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Wm. H. N. Kimball's

Imp't in Rounding-up Machines.

PATENTED

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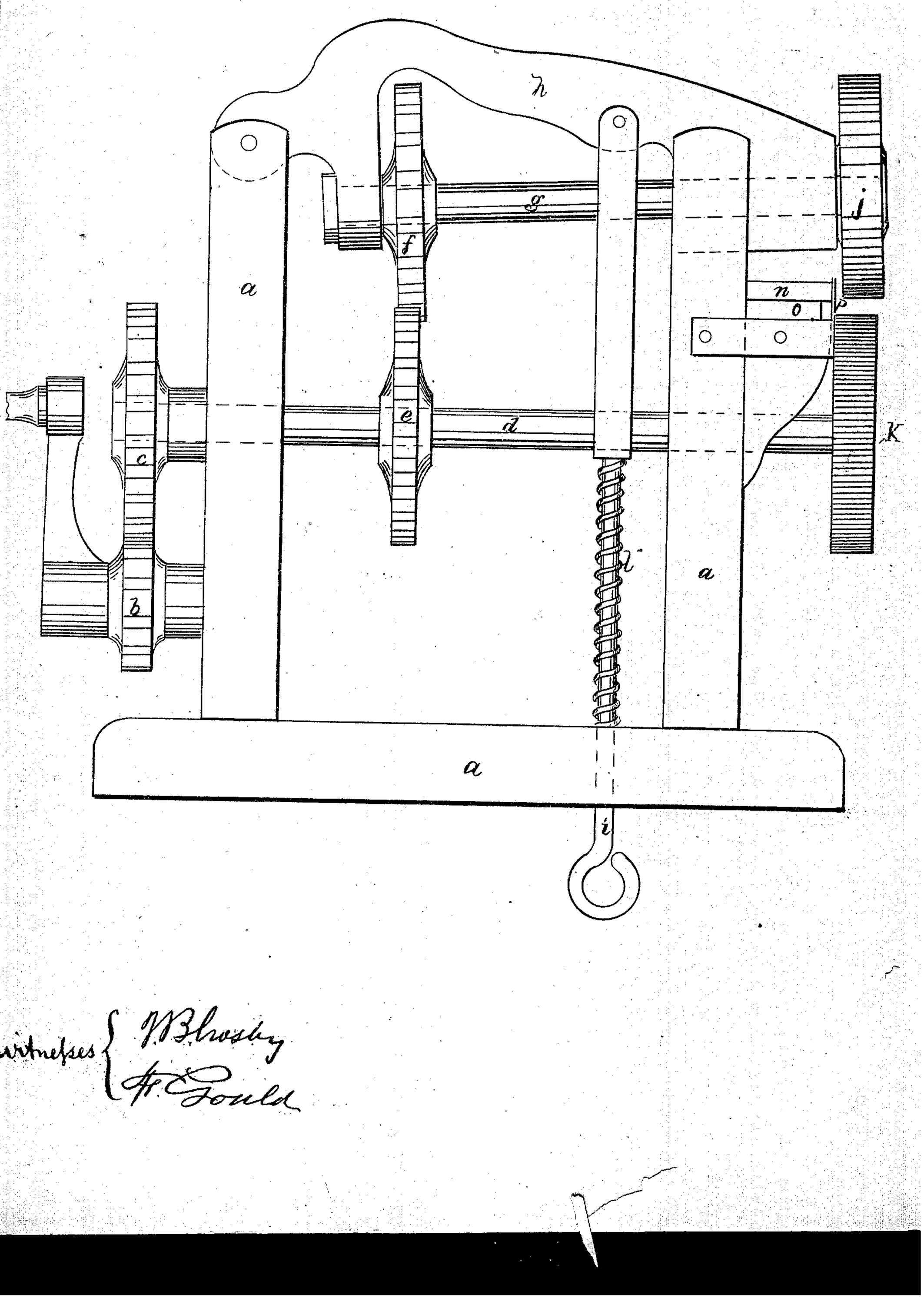

Witnesses { *W. Bluesley*
H. Gould

United States Patent Office.

