(No Model.) 3 Sheets—Sheet 1.

M. C. & T. J. DENNE.

SHOE SEWING MACHINE.

No. 454,718. Patented June 23, 1891.

FIG. 4.

FIG. 1.

FIG. 5.

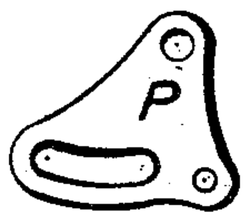

FIG. 6

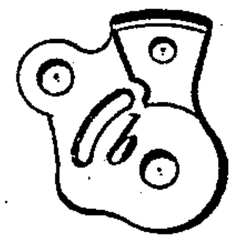

FIG. 7.

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M. C. & T. J. DENNE.

SHOE SEWING MACHINE.

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FIG. 2.

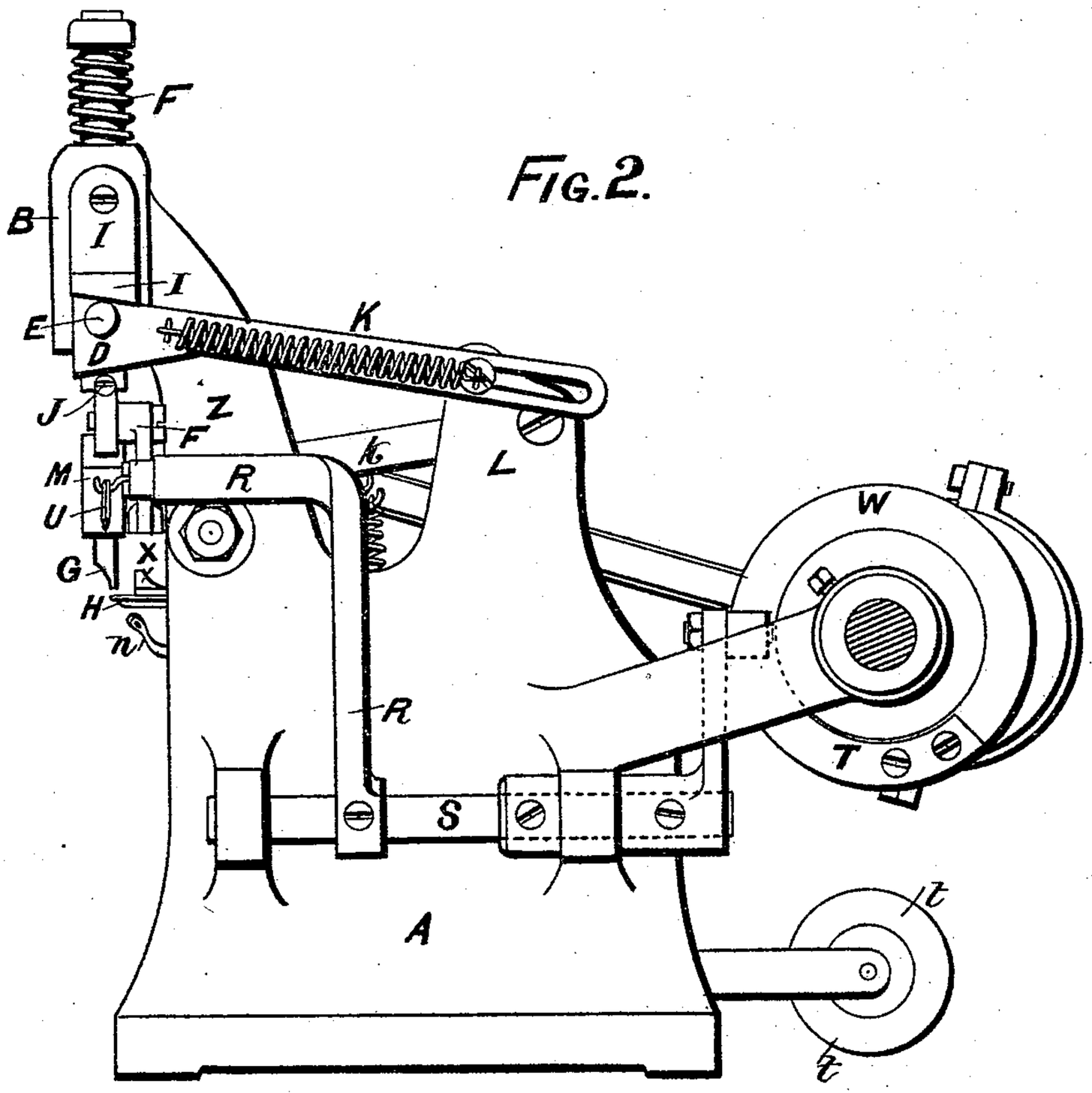


FIG. 8.

