

(No Model.)

2 Sheets—Sheet 1.

W. J. HEFFERNAN.  
BURNISHING MACHINE.

No. 294,129.

Patented Feb. 26, 1884.

Fig: 1.

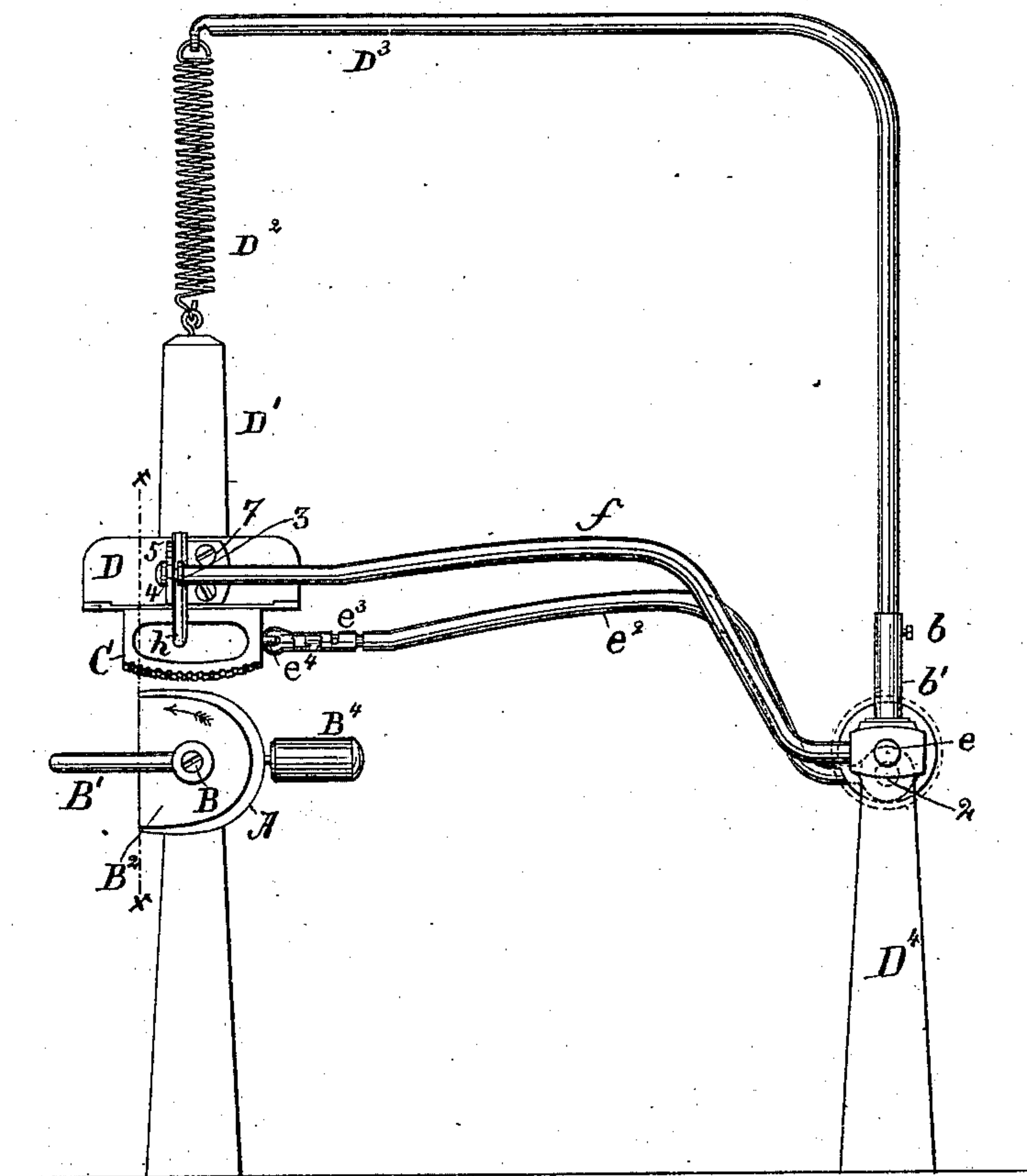
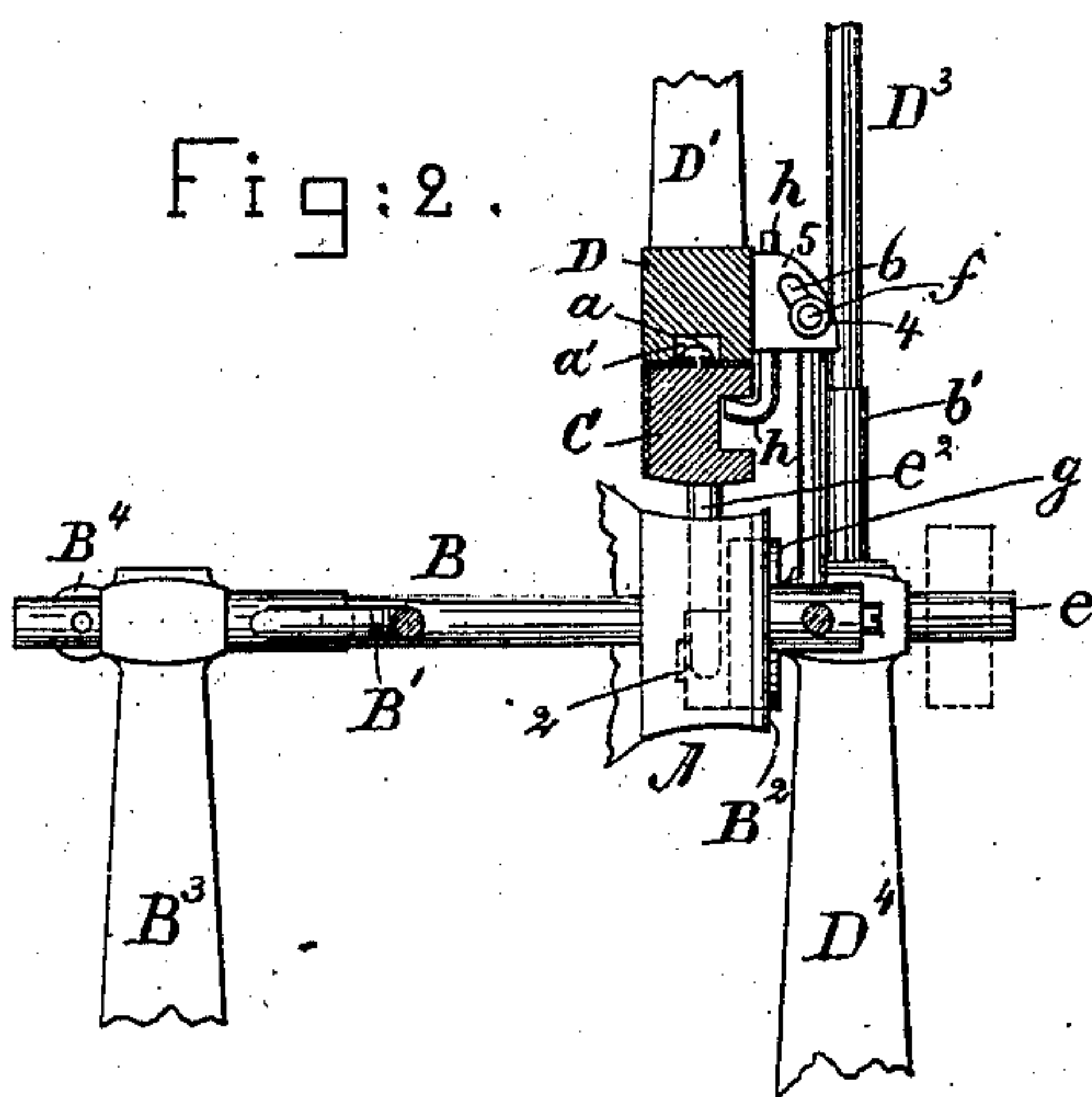


