(No Model.)

J. H. RYDER.

HEEL BEADING MACHINE.

No. 388,790. Patented Aug. 28, 1888.

Fig: 1.

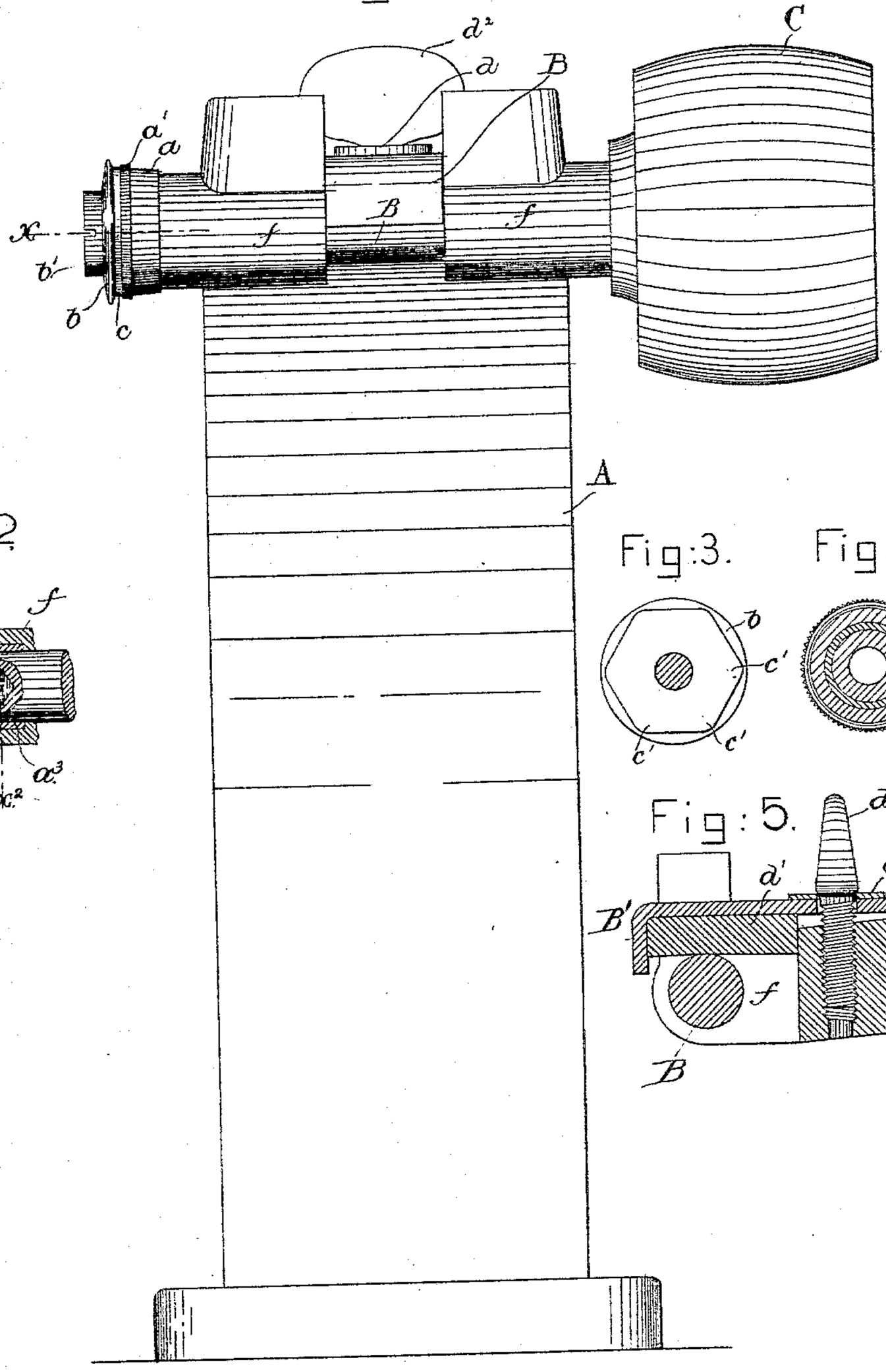

Fig 2

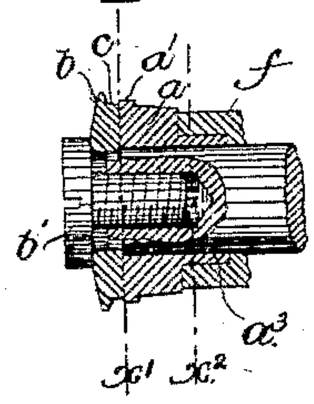

Fig:3.

Fig:4.

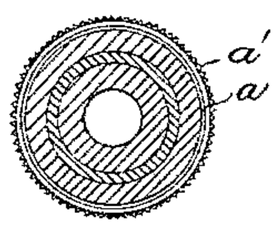

Fig: 5.

Witnesses:
Fred. S. Greenleaf.
Frederick L. Emery.

Inventor.
Joshua H. Ryder.
by Crosby & Gregory. Attys.

UNITED STATES PATENT OFFICE.

JOSHUA H. RYDER, OF BROCKTON, MASSACHUSETTS, ASSIGNOR OF ONE-THIRD TO GEORGE V. SCOTT, OF SAME PLACE, AND GEORGE H. DOTEN, OF PLYMOUTH, MASSACHUSETTS.

