F. FEENEY.

SOLE LEVELING MACHINE.

APPLICATION FILED JULY 20, 1906.

966,894.

Patented Aug. 9, 1910.

3 SHEETS—SHEET 1.

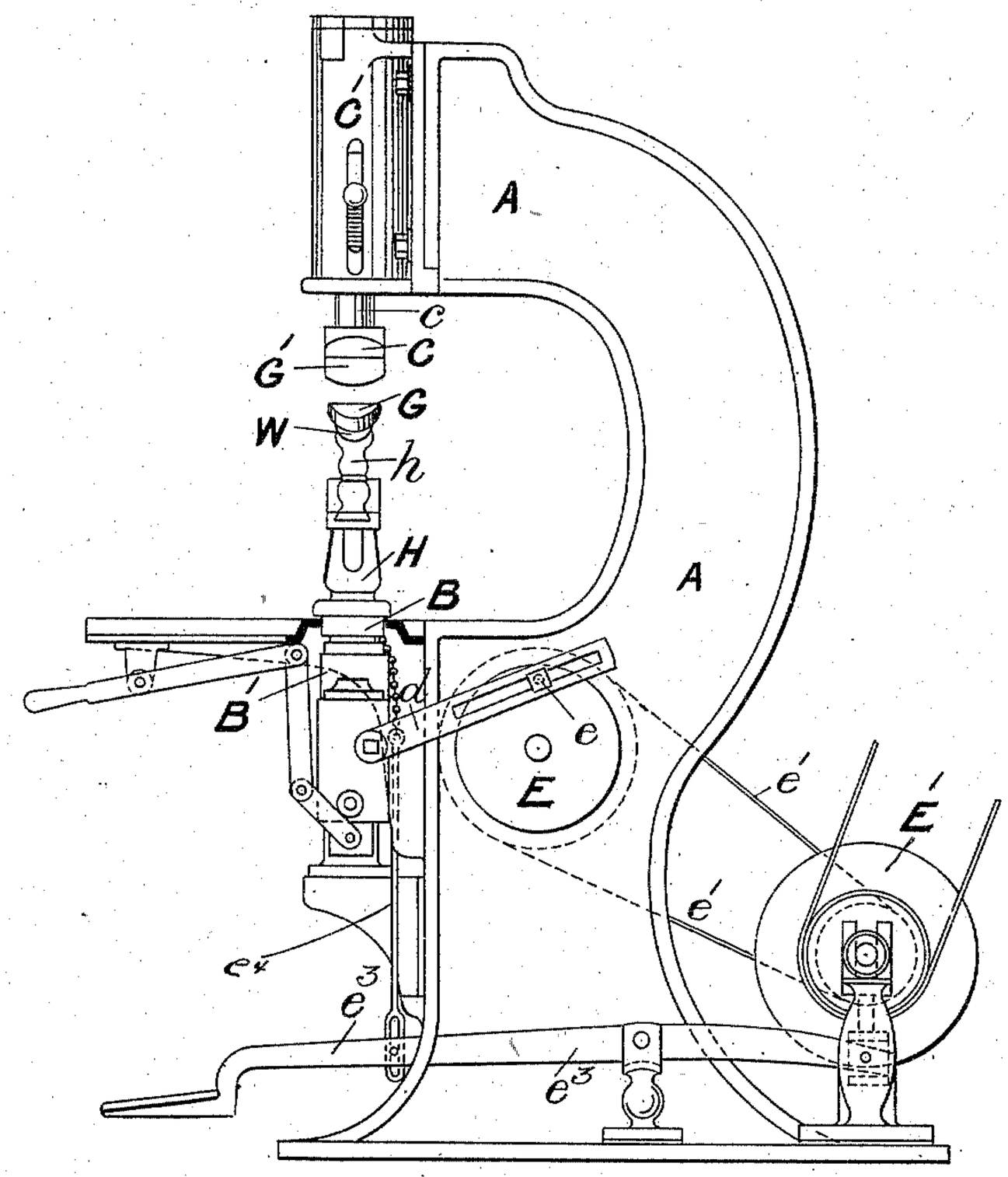

FIG. 1.