Fig: 2.



Witnesses.

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Inventor.

*William J. Heffernan*

*by Crosby & Gregory attys.*

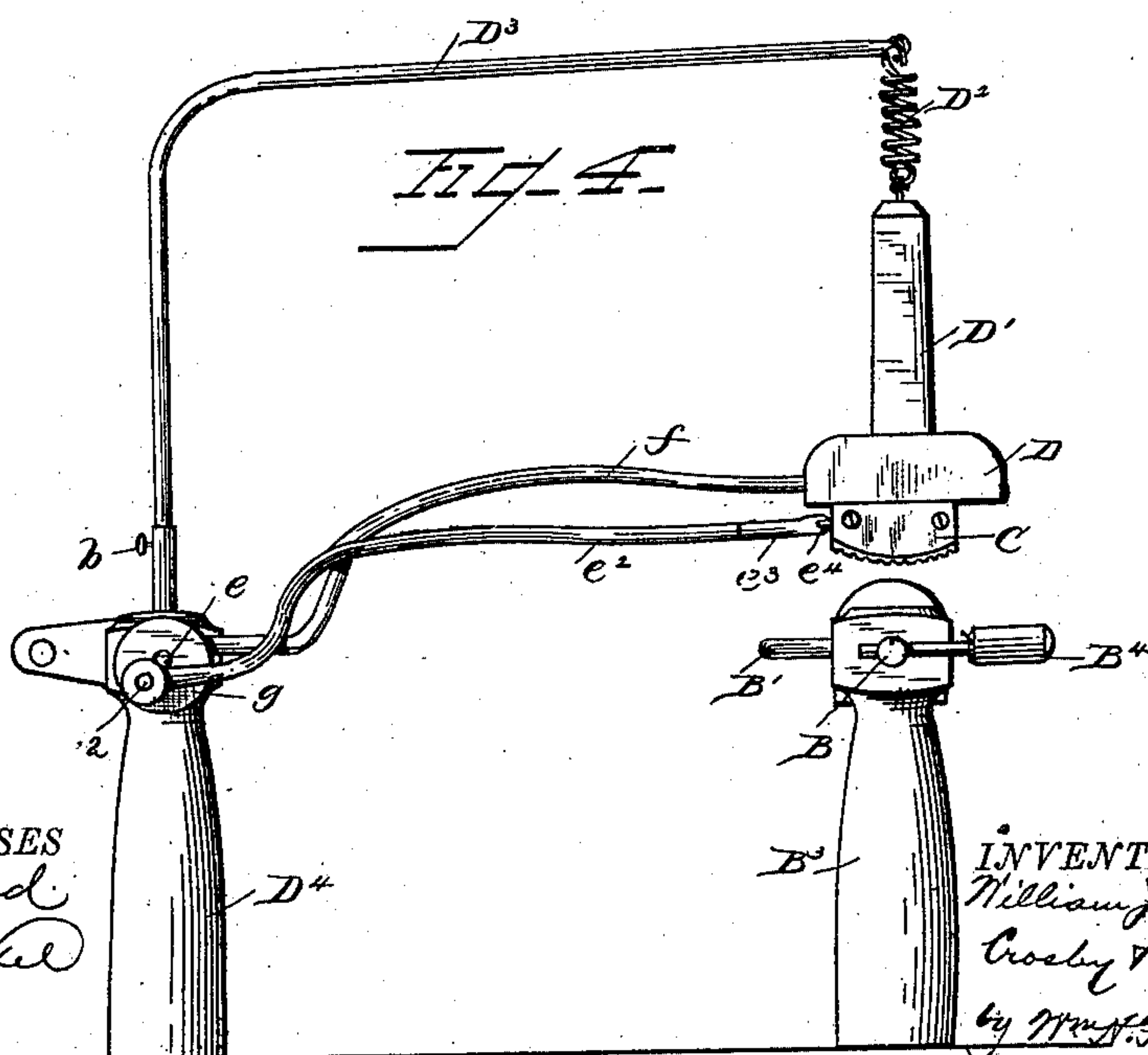
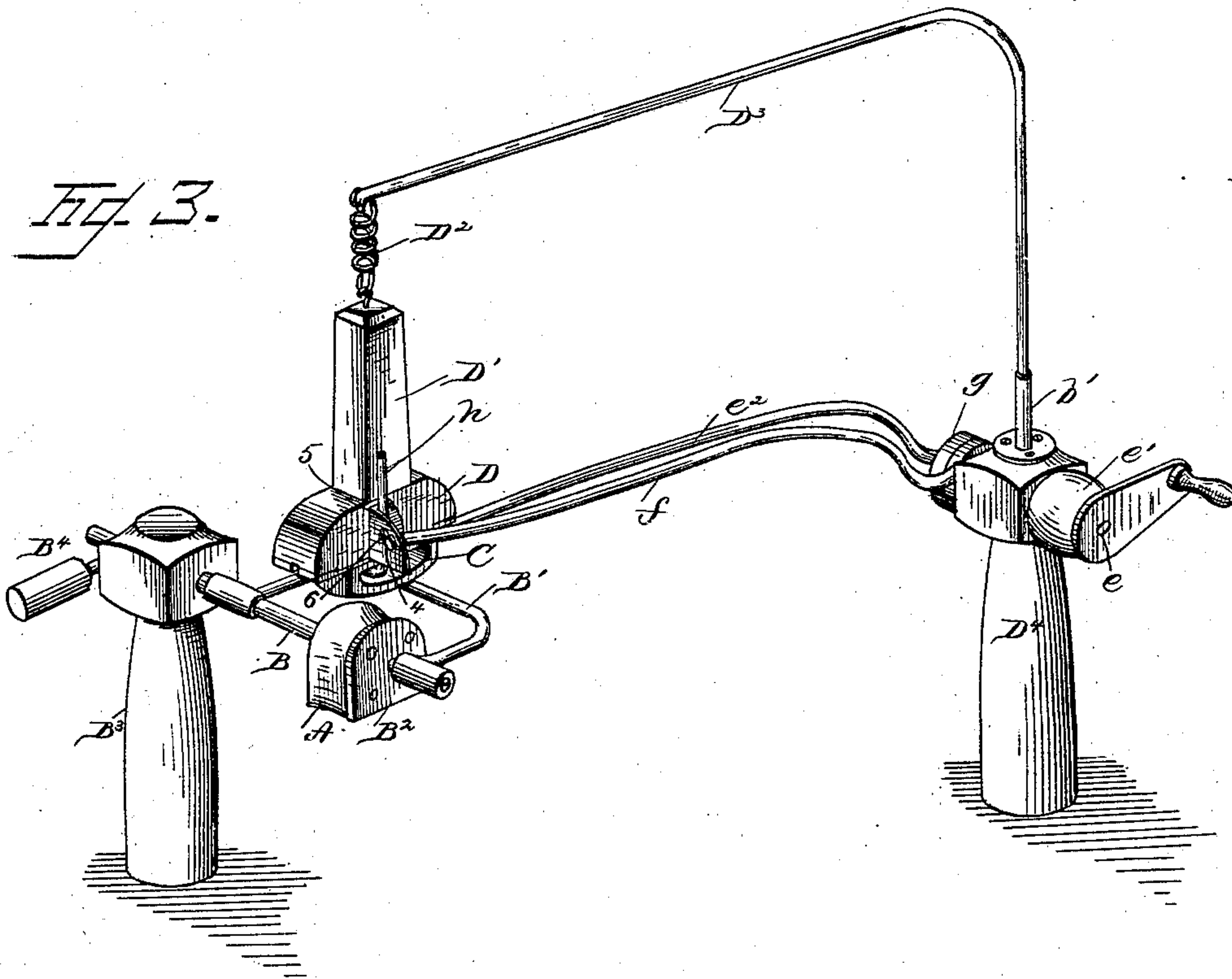
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2 Sheets—Sheet 2.