HEEL-BEADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 388,790, dated August 28, 1888.

Application filed May 22, 1888. Serial No. 274,633. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA H. RYDER, of Brockton, county of Plymouth, State of Massachusetts, have invented an Improvement in Heel-Beading Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a machine for beading heels of boots and shoes.

My invention consists, essentially, in the combination, with a rand-guide, of a heel-beading tool having one or more cam-like or striking surfaces, which in the rapid rotation of the rand-guide act in succession upon or strike against the heel and form thereon a polished bead next the rand-crease; also, in the combination, with the rand guide and a heel-beading tool, of a heel-rest; also, in the combination, with the rand-guide and its shaft, of a friction heating device for the shaft to which the rand-guide is secured, whereby the rand-guide and heel-beading tool are kept heated. The heel-beading tool which I prefer to employ has several cam-shaped striking surfaces or projections, which are adapted to successively and rapidly strike or act upon the heel to bead it, said projections being formed by cutting away chords of the hub of the tool. The heel-rest is larger in diameter than the shortest diameter of the heel-beading tool, so that only the rounded projections are permitted to act upon the heel.

Figure 1 shows in front elevation a heel-beading machine embodying this invention; Fig. 2, a sectional detail of the rand-guide and beading-tool together with a part of the shaft on the line x, Fig. 1; Fig. 3, a detail of the beading-tool and the rand-guide on the line x'; Fig. 4, a detail in the line x' of the heel-rest mounted upon the rotating shaft, and Fig. 5, a sectional detail of the friction heating device.

The main frame or support A, of suitable shape to sustain the working parts, has at its upper end suitable bearings, $f\,f$, for the rotating shaft B, mounted in suitable bearings and having a belt-pulley, C, fixed to one end thereof. The shaft B near its opposite end receives upon it loosely a heel-rest, a', having a milled or roughened edge or surface by which to score or indent the heel, the inner end of the said heel-rest being reduced to form a sleeve, a^3, which enters and takes bearing in a chamber bored out of the bearing f. The rand-guide b and heel-beading tool c, preferably made in one piece, are fixed by screw b' to the end of and rotate with a shaft, B. The heel-beading tool c has rounded or cam-like projections c', herein shown as six in number, they being formed by cutting the hub of the rand-guide to remove chord-like projections thereon and form flat sides or faces, the point wherein two of the flat sides or faces meet being rounded. The milled portion of the heel-rest a is larger in diameter than the short diameter of the heel-beading tool, but smaller in diameter than the largest diameter of the said heel-beading tool, so that only the rounded projections c' are permitted to strike against the bead of the heel.

I do not desire to limit myself to any particular number of projections c'.

By this construction the heel is subjected to repeated blows of the projections c', and as the shaft B is revolved at a very high speed and with several such rounded projections employed the bead may be formed very quickly and very smooth. The heel is pressed against the heel-rest a by the operator holding the shoe in hand, the milled teeth of the edge a' entering the leather to form a series of indentations.

The friction heating device herein shown consists of a plate or flat strip of metal, B', attached at one end to the frame-work, the opposite end having secured to its under side a piece of leather, as d', which bears directly upon the shaft B. The friction will be regulated by the adjustment-screw d^2. As the shaft B is revolved, the friction of the leather d' on the said shaft will heat it, and will also heat the beading-tool sufficiently to prevent wax or other material adhereing to the parts.

I do not desire to confine myself to the particular construction of friction heating device, as it may be changed somewhat and still subserve the purpose herein designed.

Prior to my invention the work which my machine is to perform has been done by a tool

having a motion around the heel from breast to breast.

I am aware that burnishing-machines have been constructed having a rand-guide and a separate burnishing-sleeve, the sleeve being provided with cam projections, intermediate adjusting mechanism therefore, and a clamp-screw to secure the same, and such construction I do not claim. The result obtained by forming the heel-beading tool and rand-guide in one piece, as hereinbefore set forth, is that the bead will always be formed in the correct or proper place, whereas when made of two pieces it is difficult to properly and rapidly adjust the parts relatively, and even when so adjusted they are liable to get loose, owing to the constant jarring of the clamp-screw.

I claim—

1. In a heel-beading machine, the rotary shaft B and rand-guide *b*, a heel-beading tool formed integral with the said rand-guide *b*, and having one or more cam-like surfaces or projections, as *c'*, substantially as described.

2. The rotary shaft B and the rand-guide *b*, combined with the heel-beading tool having cam-like surfaces or projections *c'*, and the independent milled edge heel-rest *a*, substantially as described.

3. In a heel-beading machine, the following instrumentalities: the rotary shaft B and the rand-guide *b*, a heel-beading tool, *c*, fast thereon, combined with the heel-rest *a*, having the milled or roughened edge *a'* and loose on the shaft B, substantially as and for the purpose set forth.

4. In a heel-beading machine, the following instrumentalities: the rotary shaft B and the rand-guide *b* and heel-beading tool *c*, fast thereon, combined with the heel-rest *a*, having the milled or roughened edge *a'* and provided with a sleeve-like extension, a^3, which turns in a bearing in a part of the frame-work independent of the shaft B, substantially as described.

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

JOSHUA H. RYDER.

Witnesses:
F. M. BIXBY,
CLARENCE L. RANDALL.