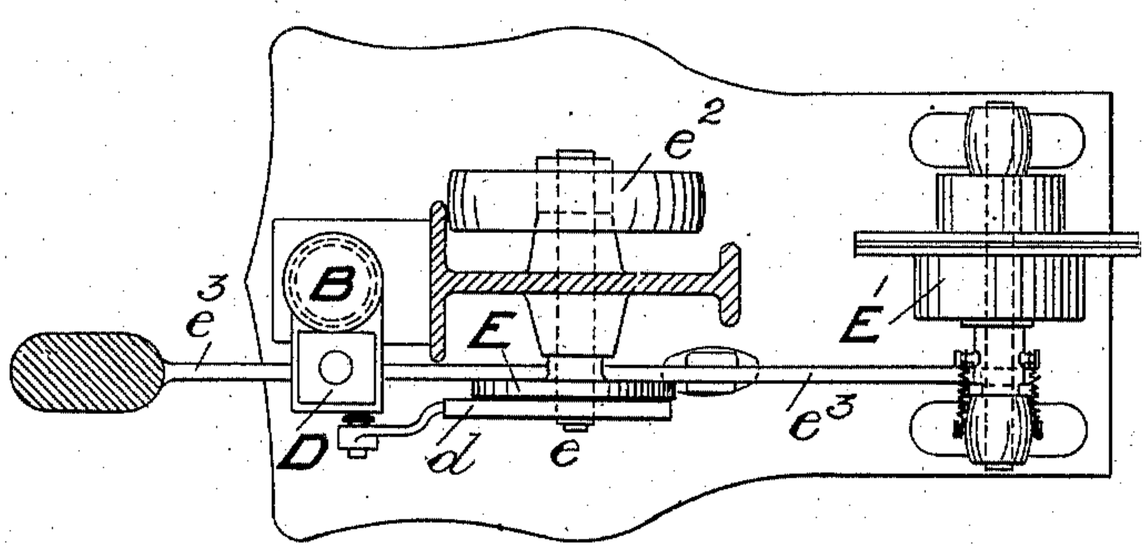

FIG. 3.

WITNESSES.

E. Howard

F. W. Andrew.

INVENTOR

Francis Feeney

by J. Owen O'Brien

atty

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3 SHEETS—SHEET 2.

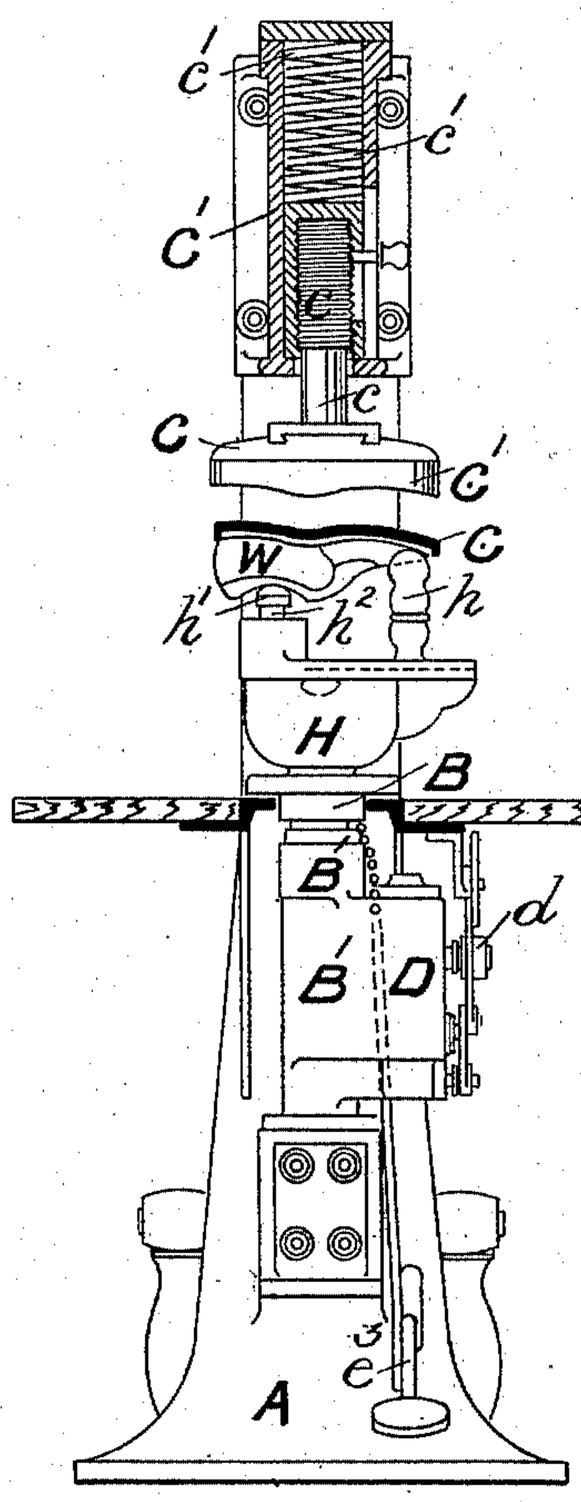

FIG. 2.

WITNESSES.

E. Howard

F. W. Andrew.

INVENTOR

Francis Feeney

by Dowson O'Brien

Atty.

F. FEENEY.

SOLE LEVELING MACHINE.

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3 SHEETS—SHEET 3.

