THE HOWE

EXHIBITION

CATALOGUE

SEWING MACHINE

Kronheim & Co., 9 Dey Street, New York.

Sheet 1
3 Sheets

E. Howe, Jr.

Sewing Machine.

No. 4750 Patented Sep. 10, 1846.

Fig. 1

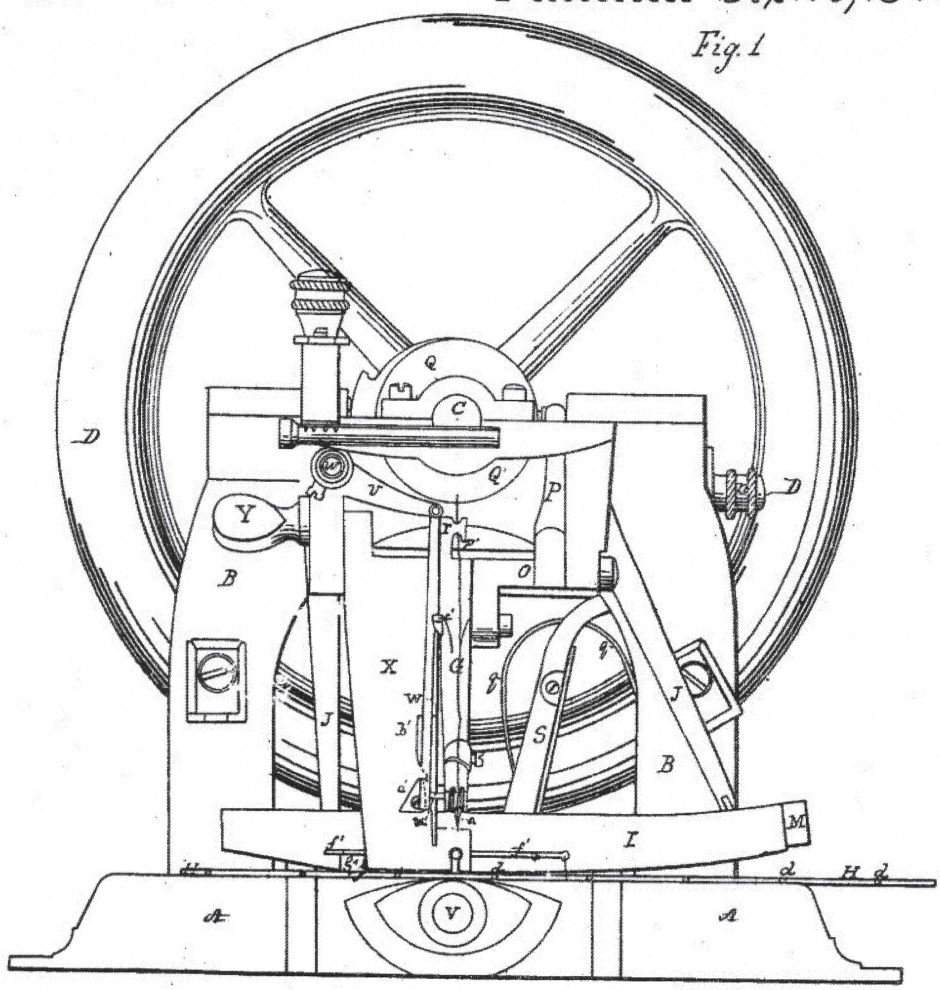

Fig. 4