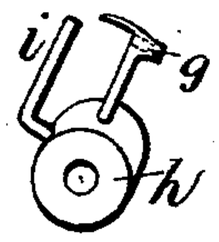
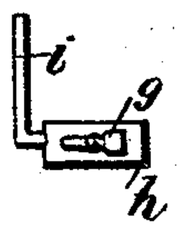


FIG. 9.



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(No Model.) 3 Sheets—Sheet 3.

M. C. & T. J. DENNE.

SHOE SEWING MACHINE.

No. 454,718. Patented June 23, 1891.

FIG. 3.

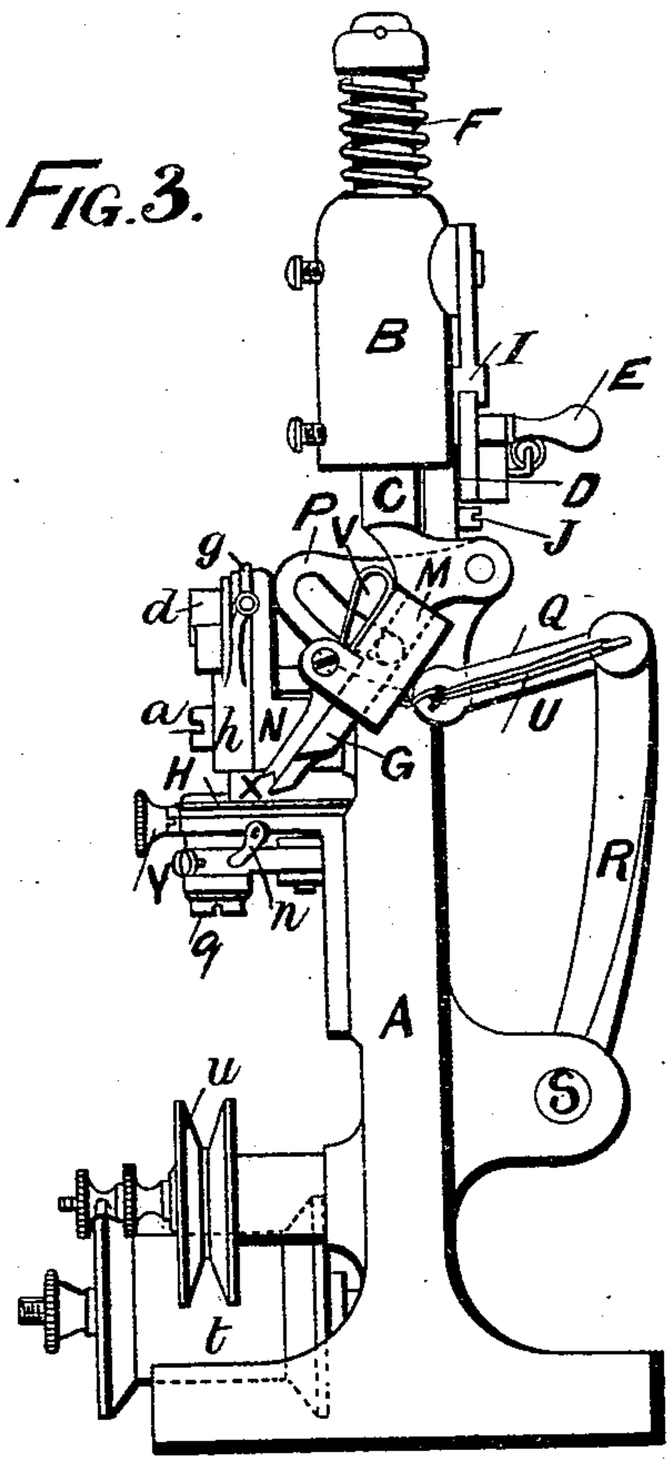


FIG. 11.

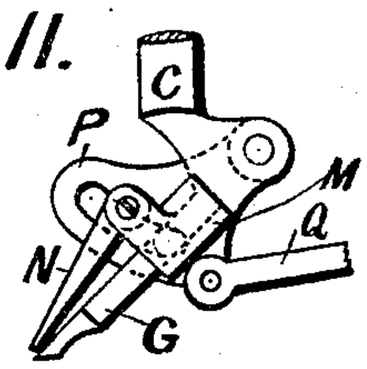


FIG. 12.

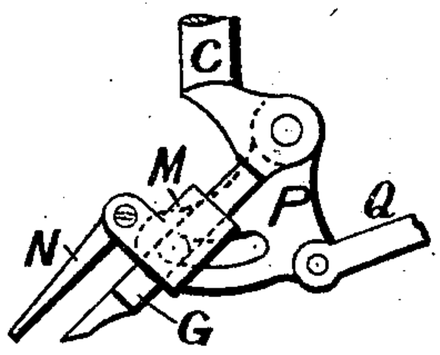


FIG. 13.