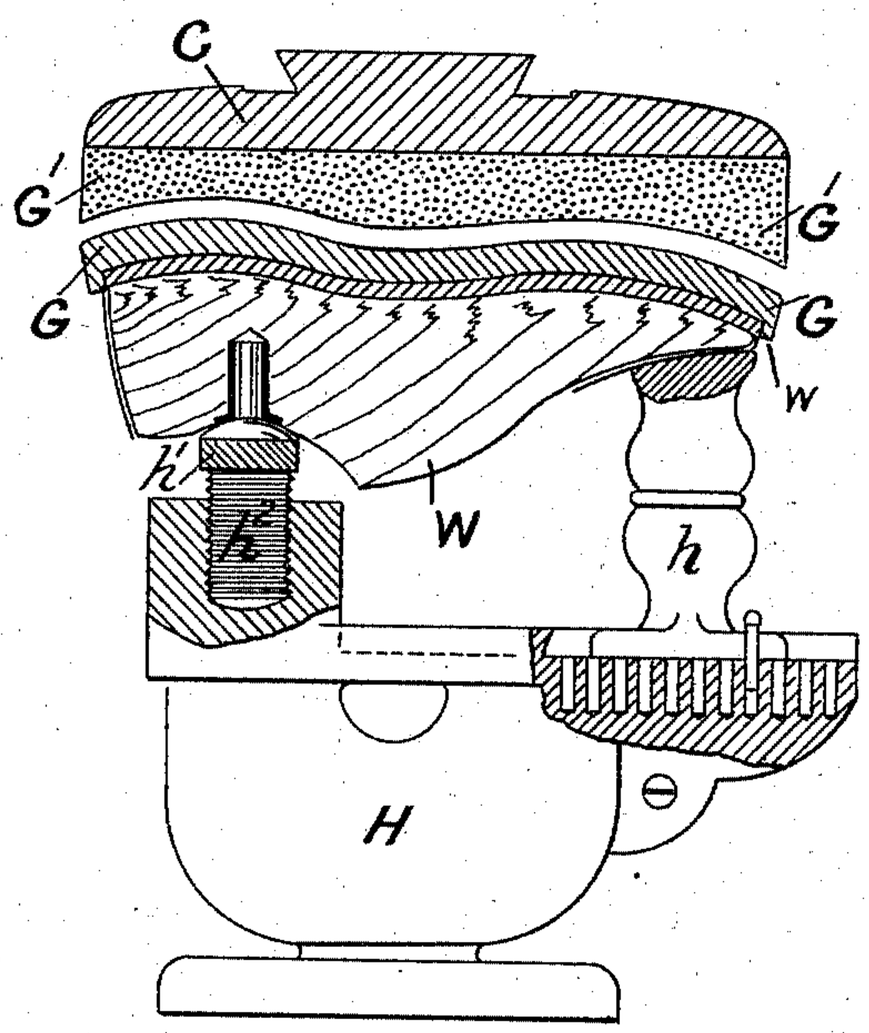

FIG.4.

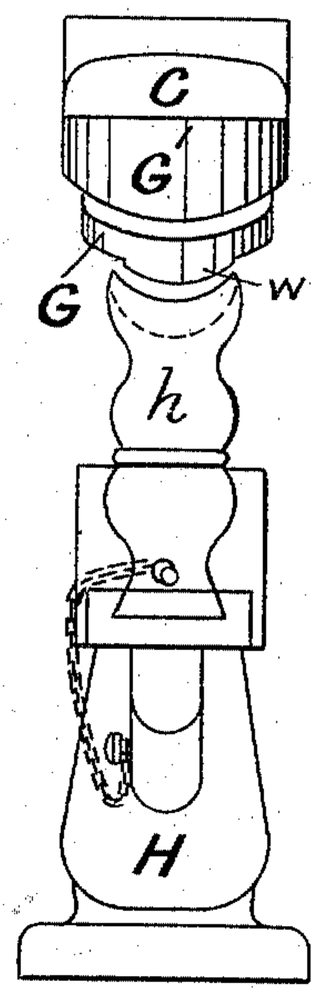

FIG.5.

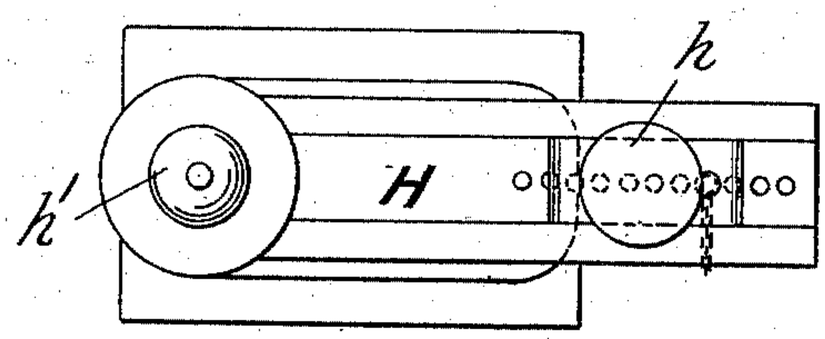

FIG.6.