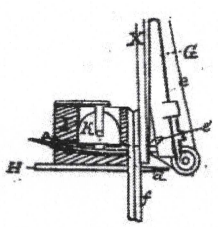

Fig. 7

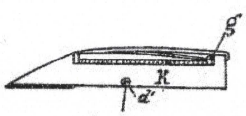

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Fig 2

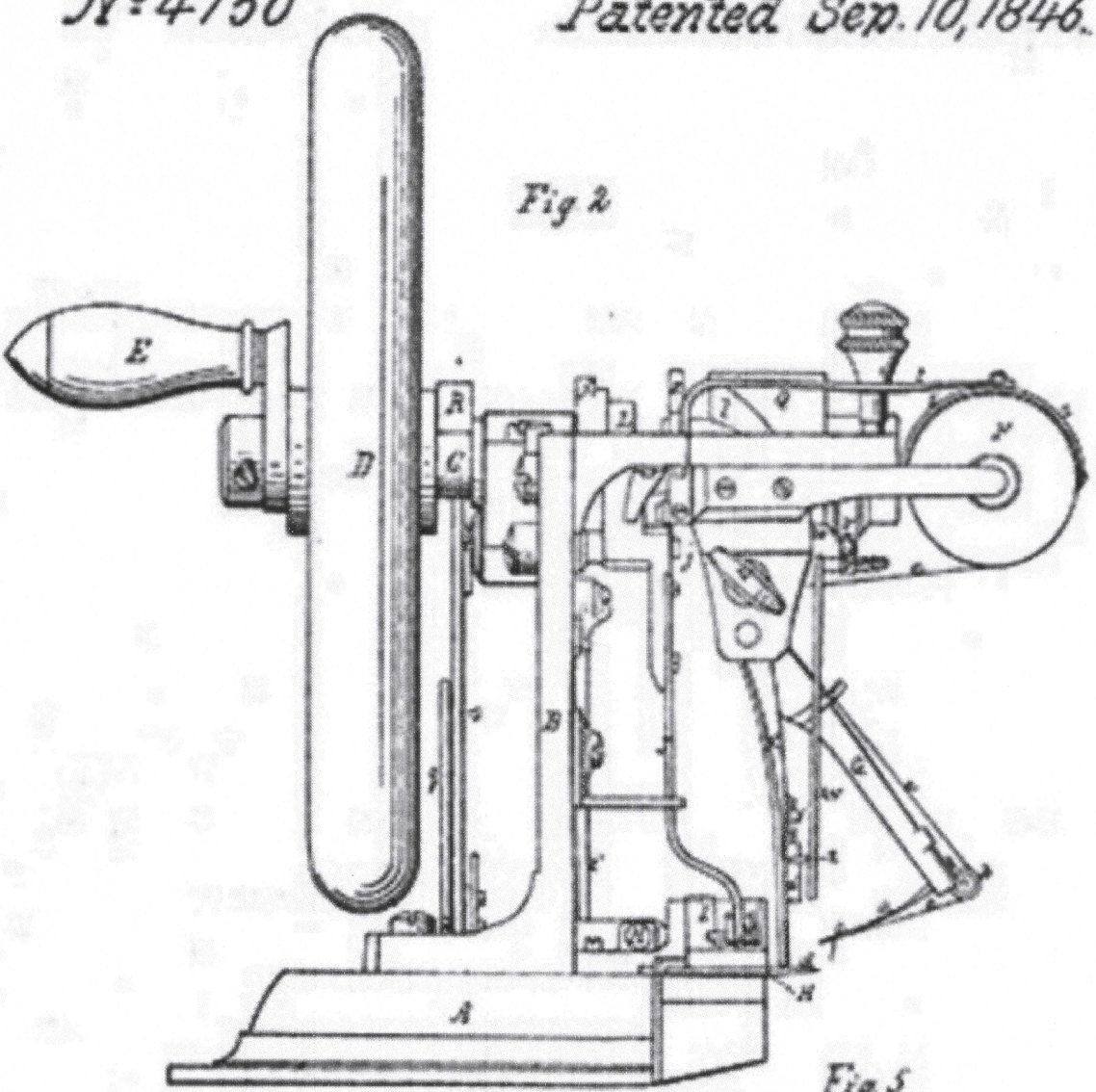
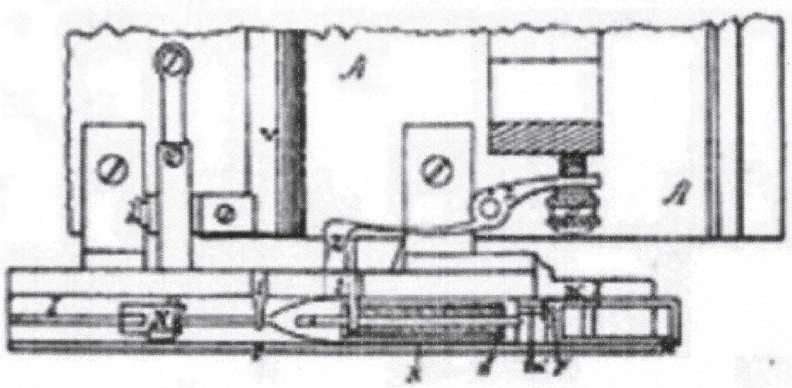


