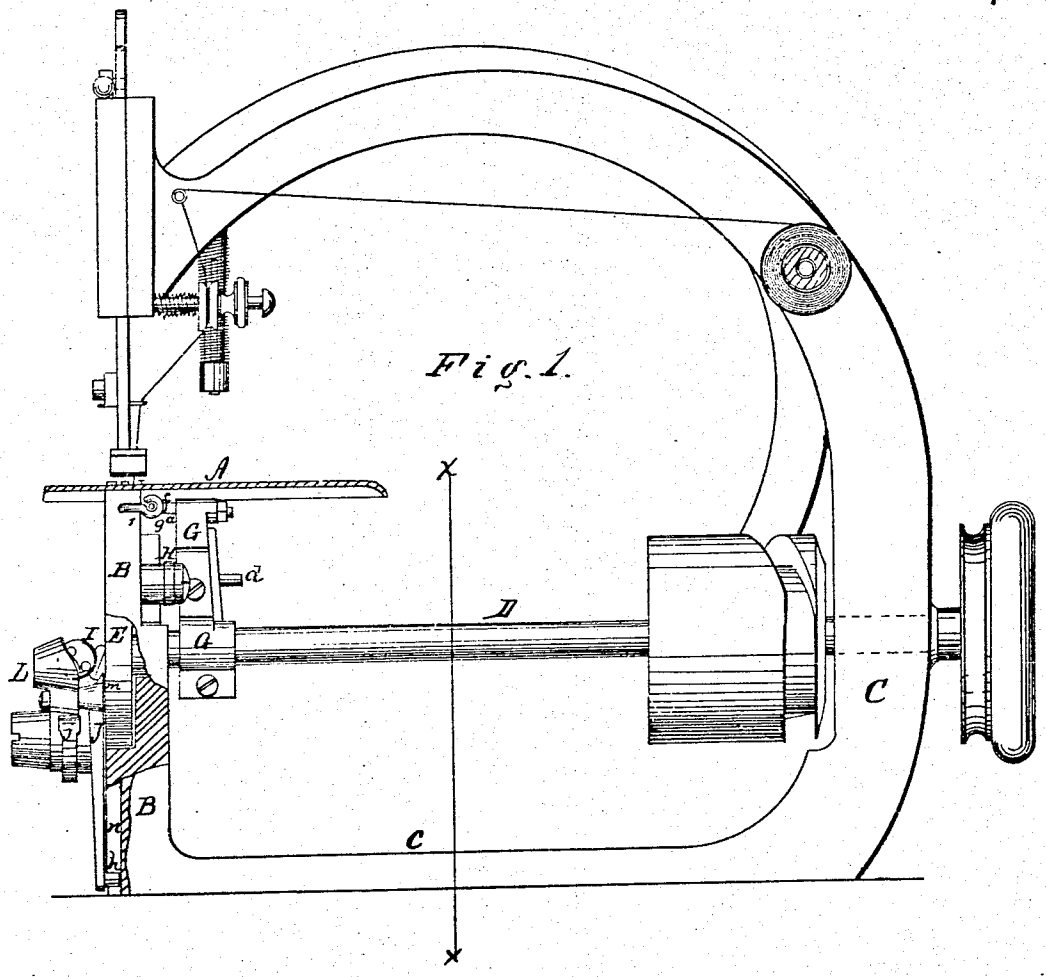
2 Sheets—Sheet 1.

F. H. BROWN.

Sewing Machine.

No. 102,366. Patented April 26, 1870.

Fig. 1.




Witnesses

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2 Sheets—Sheet 2.

F. H. BROWN.

Sewing Machine.

No. 102,366. Patented April 26, 1870.

Fig. 5.

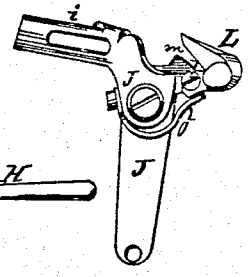



Fig. 3.

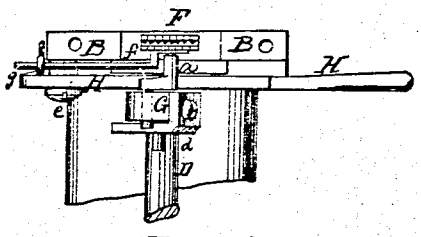
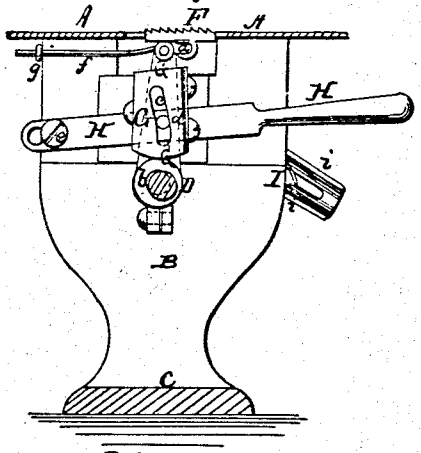



Fig. 2.