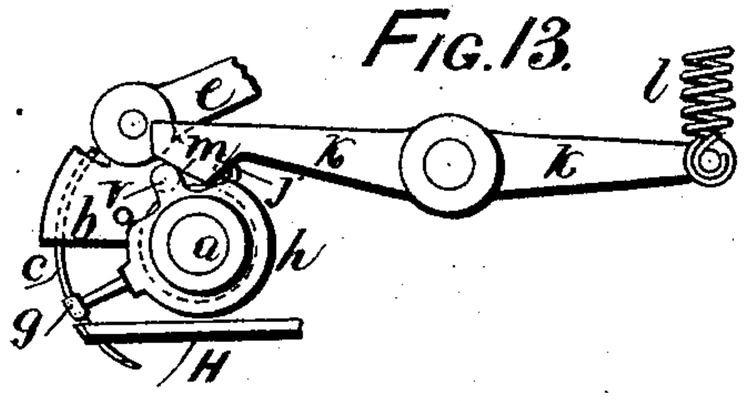


FIG. 14.

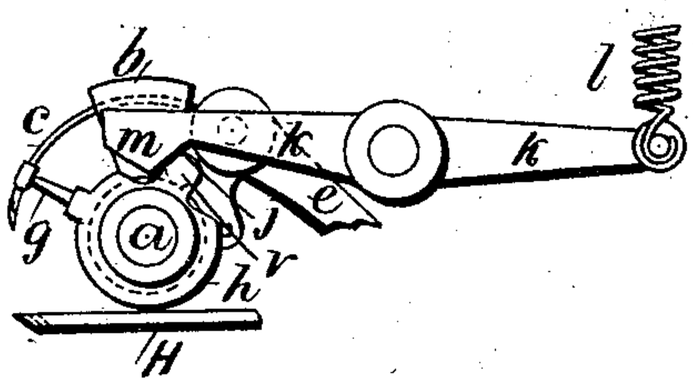
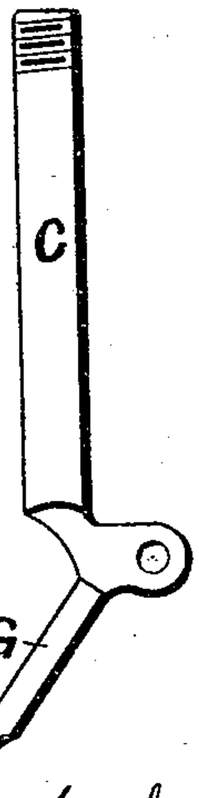


FIG. 10.



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Inventors:
Mark Charles Denne
and Thomas James Denne.
By James L. Norris.
Attorney.

UNITED STATES PATENT OFFICE.

MARK CHARLES DENNE, OF EASTBOURNE, AND THOMAS JAMES DENNE, OF HEMEL-HEMPSTEAD, ENGLAND.

SHOE-SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 454,718, dated June 23, 1891.

Application filed January 15, 1891. Serial No. 377,886. (No model.) Patented in England March 4, 1890, No. 3,469.

To all whom it may concern:

Be it known that we, MARK CHARLES DENNE and THOMAS JAMES DENNE, subjects of the Queen of Great Britain, residing, respectively, at Christchurch Road, Eastbourne, Sussex, England, and Hemel-Hempstead, Herts, England, have invented new and useful Improvements in Sewing-Machines, (patented in Great Britain, No. 3,469, March 4, 1890,) of which the following is a specification.

This invention has for its object the construction of a sewing-machine by which soles can be sewed onto the welts of boots or shoes with a waxed thread. The machine is of a portable character and can be readily affixed to a bench and worked by hand direct from a fly-wheel, or it can be set upon a pedestal for working by foot-pedal and strap of the usual construction or arrangement or by steam-power. We attain this object by the introduction of certain appliances which will be hereinafter more particularly described, and which enable us to produce a portable and easily-handled machine capable of performing the above work.

We will first describe the machine with the aid of the acccompanying drawings.

Figure 1 is an elevation of the machine from the left-hand side; Fig. 2, a similar view from the right-hand side; Fig. 3, a front or face view. Figs. 4 to 12 are views of detail parts. Figs. 13 and 14 show a modified arrangement of cast-off operator.

Referring to Figs. 1 to 12, inclusive, A is the frame, with head B, within which the presser-foot stem C has an upward motion when the lever D is pulled to the front by its handle E, this permitting the spring F, which is on its upper end, to act and the presser-foot G to rise when the work has to be placed in position upon the work-plate H, the lower end of the presser-foot G being somewhat pointed to engage in the channel previously formed in the sole which has to be sewed on.