Fig 5



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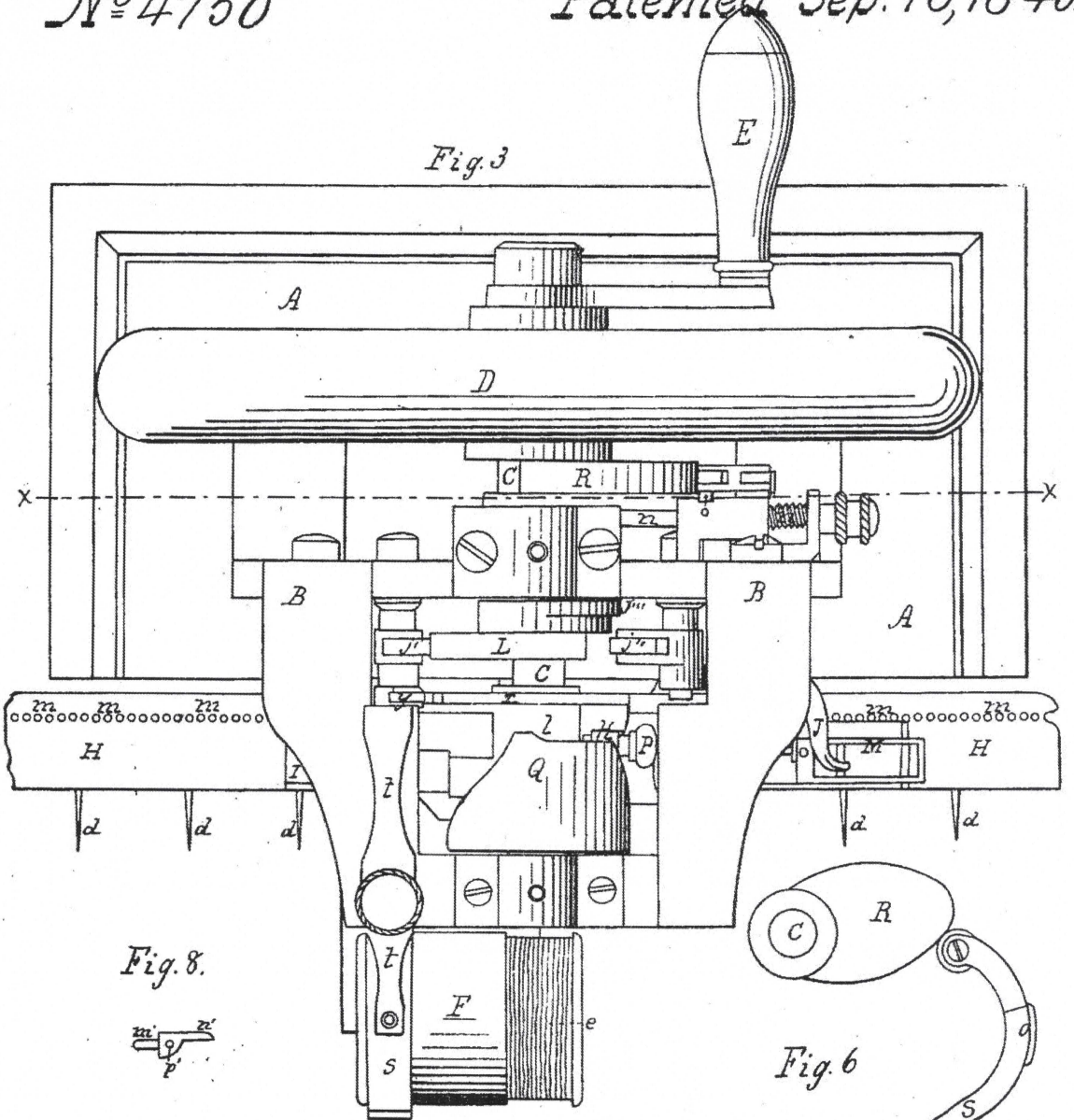


Fig. 8.

