(No Model.)

G. A. HAYDEN.

SEWING MACHINE.

No. 246,310. Patented Aug. 30, 1881.

Fig. 1.

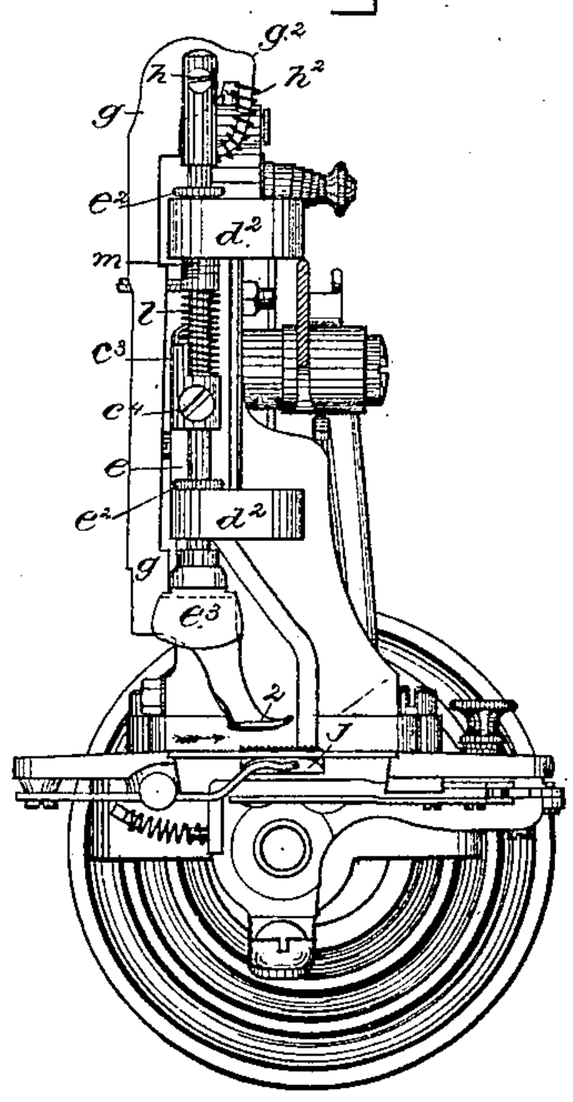
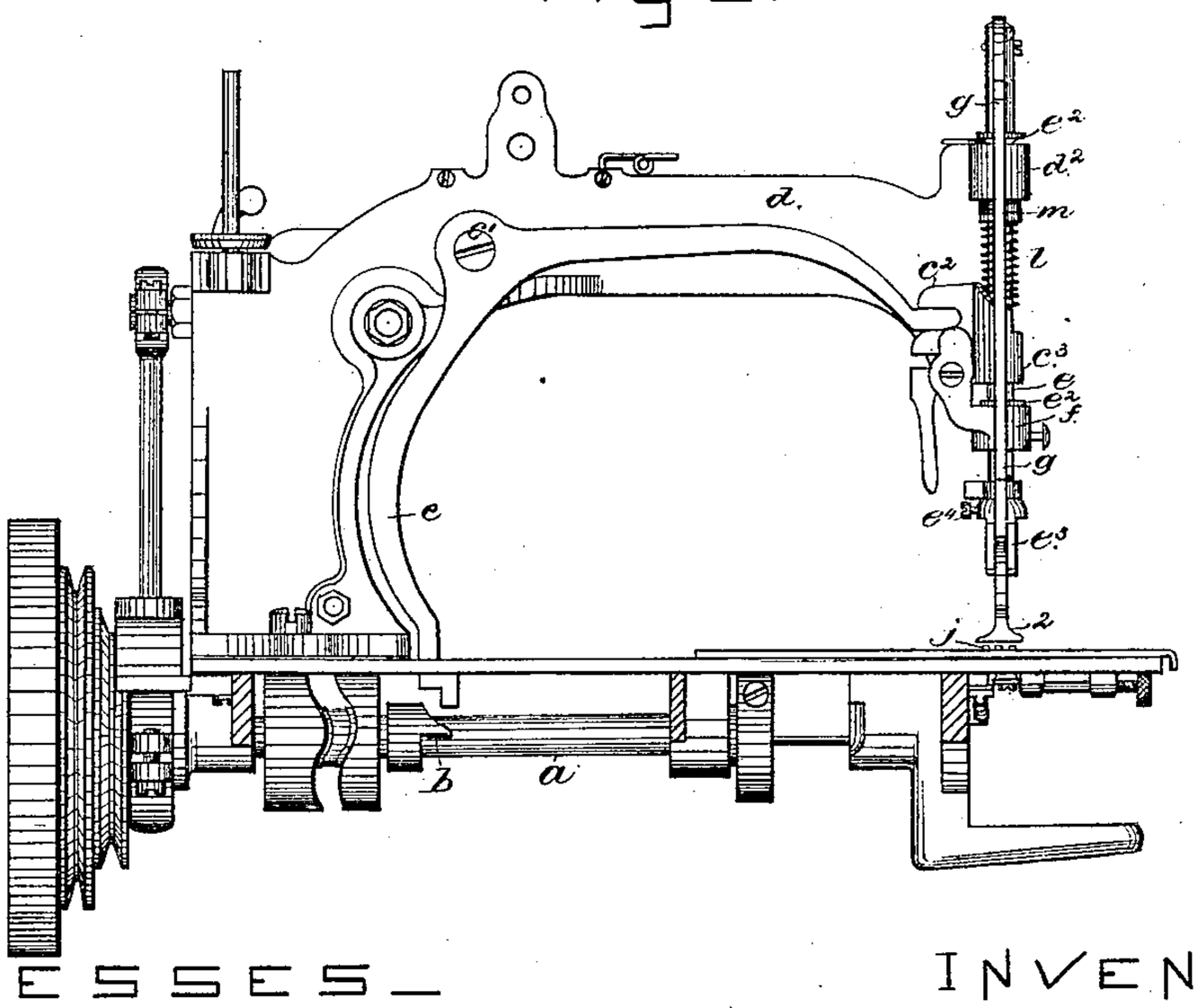


Fig. 2.