WITNESSES.

E. L. Howard

F. W. Andrew.

INVENTOR

Francis Feeney

by Lawrence O'Brien

atty

UNITED STATES PATENT OFFICE.

FRANCIS FEENEY, OF SALFORD, ENGLAND.

SOLE-LEVELING MACHINE.

966,894. Specification of Letters Patent. **Patented Aug. 9, 1910.**

Application filed July 20, 1906. Serial No. 327,042.

To all whom it may concern:

Be it known that I, FRANCIS FEENEY, British subject, and resident of Higher Broughton, Salford, county of Lancaster, England, have invented certain new and useful Improvements in Sole-Leveling Machines, of which the following is a specification.

This invention relates to apparatus for leveling the soles of boots and shoes after the same have been attached to the uppers.

The apparatus comprises in its construction a work holder or jack, a hydraulic screw or other jack for applying the desired pressure to the work a pump to operate the jack, molds to fit onto the sole of the boot or shoe while under operation and a spring ram or piston acting as an anvil against which the pressure is applied.

The invention will be fully described with reference to the accompanying drawings:—

Figure 1. side elevation. Fig. 2. front elevation. Fig. 3. plan. Fig. 4. side elevation of the work holder or jack enlarged. Fig. 5. end elevation of same. Fig. 6. plan of same.

A suitably shaped frame A is erected to carry or support the various parts of the machine with a hydraulic lifting ram or jack B placed near the bottom and above it a spring controlled sliding block or anvil C and between those the work W is compressed.

The hydraulic lifting ram or jack B slides vertically in a hydraulic cylinder B′ with a small force pump D on one side by which the fluid is pumped into the clinder B′. The pump is worked by a reciprocating lever d and crank e on disk E driven by a belt e'. The belt pulley e^2 is driven by a friction clutch E′ which is thrown into and out of gear by a treadle e^3.

To throw the driving clutch out of action when the ram B has reached the top of its stroke a connecting rod, link or chain e^4 may be attached to the ram and connected to the treadle.

The spring pressure block C is constructed with a ram c which moves to and fro in a cylinder C′ or between suitable guides. A spring c' of considerable strength is placed above the ram against which the pressure is applied. The spring c' may be compressed to an extent of about 33% of its compression so that the pressure may be more quickly applied and the ram is formed with a screw to adjust the position of the pressure block C. The block C is connected to the ram c by a dovetail sliding joint or by other suitable connection so that the block can be readily removed and replaced.

Upon the end or head of the ram of the operating jack B, a work jack or holder H is removably placed by which the work is held in position while being pressed. This holder is of anvil or other suitable shape and adjustable to take any size ranging from men's to children's. It is provided with a toe support h capable of sliding horizontally to bring it to or from the heel support, and with a heel support h' fitted with a screw h^2 by which it can be adjusted vertically relatively to the toe support h and thus it can be adjusted to any desired size.

A set of molds or pads G G′ are prepared to fit upon and over the sole of the work W to give thereto the desired pressure to effect the leveling. The molds are separate and loose so as to be easily applied and removed. The mold or pad G that engages or abuts against the sole w of the work W is made of metal preferably gun metal or other metal that will not discolor the leather. It is shaped exactly to the sole w to apply an even or equal pressure over all parts. A pad G′ of rubber of similar shape is applied over the metal mold or pad G and when pressure is applied this acts as a buffer to equalize the pressure over the whole surface.

The block C abuts against the rubber pad G′ to apply the pressure at the other side. If desired the rubber pad may have substituted for it any other resilient material or it may be dispensed with where not required.

What I claim as my invention and desire to protect by Letters Patent is:—

In apparatus for leveling the soles of boots and shoes of the class in which direct pressure is applied to the sole, the combination with a hydraulic jack placed at the base of the machine with an upwardly movable ram and table B, and a pump D for operating the jack of a reciprocating lever d and crank e to operate the pump, a strap and pulleys to rotate the crank e a treadle and link e^4 to automatically stop the rotation of the crank, a spring pressure block C, mounted in the upper part of the machine, a plunger c thereon

sliding in a cylinder C′, a spring acting on the plunger by which an elastic pressure is applied to the work, a non-compressible mold to fit onto the sole and a removable adjustable work holder placed upon the ram B substantially as described.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

FRANCIS FEENEY.

Witnesses:
J. OWDEN O'BRIEN,
HARRY BARNFATHER.