Fig. 6

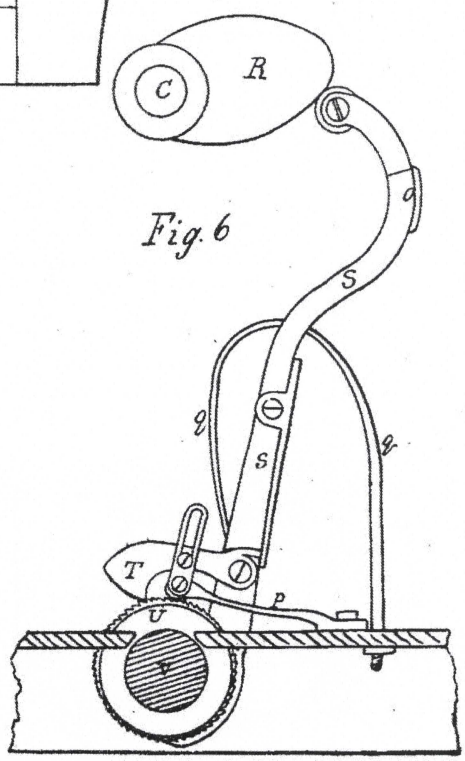
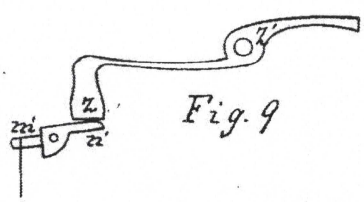


Fig. 9



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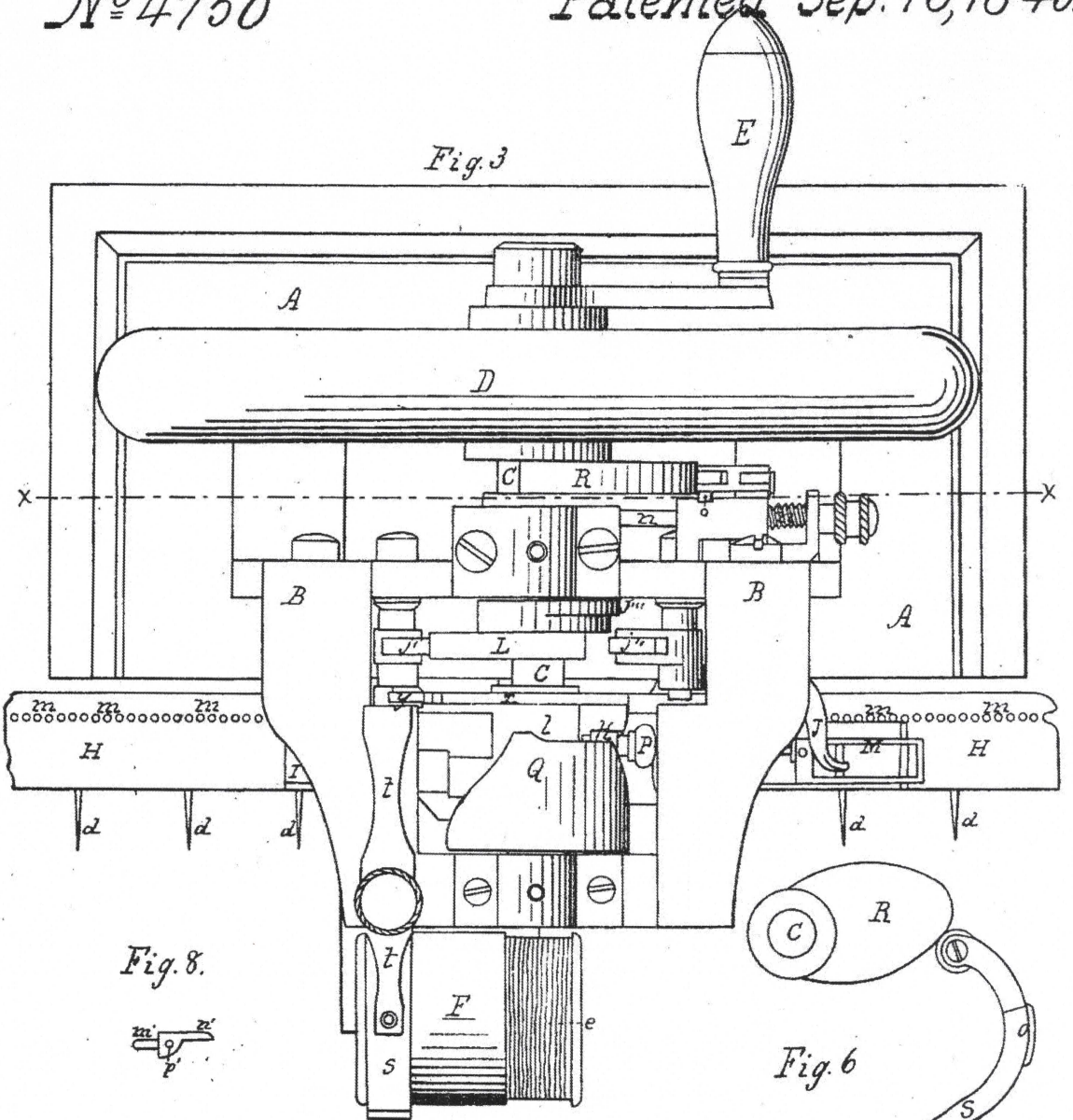