Witnesses

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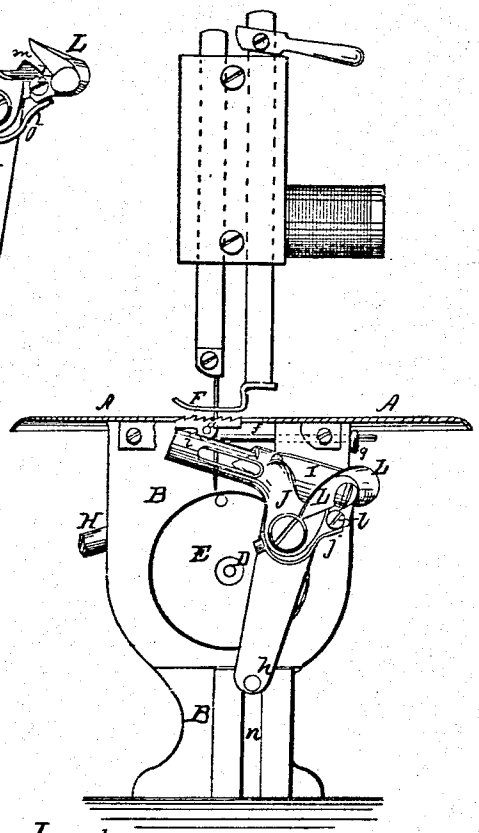
Fig. 4.




Inventor

F. H. Brown

per Munn & Co

Attorneys

# UNITED STATES PATENT OFFICE.

FRANKLIN H. BROWN, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **102,366**, dated April 26, 1870.

*To all whom it may concern:*

Be it known that I, FRANKLIN H. BROWN, of Chicago, Cook county, Illinois, have invented a new and useful Improvement in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side view, partly in section, of a sewing-machine provided with my improvement. Fig. 2 is a vertical transverse section of the same, taken on the plane of the line *x x*, Fig. 1. Fig. 3 is a detail plan or top view of the feeding apparatus. Fig. 4 is a front elevation, partly in section, of the same. Fig. 5 is a detail front view of the shuttle-holder.

Similar letters of reference indicate corresponding parts.

This invention relates to a new feeding apparatus for sewing-machines, and to a novel manner of arranging and holding the shuttle; and it consists in a feeding mechanism, as hereinafter more fully described, and also in a shuttle-carrier provided with a projecting lug or pin, by which the body of the shuttle is held away from the face-plate and operating-disk, an extension for protecting the point of the shuttle, and a hinged cap to confine the shuttle, the point only of the shuttle coming in contact with the face-plate, thus obviating friction.

A in the drawings represents the cloth-plate of my improved sewing-machine, it being supported by the front upright, B, which forms part of the frame C for supporting the machine.

D is the main shaft, having its bearings in front in the upright B to carry the disk E, which moves the shuttle-carrier.

The feed-bar F, which is arranged to receive reciprocating motion, is pivoted to a crank, *a*, which is attached to a swinging bar, G, that is by its lower end fitted upon an eccentric, *b*, of the shaft D. The bar G has a somewhat curved or upright slot, *c*, (shown in Fig. 2,) or a corresponding groove into which a pin, *d*, projecting from a lever, H, is fitted. The lever H is pivoted by a pin, *e*, to the inner side of the support B, and projects far enough from the side of the same to allow its being conveniently moved. When the lever is moved to elevate the pin *d* that forms the fulcrum of the bar G the motion of the feed-bar will be reduced so that smaller stitches will be made. When the fulcrum *d* is, however, set lower in the slot *c* the motion of the feed-bar will be increased. Thus, by having the fulcrum-pin directly on the lever H, the feed can be regulated without requiring the use of the slide shown in my Letters Patent No. 43,285, granted June 28, 1864.

To the feed-bar F is secured an extension-arm, *f*, which is fitted through an eye, *g*, that projects from the support B, as is clearly shown in Fig. 1. This eye serves as a guide for the feed while the same is drawn toward it, and is at such height that it will retain the feed-bar in a horizontal position while it acts on the cloth.

The shuttle I is supported on the carrier J, which is pivoted to the disk E, and provided with a pin, *h*, which works in a slot or groove in front of the support B, as in Fig. 4. The carrier has a front extension, *i*, which protects and covers the point of the shuttle, so that the shuttle-thread when slack cannot readily become entangled with the point of the shuttle. The shuttle is held in place by a swinging cap, L, which is held closed by a spring, *j*, and which is pivoted by a pin, *l*, to the carrier, as shown in Figs. 4 and 5. When the cap is swung out, as in Fig. 5, the shuttle can be removed and replaced. On the inner face of the carrier is formed a small projection, *m*, which is above the bed of the shuttle near the follower end of the same, and which keeps the shuttle-end away from the disk E or plate B, so that its body is thereby kept free from contact with the same. Only the point of the shuttle will in that case come in contact with the disk and face-plate, much friction being thereby avoided.

The projecting lug *m* is shown in Figs. 1 and 5.

I claim as new and desire to secure by Letters Patent—

1. The crank *a*, in combination with the feed-bar F, carrying the horizontal extension *f*, working through the eye *g*, and with the swing-

ing bar G, said crank being pivoted to the bar F, and fitted in the upper end of the bar G, as herein described, for the purpose specified.

2. The shuttle-carrier J, when provided with the extension *i*, with the hinged cap L, and with the lug *m*, all arranged substantially as described, to operate as set forth.

The above specification of my invention signed by me this 9th day of February, 1869.

FRANKLIN H. BROWN.

Witnesses:

FRANK BLOCKLEY,

E. GREENE COLLINS.