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WITNESSES  
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Crosby & Gregory,  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. HEFFERNAN, OF LYNN, MASSACHUSETTS, ASSIGNOR TO  
THEODORE A. DODGE, TRUSTEE.

## BURNISHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 294,129, dated February 26, 1884.

Application filed August 13, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. HEFFERNAN, of Lynn, in the county of Essex and State of Massachusetts, have invented an Improvement in Burnishing-Machines for Boots and Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 The invention in burnishing-machines relates to improvements more especially adapted for burnishing the heels of boots and shoes.

My improved machine contains a movable hand-piece or head provided with a guide-way and a hand-piece holder, combined with a reciprocating burnishing-tool connected by a substantially universal joint with a rod actuated by a crank; or it might be an eccentric on the main shaft of the machine, the connection of the hand-piece or head with the holder being so made as to permit the hand-piece or head and the loosely-connected tool to tip and adapt the face of the tool to the curve or shape of the heel or edge to be burnished. The tool is hollow and adapted to be heated by gas, steam, or hot air.

Figure 1 in side elevation represents a burnishing-machine embodying my invention, it being shown as adapted to burnish a heel; Fig. 2, a sectional detail of Fig. 1 on the dotted line *x x*. Fig. 3 is a perspective view of the machine, looking at the side shown in Fig. 1; and Fig. 4 is a side elevation of the opposite side.

35 The heel A to be burnished, it being suitably attached to a boot or shoe, is held by a jack composed of a shaft, B, an arm, B', and a heel-plate, B<sup>2</sup>, the shaft B being held in a suitable standard, B<sup>3</sup>, and provided with a counter-balance, B<sup>4</sup>, for the arm B'. The jack may be rotated from time to time to properly bring different portions of the edge of the heel under the burnishing-tool C, and this tool C has one or more headed pins or projections, *a*, which enter a slot, *a'*, at the lower side of the hand-piece or head D, having a shank or handle, D', and suspended from above, so as to be moved about freely when the tool is being used. As herein shown, the said hand-piece is supported vertically by a spiral spring, D<sup>2</sup>, on the crane D<sup>3</sup>, made vertically adjustable by screw

*b* in socket *b'* with relation to the stationary frame-work D<sup>4</sup>. The frame-work D<sup>4</sup> receives the main or driving shaft, *e*, which latter at its end opposite the belt-pulley *e'* has a crank-plate, *g*, provided with a crank-pin, 2, which receives on it the rod or link *e*<sup>2</sup>, provided at *e*<sup>3</sup> with a swivel or universal joint of usual construction, and jointed loosely at *e*<sup>4</sup> by eyes to the tool C, the said joints being such as to enable the hand-piece and tool reciprocated thereon by the said rod *e*<sup>2</sup> to be moved to enable the lower but acting face of the said tool to rise and fall and rock to follow the shape or contour of the heel from end to end, whatever may be its shape or curve. The hand-piece must be restrained from longitudinal movement, and to hold it properly, so that the tool C may be reciprocated on it, I have provided a holder composed of the rod or arm *f*, extended through a slot, 6, in an ear, 5, attached to the head D by screws 7 7 or otherwise, the said rod having a collar, 3, and a nut, 4, to embrace the said ear and retain the head at a certain definite distance from the shaft *e* and standard D<sup>4</sup>. The slot 6 enables the tool and head to rock or tip to follow the curve of the heel. The tool, composed preferably of metal and made hollow or chambered at one side, is adapted to be heated by gas or hot air driven through the pipe *h*, the upper end of which will be suitably attached to a suitable pipe, (not shown,) in connection with a proper source of supply for gas or hot air. The pressure of the corrugated or beaded face of the tool C on the surface of the heel A will be determined by the operator, who will bear the hand-piece or head D downward, and while the tool so forced down upon the heel is being reciprocated by the crank-pin or equivalent, the operator with one hand will turn the jack to present successive parts of the heel, from breast to breast, to the action of the said tool. The spring D<sup>2</sup> is of such strength as to normally lift the tool just above the heel.

I claim—

1. In a burnishing-machine, a burnishing-tool, and means to reciprocate it in the head or hand-piece, the said head or hand-piece being connected loosely with the support or arm D<sup>3</sup>, combined with a rod or arm, *f*, to engage a slotted ear on the said head or hand-piece, to

permit the lateral movement of the said head, substantially as described.

2. The loosely held or supported head or hand-piece, and the rod or arm *f*, connected  
5 loosely with the said head, to permit the same to rock, as described, combined with the reciprocating tool mounted on the said head, and with rod *e*<sup>2</sup>, having a swivel or universal joint, and with means to reciprocate the said  
10 rod, substantially as described.

3. The loosely-supported head or hand-piece provided with the slotted ear 5, and the arm *f*, connected with said slotted ear, to permit

the lateral movement of the head or hand-piece, combined with the burnishing-tool supported in said head or hand-piece, the link or arm *e*<sup>2</sup>, connected thereto by a swivel or universal joint, and means to reciprocate said link, substantially as described. 15

In testimony whereof I have signed my name 20 to this specification in the presence of two subscribing witnesses.

WILLIAM J. HEFFERNAN.

Witnesses:

G. W. GREGORY,  
W. H. SIGSTON.