WITNESSES—

Arthur Reynolds.

Bernice J. Noyes.

INVENTOR

George A Hayden.

by Crosby Gregory Attys.

UNITED STATES PATENT OFFICE.

GEORGE A. HAYDEN, OF HAVERHILL, ASSIGNOR OF ONE-HALF TO GEORGE W. BROWN, OF BOSTON, MASSACHUSETTS.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 246,310, dated August 30, 1881.

Application filed March 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. HAYDEN, of Haverhill, county of Essex, State of Massachusetts, have invented a new and useful Improvement in Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention in sewing-machines relates to improvements in mechanism for lifting the presser-foot and supporting it, substantially as hereinafter described, so that it may move horizontally forward in unison with the usual four-motioned feeding device, the improved mechanism, the subject of this patent, being especially advantageous when a binding is being applied to articles to be bound.

My invention consists in a presser-foot pivoted upon the upper end of a slide-rod, combined with a lever which is made to lift the slide-rod and presser positively from above the cloth or other material at the end of the forward feed stroke. In connection with the said pivoted presser-foot and slide-rod I have provided a spring to restore the pivoted presser to its normal position as the feeding device is moved backward below the cloth, and lifting mechanism to automatically lift the presser from the material under it as the feeding device is so moved backward.

Figure 1 represents, in front elevation, a portion of a sewing-machine to illustrate my invention; and Fig. 2, a side elevation thereof.

The machine selected upon which to illustrate my invention is that known as the "Wheeler & Wilson No. 8," the general construction of which is too well known to need specific description.

The usual hook-shaft, *a*, is provided with a cam, *b*, to strike the lower end of the presser-foot lifting-lever *c*, pivoted to the overhanging arm *d* at *c'*, the forward end of the said lever being entered between the prongs of an ear, c^2, of a collar, c^3, adjustably attached by screw c^4 to the slide-rod *e*, fitted into the usual boxes, e^2, in the bearings d^2 of the arm *d*. The slide-rod *e* takes the place of the usual presser-bar, and at its lower end has a guide, e^3, attached thereto by a set-screw, e^4. (See Fig. 2.) This guide is a block slotted to receive in it, as shown in dotted lines, Fig. 1, an angular part of the shank of the vibrating presser *g*, having a foot, 2. The upper end of the presser is pivoted upon the slide-rod *e* at *h*, and a portion, g^2, of the said presser, at the opposite side of the said pivot, is acted upon by a spring, h^2, (see Fig. 1,) the tendency of which is to move the foot 2 in the direction of the arrow near it in Fig. 1, when the cam *b* acts on the lifting-lever *c*, raises the slide-rod, and lifts the foot 2 from the fabric or binding under it, or lifts it sufficiently above it to permit the spring h^2 to operate the presser *g* and move it into its normal position toward the operator, the usual four-motioned feeding device, *j*, at that time moved backward below the fabric. As the feeding device *j* is raised to engage the material being sewed, and is moved forward to move the said material forward the distance represented by one stitch, the foot 2 is held down on the fabric with all the force due to the spring *l*, which may be made more or less by the screw *m;* but as the feeding device is moved forward, the foot and presser resting directly on the fabric or binding being stitched to it is, by its friction on the said material or binding, carried forward in unison with the feeding device *j* and the fabric, the presser *g* turning on its pivot *h* on the slide-rod and compressing the spring h^2. A presser-foot resting on the upper part of a binding applied to a fabric, and not moving forward with the binding as the latter and the material covered by it are fed forward, stretches the binding and makes it very difficult to apply the binding evenly, the evil increasing with curves and corners to be bound. As the feeding device reaches its forward position the cam *b* lifts the slide-rod and presser, as described.

I do not broadly claim a lifting or a vibrating presser-foot, nor do I broadly claim a presser-foot made movable in one direction with a feeding device located below the fabric.

I claim—

1. The slide-rod and lever connected therewith to lift it positively, combined with the presser pivoted upon the upper end of the slide-rod, and provided with the foot g^2, substantially as described.

2. The slide-rod provided with the forked guide e^3 at its lower end, and the lever to lift it positively, combined with the presser *g*, pivoted to the slide-rod at its upper end, and fit-

ted into the forked guide, as shown and described.

3. The slide-rod provided with a guide at its lower end, the lifting-lever *c*, and cam to operate it to lift the slide-rod, combined with the presser *g*, pivoted upon the slide-rod at its upper end, and with the spring to move the foot 2 of the presser toward the front side of the machine when the presser is lifted, substantially as described.

4. The slide-rod, the presser *g*, pivoted upon it, and the lifting-lever and cam to operate it intermittingly at the proper time, combined with the four-motioned feeding device to move the foot 2 of the presser forward in unison with it, through the intervention of the material between the foot and feeding device, substantially as described.

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

GEO. A. HAYDEN.

Witnesses:
CHAS. J. IRWIN,
G. WALKER WENTWORTH.