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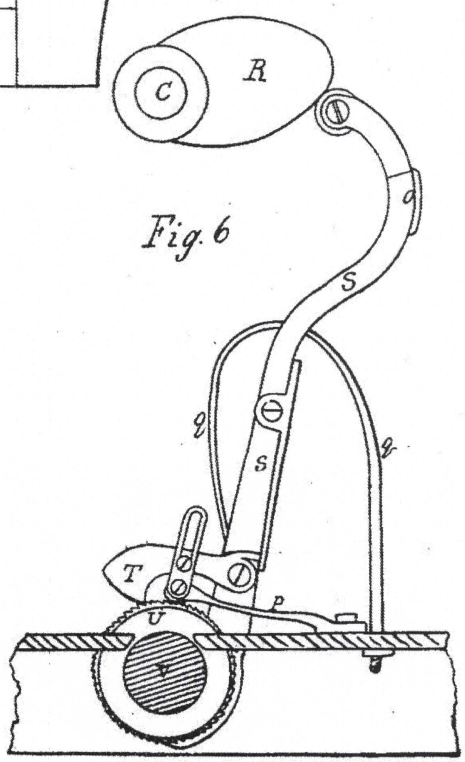

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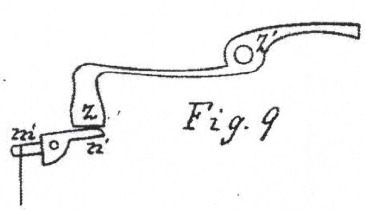

in section, but not shown in any of the other figures.) *e'* is the loop or slack thread formed on the outside of the cloth, and which is to be drawn through it by the passing of the shuttle.

I in the respective figures is the shuttle box or trough, within which the shuttle is moved back and forth by means of the picker-staves or shuttle-drivers J J. In Fig. 5 I have given a top view of this box with the shuttle K within it. This shuttle is in its general construction similar to the larger shuttle used in weaving, and its spool *g* is capable of containing an ordinary skein of silk. The shuttle-box I is represented as made convex on its under side, by which it is adapted to admit a baster-plate that may be in a curved form, although for most purposes a straight baster-plate may be used. The pieces marked *i i* are light springs above the shuttle, which bear slightly upon it and serve to steady its motion. The shuttle-drivers work on joint-pins, as shown at *j*, Fig. 2, there being a corresponding fixture for the drivers on the other side.

L, Fig. 3, is the cam that operates the shuttle-drivers, on the upper ends of which drivers there may be friction-rollers *j' j'*. The cam L acts upon the shuttle-drivers alternately.

