

(No Model.)

D. BROWN.
SEWING MACHINE.

No. 517,376.

Patented Mar. 27, 1894.

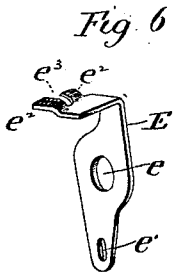
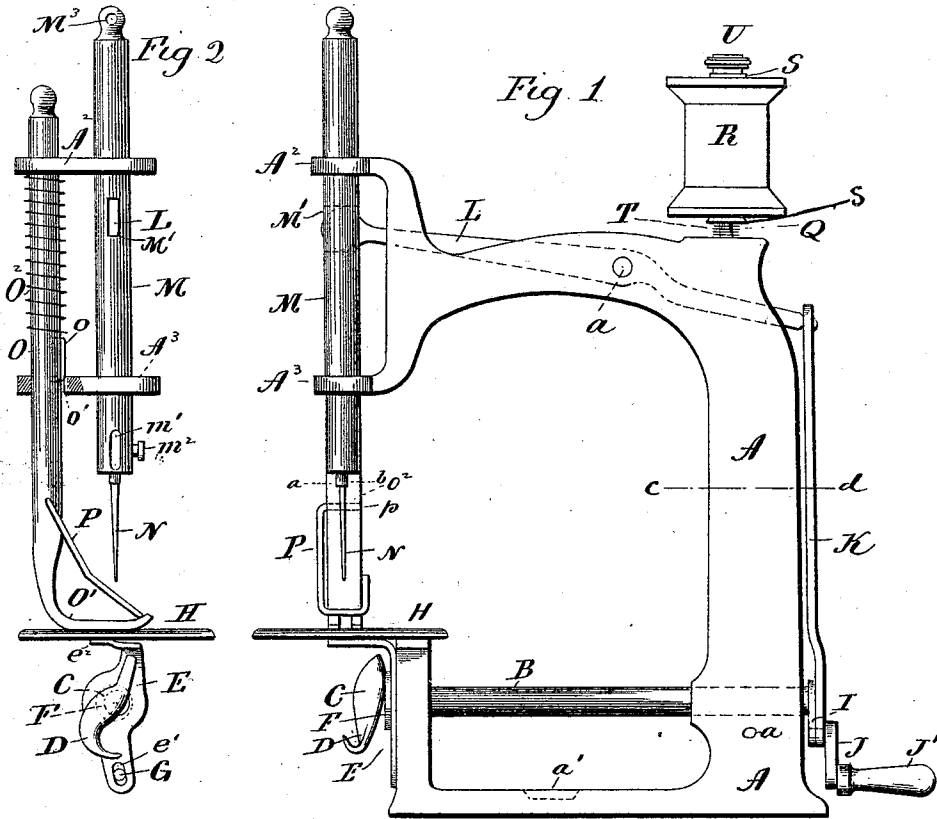


Fig 4

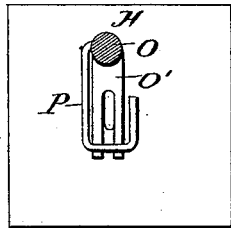


Fig 5

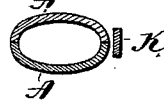


Fig 3

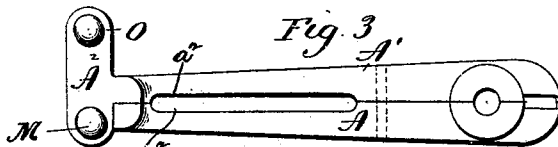
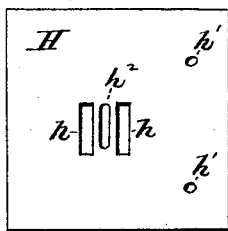


Fig 7



Witnesses
J. H. Seymour
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David Brown,
Inventor
By Alex. E. Seymour

UNITED STATES PATENT OFFICE.

DAVID BROWN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO J. WILLIS DOWNS, OF SAME PLACE.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 517,376, dated March 27, 1894.

Application filed April 26, 1893. Serial No. 471,960. (No model.)

To all whom it may concern:

Be it known that I, DAVID BROWN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Sewing-Machines; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view in side elevation of a sewing-machine constructed in accordance with my invention; Fig. 2, a front view thereof; Fig. 3, a partial plan view of the machine-frame; Fig. 4 a sectional view of the machine on the line *a—b* of Fig. 1; Fig. 5, a sectional view of the machine on the line *c d* of the same figure; Fig. 6, a detached perspective view of the feed-plate; Fig. 7, a detached plan view of the throat-plate.

My invention relates to an improvement in miniature sewing-machines, particularly designed for use by little girls in making dresses for dolls, the object being to produce at a low cost for manufacture, a simple, compact, durable and convenient device, composed of few parts, not liable to derangement, manageable by any child, and adapted to produce a very neat chain stitch.

With these ends in view, my invention consists in a sewing-machine having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claim.

