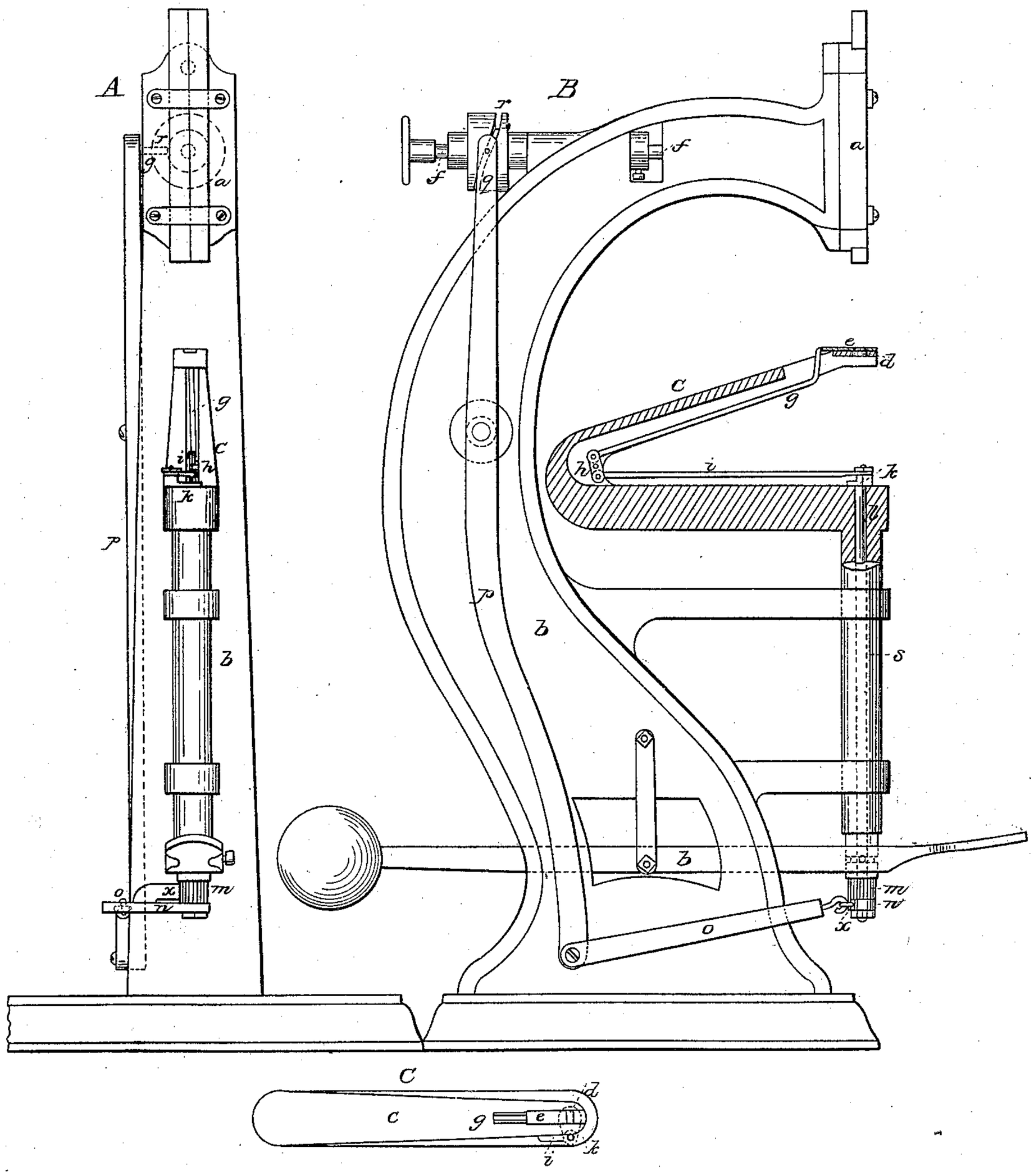
T. K. Reed.

Fastening Boot & Shoe Soles

No. 86,590. Patented Feb. 2, 1869.



Witnesses:
S. B. Kidder.
M. W. Frothingham.

Inventor:
T. K. Reed
by his Attys
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United States Patent Office.

T. K. REED, OF EAST BRIDGEWATER, MASSACHUSETTS.

Letters Patent No. 86,590, *dated February* 2, 1869.

IMPROVED MACHINE FOR UNITING THE SOLES AND UPPERS OF BOOTS AND SHOES.

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, T. K. REED, of East Bridgewater, in the county of Plymouth, and State of Massachusetts, have invented an Improvement in Machines for Uniting the Soles and Uppers of Boots and Shoes; 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.

