley, H, fixed on the shaft, and belts G, connecting the pulley H with the brushes for revolving them, whereby when shaft B revolves it will, through the belting, cause the revolution of the brushes, but will not rotate the frame A, which is capable of independent movement on the shaft, substantially as shown and described.

3. The combination, with the frame A, placed loosely on the shaft B, and carrying a series of revolving brushes, as specified, of the catch-bar M, adapted to lock the brushes in operative position, substantially as herein shown and described.

4. In a polishing-machine, the frame A, carrying a series of revolving brushes, and one of said brushes being arranged to swing in a larger circle than the others to carry it into contact with a roller or device which supplies the polishing material, substantially as shown and described.

5. The combination, with the frame A, carrying a series of revolving brushes, and mounted loosely on the shaft B, and means for revolving the brushes, one of which brushes swings in a larger circle than the others, of the revolving roller P, on which the polishing material is distributed, substantially as shown and described.

6. The combination, with the brush-frame A, having one of its brushes adjusted to swing in a larger circle than the others, as specified, of the polishing-material-feeding device, consisting of a reservoir, R, and rollers Q P, and means for revolving the roller P, substantially as shown and described.

7. The combination, in a polishing-machine, of a frame, A, carrying a series of revolving brushes, and mounted loosely on the driving-shaft B, a fixed pulley, H, on the shaft, and belts leading therefrom to the brushes, a roller, B, mounted to revolve with its periphery in the path of one of the brushes, and the pulley N, fixed on the shaft B and belted to the feed-roller P, all constructed and arranged to operate substantially as herein shown and described.

8. The combination, with the upper and lower floors, J L, the former being provided with openings, of the shaft B, mounted between the floors, frame A, loosely mounted on



said shaft, and capable of extending above the floor J, brushes mounted to revolve on said frame and to be carried above the floor J, and pulleys and belting or analogous means  
5 for revolving the brushes from the driving-shaft, whereby the operator may work the machine from between the floors to bring the

revolving brushes to the foot of a customer above or on the floor J, substantially as set forth.

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Witnesses:

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