The frame of my improved machine is composed of two parts *A* and *A'*, secured together by rivets *a a*, and corresponding to each other except that the upper end of the part *A'*, is constructed with two horizontal arms *A²* and *A³*, located above each other in the same vertical plane and having the forward end of the part *A* abutted against their inner faces. The said members of the frame are cast, and may be readily assembled without finishing. By preference, they are constructed to form a seat *a'* to receive a screw for fastening the machine to a table. A horizontal shaft *B*, mounted in the lower portion of the said frame, is provided at its inner end with a small finger *C*, located in a vertical plane, and

constructed at one end with a hook *D*, which may be of any well known construction for forming a chain or loop stitch. A feed-plate *E*, interposed between the said finger *C*, and the adjacent portion of the machine, has a central opening *e*, receiving an eccentric *F*, mounted on the said end of the shaft, and adapted to impart the required movement to the feed, which is provided at its lower end with an elongated slot *e'*, receiving a horizontal pin *G*, projecting from the machine frame, the upper end of the said plate is furnished with two serrated fingers *e² e²*, having a clearance space *e³* between them, the said fingers being adapted to rise through corresponding parallel slots *h h* formed in the throat-plate *H*, which is secured by rivets *h' h'*, in a horizontal position to the lower portion of the machine frame. Under this construction, the fingers of the feed-plate move in an eccentric path as the hook revolves, rising into the said slots *h h* at the forward ends thereof, moving rearward through the same, and then sinking down through their rear ends and moving rearward to their forward ends, and so on. The opposite end of the shaft *B*, is furnished with a sheet-metal crank *I*, provided at its outer end with a wire handle-arm *J*, carrying a handle *J'*. An operating-link *K*, applied to the bent inner end of the said handle-arm *J*, is loosely attached at its upper end to the outer end of the horizontal operating lever *L*, which is hung on the upper of the two rivets *a*, employed to hold the two members of the machine frame together, a portion of this lever playing up and down in a vertical slot formed in the machine frame by making complementary recesses *a²—a²* in the upper portions of the parts *A—A'* thereof, as seen in Fig. 3. The inner end of this lever is rounded and inserted into a vertical slot *M'*, formed in the needle-bar *M*, which has bearing in plates *A² A³* formed integral with the head *A'* of the machine frame, the lower end of the said bar, which is formed of a wire rod, being constructed with a socket *m'* to receive the needle *N*, and provided with a set-screw *m²* to hold the needle in place. The throat-plate *H*, before mentioned, is furnished with a slot *h²*, located between its slots *h h*, to permit the needle to pass through the plate for co-oper-

ation with the hook D, the needle also passing
 through the clearance slot e^3 of the feed-plate
 E. The said plates $A^2 A^3$ also afford a bearing
 for the presser-bar O, which is also formed from
 5 a wire rod, and shaped at its lower end to
 form a bifurcated presser-foot O' of ordinary
 shape. A gudgeon o , consisting of a wire, is
 applied to the presser-bar in position to enter
 a notch o' formed to receive it in the arm A^3 ,
 10 whereby the bar is prevented from rotating.
 A coiled spring O^2 , encircling the said bar and
 interposed between the said gudgeon and the
 arm A^2 , exerts a constant effort to force the
 presser-foot O' toward the throat-plate H.
 15 When it is desired to retire the presser-foot,
 or move it out of the way so as to expose the
 fingers $e^2 e^2$ of the feed-plate, or for any
 other purpose, it is lifted against the force of
 its spring O^2 , until its gudgeon o has been
 20 cleared from the slot O' before mentioned,
 after which the bar may be rotated, being
 then supported in an elevated position by en-
 gagement of the lower end of its gudgeon
 with the upper face of the arm A^2 . The lower
 25 end of the presser-bar is provided with a fin-
 ger-guard P, made of wire, and designed to
 prevent the fingers of the operator from be-
 ing caught under the needle, the said guard
 being formed with a straight end p , which
 30 enters a horizontal opening o^2 formed to re-
 ceive it in the presser-bar at a point therein
 above the presser-foot, whereby the guard is
 permitted to swing in a vertical plane. Nor-
 mally this guard inclines from its pivotal
 35 point forward and rests at its extreme for-
 ward end upon the upper face of the forward
 end of the presser-foot. A guard, constructed
 and arranged as described, is very effective
 as a guard, and does not obscure the needle
 40 nor prevent ready access to the same.
 A threaded post Q vertically arranged
 upon the machine-frame in the usual posi-
 tion, is provided for carrying the spool R, the
 opposite ends of which are entered by cones
 45 S S, of which the lower cone rests upon a
 small spiral spring T, encircling the lower end
 of the post. A thumb-nut U, mounted upon
 the upper end of the post, and engaging with

the upper cone S, provides for regulating the
 tension of the thread which passes from the 50
 spool through an eye m^3 , formed to receive it in
 the upper end of the needle-bar. By turning
 the thumb-nut U, the tension of the thread
 may be very nicely regulated.

My improved machine, as will be seen from 55
 the foregoing, is of very simple and compact
 construction, and being composed of few and
 simple parts, is not liable to derangement.

I would have it understood that I do not
 limit myself to the exact construction herein 60
 shown and described, but hold myself at lib-
 erty to make such changes and alterations as
 fairly fall within the spirit and scope of my
 invention.

I am aware that it is old to make a sewing- 65
 machine in sections which are riveted to-
 gether, and I do not therefore claim that con-
 struction broadly.

Having fully described my invention, what
 I claim as new, and desire to secure by Letters 70
 Patent, is—

In a sewing machine, the combination with
 a frame composed of two substantially com-
 plementary vertical sections, rigidly secured
 together, one of the said sections having two 75
 horizontal arms, located in the same vertical
 plane and constructed to form bearings for
 the needle-bar and the presser-bar of the ma-
 chine, an operating lever pivoted in the up-
 per portion of the frame in a space formed 80
 between its two sections, on one of the piv-
 ots which hold the same together, and play-
 ing at its forward end through a slot formed
 in the said sections, and adapted to engage
 with the needle-bar; a horizontal driving- 85
 shaft journaled in the lower portion of the
 frame, connection between the rear ends of
 the said lever and shaft, and means for rotat-
 ing the latter, substantially as described.

In testimony whereof I have signed this 90
 specification in the presence of two subscrib-
 ing witnesses.

DAVID BROWN.

Witnesses:

GEO. D. SEYMOUR,
 FRED. C. EARLE.