The lever D has a sliding motion in the cheek of a bracket I and bears upon a pin J, projecting from the presser-foot stem C, said lever being drawn back and retained in position by a spring K, affixed to an eye on the back head L. The presser-foot G for a part of its length is encircled by a sleeve M, and this has pivoted to it the feed-foot N.

The sleeve M has a pin projecting from one of its faces to ride in a slot of a tumbler P, which when moved over by the link Q and the lever R, which are actuated by the shaft S from the cam T, causes the sleeve M to have a motion independently of the presser-foot for feeding the work along for each successive stitch, the presser-foot G remaining in the channel as a guide for keeping the sole in place. The sleeve M is drawn in one position by spring U and bears upon the spring V in the manner shown in the drawings, so that the feed-foot is caused to operate in proportion to the desired length of stitch, this being governed by the distance the cam T (which is adjustable) is set away from its carrying-disk W by a set-screw. (Not shown.)

The work-plate H has a block X, against which the edge of the work rests. This block is adjustable on the plate by the tightening-screw Y to accord with the distance the sewing is to be performed from the edge of the boot-sole.

The neck Z of the frame has a pin *a* projecting from it on the left-hand side, and a quadrant-plate *b* is mounted loosely on it, said plate having the segmental needle *c* affixed in it by the tightening-screw *d*. The plate *b* is caused to describe a circular movement about the pin *a* by the lever *e*, actuated by the eccentric *f*. The pin *a* also carries the cast-off *g*, mounted loosely upon it by its boss *h*, which boss has a leg *i* affixed, which rides in a slot of the plate *b*. The leg *i* for a part of the circular oscillation of the plate *b* is lifted to move the cast-off for a given distance with the needle *c* in its descending stroke and is caused to impinge against an inclined edge *j* of a lever *k*, which it lifts until the leg passes the point of the incline *j*, when, by the pressure of the spring *l*, the leg *i* is suddenly shot forward by an opposite incline *m* of the lever *k*, which causes the cast-off *g* to press upon the work while the needle is going down in it, the point having already entered and passed through the work, the leg *i* being temporarily locked in the indent at the end of the incline *m*.

n is the looper, having a vibrating motion under the work-plate H. It is carried by a collar p on a pin q and is actuated by an articulated rod r from a cam on the back shaft s, on which are also mounted the disk W and the eccentric f.

The waxed thread from a reel t and a tension-disk u passes through the looper and through a hole in the work-plate H and in the path of the needle, which is barbed in order to fetch the waxed thread up from below by its barb. During this operation the cast-off g remains on the work, the return of the needle being effected by the lever e and eccentric f, and so soon as the opposite end of the slot in the plate b comes into contact with the leg i this leg is caused to exert a pressure down the incline m of the lever k until the point of the incline is passed. The spring l then exerting a pressure on the lever causes the leg to fly to the bottom of the slot in the plate b to bring the cast-off into the position indicated at Fig. 1, the needle being then out of the work, with the thread-loop in its barb.

Instead of a leg i being upon the boss of the cast-off g, a roller v, Figs. 13 and 14, may be substituted for it to be acted upon by the inclines j m of the lever k, which lever may be a double-ended lever, as indicated, with the spring l at its opposite end, the incline j being somewhat longer to retain the hold of the cast-off when the needle c is out of the work. By this arrangement the slot in the needle-carrying plate b is dispensed with.

What we claim is—

1. The combination of the presser-foot G, the sleeve M on said presser-foot, the feed-foot N, pivoted to said sleeve, the tumbler P, having a slot, a pin on the sleeve projecting into said slot, the link Q, connected with the tumbler, the springs U and V, the lever R, connected with the link Q, the shaft S, on which said lever is mounted, and means for actuating the shaft, substantially as shown and described.

2. The combination of the quadrant-plate b, the segmental needle c, the cast-off g, vibrating in a circular path, the lever k, having inclines j and m, the spring l, and the looper n, substantially as shown and described.

3. The combination of the slotted quadrant-plate b, the cast-off g, having a boss h, provided with a leg i, engaged in the slot of the quadrant-plate, the lever k, having inclines j and m, and the spring l, substantially as shown and described.

In witness whereof I, the said MARK CHARLES DENNE, have hereto signed my name, in the presence of two subscribing witnesses, this 10th day of December, 1890.

MARK CHARLES DENNE.

Witnesses to the signature of Mark Charles Denne:

SAMUEL MARSH,
FREDERICK BODEL,
Both clerks to Charles Goble Champion, Notary Public, Eastbourne.

In witness whereof I, the said THOMAS JAMES DENNE, have hereto signed my name, in the presence of two subscribing witnesses, this 19th day of December, 1890.

THOMAS JAMES DENNE.

Witnesses to the signature of Thomas James Denne:

CHARLES ALFRED GROSSETETE,
RICHARD CORE GARDNER,
Both of 166 *Fleet Street, London, England.*