M, Fig. 5, is a sliding box fitted into the shuttle-box and moved back and forth in the rear of the shuttle by one of the drivers, and N is a corresponding sliding piece moved by the other driver and adapted to the fore or pointed end of the shuttle. The needle-arm is attached to the rock-shaft O, Fig. 1, which vibrates on a center pin or pivots, and from this shaft rises an arm, P, that carries a pin and friction-roller, *k*, which enters a space, *l*, in the cam Q, which space operates as a zigzag groove, and is of course so formed as to give the proper vibration to the needle-arm. There is a groove or narrow channel made across the bottom of the shuttle-box to receive the needle, in order that its upper part may be even with said bottom and allow the shuttle to pass freely over it.

The baster-plate H, Fig. 3, which receives the cloth to be sewed, is furnished with a row of small holes, *m m*, drilled at a regular distance from each other, serving the purpose of rack-teeth, and into these round pinion-teeth enter for the purpose of carrying the plate forward to a proper distance at every stitch.

Fig. 6 shows the principal portion of the feeding apparatus as it would appear were a vertical section made through the machine in the line *x x* of Fig. 3. R is a cam on the cam-shaft C, that vibrates an arm, S, carrying a feeding-claw, T, that takes into a ratchet-wheel, U, on the shaft V, which shaft crosses the bed A of the machine, its fore end being seen at V, Fig. 1. This shaft has on it near its fore end the pinion that carries the pins or teeth that take into the holes *m* in the baster and cause it to advance between every stitch. The length of the stitch may be regulated by regulating the play of the arm S, and this is effected by the regulating-screw *n*, Fig. 3, that moves a pin back and forth that serves as a stop to said arm. The pin is represented by the dot *o*, Fig. 6, and is seen at *o*, Figs. 2 and 3. *p* is a spring that retains the ratchet-wheel in place as the claw is taking a new hold. *q* is a spring for holding the arm S against the cam.

In sewing with this machine, the thread from the bobbin F is passed over a notch, *r*, Fig. 1, at the upper end of the needle-arm, and is returned through the notch *r'*. It then passes down in front of said arm, then around the roller *b*, and through the needle-eye. To regulate the giving out of the thread from the bobbin, friction is made on it by the semicircular clasp *s*, that is made to press on it by a spring, *t*, regulated by a tempering-screw. Before the needle passes through the cloth the thread, which extends from the needle-eye to said cloth, is raised or drawn up by a lifting-pin, so as to form the loop or slack, which is subsequently to be drawn in by the passing of the shuttle between the thread and the needle.

W, Figs. 1 and 2, is a lifting-rod, from the side of which projects the lifting-pin *u*. The lifting-rod is attached at its upper end to a crank-arm, *v*, which works on a shaft, *w*, and this shaft is made to vibrate by means of the cam *x* on the cam-shaft. This cam operates on a friction-roller, *y*, on a short arm on the inner end of the shaft *w*. The lifting-rod stands in front of a plate, X, Figs. 1 and 2, which is attached at its upper end to the frame of the machine, and between the lower end of this plate and the shuttle-box the cloth is to pass. The plate X is furnished with a hinge-joint at its upper end, in order that its distance from the shuttle-box may be regulated to suit cloth of different thicknesses.

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The baster-plate H, Fig. 3, which receives the cloth to be sewed, is furnished with a row of small holes, *m m*, drilled at a regular distance from each other, serving the purpose of rack-teeth, and into these round pinion-teeth enter for the purpose of carrying the plate forward to a proper distance at every stitch.

Fig. 6 shows the principal portion of the feeding apparatus as it would appear were a vertical section made through the machine in the line *x x* of Fig. 3. R is a cam on the cam-shaft C, that vibrates an arm, S, carrying a feeding-claw, T, that takes into a ratchet-wheel, U, on the shaft V, which shaft crosses the bed A of the machine, its fore end being seen at V, Fig. 1. This shaft has on it near its fore end the pinion that carries the pins or teeth that take into the holes *m* in the baster and cause it to advance between every stitch. The length of the stitch may be regulated by regulating the play of the arm S, and this is effected by the regulating-screw *n*, Fig. 3, that moves a pin back and forth that serves as a stop to said arm. The pin is represented by the dot *o*, Fig. 6, and is seen at *o*, Figs. 2 and 3. *p* is a spring that retains the ratchet-wheel in place as the claw is taking a new hold. *q* is a spring for holding the arm S against the cam.

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