WILLIAM H. N. KIMBALL, OF LYNN, MASSACHUSETTS.

Letters Patent No. 71,497, *dated November* 26, 1867.

IMPROVED MACHINE FOR ROUNDING UP SOLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM H. N. KIMBALL, of Lynn, in the county of Essex, and State of Massachusetts. have invented an Improvement in Machines for Rounding Up Soles; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

The object of this invention is to round up or trim or cut the contour or periphery of boot or shoe-soles, or other irregular objects, by making use of a pattern which is secured to the object to be cut, and a gauge of peculiar form and arrangement, said pattern bearing against the salient part of the gauge, which is formed with an under-cut, so as to admit the passage of a chip beneath the gauge, as the feeding-wheels act to move the work against the knife-edge.

This gauge may be applied to almost any mechanism in which, for the purpose of feeding, there is a pair of rolls capable of approaching each other, one being serrated, and acting as the carrier, while the other may be smooth-faced, and acting mainly as a presser, though if the upper roll be geared so as to revolve with the same surface velocity as the lower roll, both rolls will act as carriers, the upper roll having the additional function of a presser.

The machine shown in the drawing is not of my invention, it being the main part of an organization known as a channelling-machine, used for the purpose of channelling soles, but as it is in use in most boot and shoe-factories, and is well adapted for the addition thereunto of my peculiar gauge, I have shown it in the drawing with the channelling-knives removed, and with the addition of my improved gauge, in connection with a knife arranged to cut the edges of soles.

a a a represents the frame of the machine; *b*, a pinion on a crank-shaft meshing into a gear, *c*, on the lower feed-roll shaft *d*. The gear *e* on the said shaft meshes into a gear, *f*, on the shaft *g*, carrying the upper feed-roll, said shaft being mounted in bearings on a pivoted lever, *h*, so arranged that by pulling on the rod *i* the upper roll *j* can be made to approach the lower roll *k*, while by releasing the pull, the spring *l* causes the roll *j* to move away from the roll *k*. On a part of the frame adjacent to the feed-roll *k* is fixed my improved gauge, which is made of two parts, or with two surfaces, *n* and *o*, the former surface being uppermost, and projecting beyond the lower surface *o*, as seen in the drawing. The knife *p* is fixed to the frame, with its edge parallel to and in contact with the surface *n*, and presented also in opposition to the direction in which the material to be cut is fed or moved by the action of the rolls. The height of the surface *o* must be equal to or greater than the thickness of the material to be cut, and it must be set back from the surface *n* a distance equal to or greater than the other dimension of the chip to be removed by the knife. The thickness of the surface *n* should be equal to the thickness of the pattern or sole which is to be made to come into contact with said surface.

By having the guiding-surface uppermost, and with a space beneath for the passage of the chip, the operator can always keep the pattern in contact with the surface *n*, which gauges and regulates the cut. For the rounding up of whole soles, I make use of a pattern of the exact shape and size to which it is desired to cut the leather, and secure such pattern, which preferably is to be made of metal, to the leather temporarily by pins or tacks, the leather being first cut roughly to an approximation of the finished sole.

In fitting tap-soles, the sole with which the tap is to be used is made use of as a pattern to bear against the surface *n* of the gauge, the material for the tap-sole being previously roughly cut to an approximation of the size of the finished tap, and being temporarily secured to the sole which is used as a pattern.

The material to be cut, and the pattern being introduced between the rolls *j* and *k*, and subjected to pressure from roll *j*, rotation is given to the rolls in a direction to carry the material to be cut against the knife-edge, the operator guiding and controlling the direction of movement of the sole, and keeping the pattern constantly in contact with the gauge-surface *n*.

I claim for use with a pattern and a knife and a feeding-mechanism, such an arrangement of a gauge for the pattern to bear against, that the chip cut will pass beneath the gauge, so as not to obstruct the view of the operator, thus enabling him to keep the pattern always in contact with the gauge, substantially as described.

W. H. N. KIMBALL.

Witnesses:

J. B. CROSBY

F. GOULD.