In that part of the manufacture of boots and shoes which relates to machine-soling, two classes of machines are principally used, one known as the McKay sewing-machine, in which the sole and upper of the boot or shoe are united by a continuous series of stitches passing through both sole and upper, the boot or shoe being supported upon a "horn," and the other known as a pegging-machine, in which the sole is fastened to the upper by a series of nails or pegs. Wooden pegs are mostly used in these machines, each peg to be driven being in turn cut from the end of a band or strip of peg-wood.

Pegs or nails cut from a continuous wire or peg-forming material have been used, however, as may be seen by the Greenough patent, of January 17, 1854, and the Day patent, of June 28, 1864, Greenough using metal pegs, or fastenings, cut from a coil of wire, and Day using thread pegs, or fastenings, cut from a coil of rigidified thread.

L. R. Blake, (the inventor of the horn sole-sewing machine,) has also invented, in connection with A. S. Libby, a sole-nailing machine, for which patent No. 76,150 was granted, March 31, 1868.

In the Greenough nailing-machine there was no provision for cutting the wire into nails of variable lengths, in accordance with the varying thickness of a sole of a shoe in the toe, ball, shank, and heel.

In the Blake nailing-machine, a work-supporting horn is used, and in his machine such provision is made, the wire being automatically cut to a length corresponding to the thickness of the sole and upper at the point at which it is to be driven.

In my machine I use a "horn" for supporting the boot or shoe, and I combine this horn with a pegging-machine, designed for pegging with fastenings cut from a continuous wire-like material.

But instead of automatically cutting the peg-forming material into lengths corresponding to the varying thickness of the sole and upper, I cut all the fastenings to a uniform length, and after each is driven, I cut off the end which protrudes beyond the surface of the inner sole into the boot or shoe, by a cutting-mechanism, combined with the horn, thus eventually bringing each fastening to a length corresponding to the thickness of the sole, but effecting this after each nail is cut from the coil, and after driving it, instead of before it is driven.

My invention consists, particularly, in combining, with a mechanism for pegging or nailing soles to boots and shoes, upon a boot or shoe-supporting horn or arm, a mechanism for cutting off the ends of nails or pegs protruding through the inner sole.

The drawings represent a pegging-machine embodying my invention.

A shows a front view.

B is a side elevation, (but showing the horn in vertical section.)

C, a plan of the top of the horn.

a denotes the head, and *b*, the standard of a common pegging-machine, for cutting pegs from a coil of wire-like material, and driving them in succession; the mechanism for feeding and cutting up the coil into fastenings, the mechanism for driving each fastening in succession, and the mechanism for feeding the shoe, forming no part of my invention; and as their construction and operation are well known, I have only shown such parts of them as will enable the relation of my invention thereto to be readily understood.

In these former pegging-machines, the shoe to be soled is generally fastened upon a last, which last is mounted upon a suitable jack-mechanism, instead of which I support the shoe upon the top of an arm, similar to what is known in the Blake or McKay sewing-machine, and the Blake nailing-machine, as a "horn," the inner surface of the shoe resting upon the horn *c*, and the shoe being fed upon this horn by the feed-foot or awl-point of the pegging-mechanism.

Through the top of this horn, in vertical line with the peg-driver, I make a vertical hole, *d*, into which hole the end of the peg, which may project beyond the inner sole, extends when driven.

In the top of the horn I set a reciprocating cutter, *e*, the cutting-edge of which is flush with or slightly below the top surface of the horn.

This cutter is preferably so arranged as to receive its motion from the driving-shaft *f*, which actuates the peg-cutting and driving and shoe-feeding mechanism, for which purpose it may be fixed to the end of a rod, *g*, connected by a rocker-lever, *h*, to one end of another rod, *i*, whose opposite end is jointed to a crank-arm, *k*, on a vertical shaft, *l*, having at its lower end a ratchet, *m*, intermittently driven by a pawl, *x*, fixed to a rocker-arm, *n*, connected by a link, *o*, with the lower end of a rocker-lever, *p*, from whose upper end a pin, *q*, projects into the groove of a cam, *r*, on the driving-shaft, the cam and the connections from it to the cutter being so timed in their action that after each peg is driven, the cutter is thrown forward, to sever the end of the peg projecting into the hole in the horn, (if such peg protrudes beyond the inner sole,) after which the cutter is drawn back, so as to permit the next peg to be driven.

The horn is fixed upon the top of a post, *s*, supported upon the front end of a weighted lever, *t*, sim-

ilar to that upon which the jack-mechanism is usually supported, the lever being fulcrumed in the post *b*, the post *s* sliding vertically in suitable bearings, to permit the horn to yield, and to keep the sole pressed up against the driving and feeding-mechanism, as the alternating thick and thin portions of the sole pass over the horn, the vertical movement of the horn also permitting the shoe to be placed upon or removed from the horn.

I claim the combination, with the mechanism for uniting the soles to the uppers of boots and shoes upon a shoe-supporting horn, of the mechanism for cutting off the end of each fastening projecting beyond the surface of the inner sole, substantially as described.

T. K. REED.

Witnesses:

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