G. N. GOODSPEED.

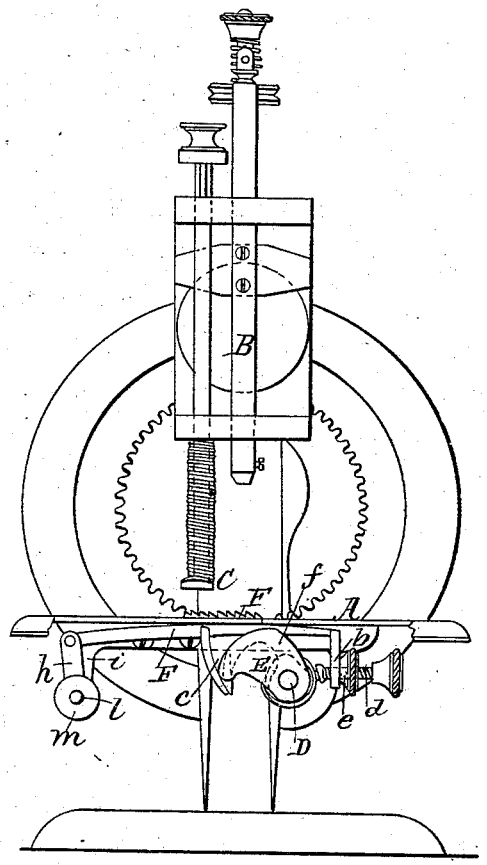
2 Sheets—Sheet 1.

Feeding Mechanism for Sewing Machines.

No. 54,816.

Patented May 15, 1866.

Fig. 1.



Witnesses.

Samuel C. Piper
Curtis

Inventor.

G. N. Goodspeed
by his attorney
R. H. Eddy

2 Sheets—Sheet 2.

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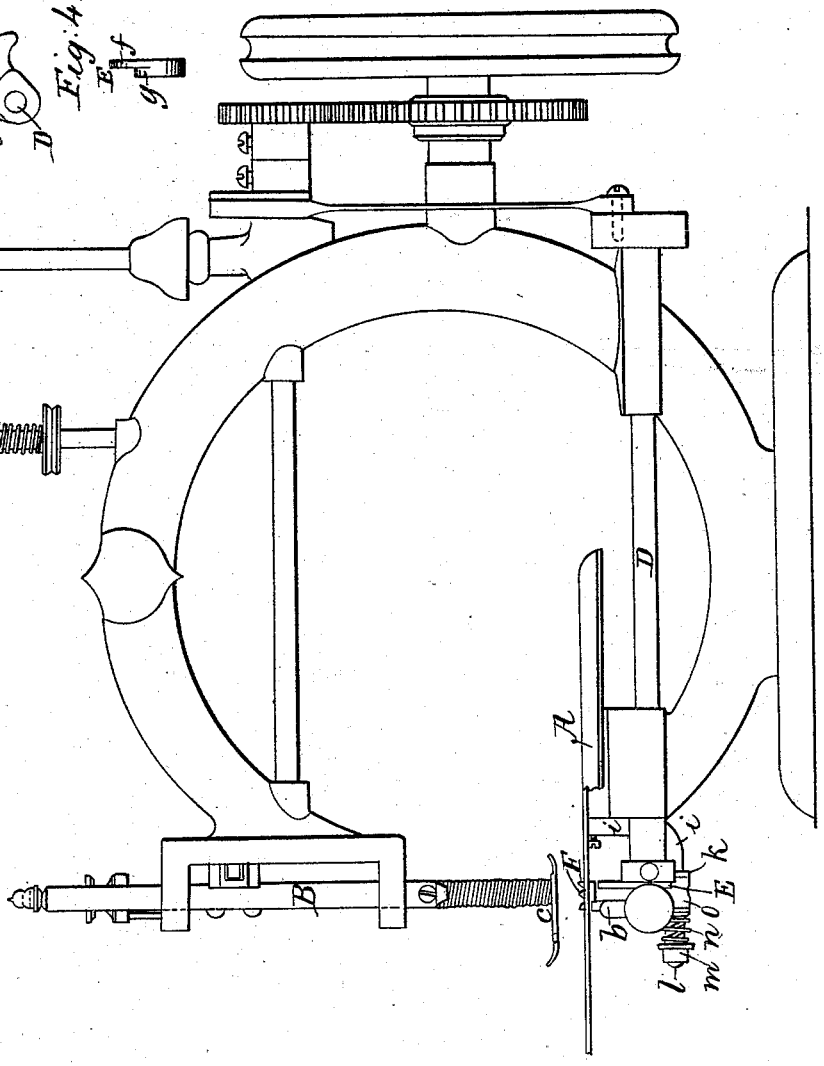
Fig. 3.

Fig. 4.

Fig. 2.



Witnesses.

Samuel N. Piper

Curtis

Inventor.

L. N. Goodspeed

by his attorney

R. H. Eddy

UNITED STATES PATENT OFFICE.

GEORGE N. GOODSPEED, OF WINCHENDON, MASSACHUSETTS, ASSIGNOR TO T. S. PAGE, OF TOLEDO, OHIO.

IMPROVEMENT IN FEEDING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **54,816**, dated May 15, 1866.

To all whom it may concern:

Be it known that I, GEORGE N. GOODSPEED, of Winchendon, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in the Feeding Mechanisms of Sewing-Machines; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front view, and Fig. 2 a side elevation, of a sewing-machine provided with my invention, the bed-plate being exhibited as broken away more or less, in order to more particularly exhibit the feeding mechanism.

The machine represented is what is usually termed a "chain-stitch" sewing-machine.

In the said drawings, A is the bed-plate, B the needle-carrier, and C the presser.

D is a shaft, to which, when the machine is in operation, a reciprocating rotary motion is to be imparted by suitable mechanism. A compound cam, E, is fixed to the front end of this shaft, such cam being formed of a cam, *f*, (shown in Fig. 1 in front view,) and also of a cam, *g*, (exhibited in rear elevation in Fig. 3,) both cams being represented in edge view in Fig. 4. The purpose of this compound cam is to produce not only reciprocating longitudinal motions of the feeder F, but an upward movement of it toward the presser as occasion may require. This feeder is a bar having a range of teeth on its upper side. Two arms, *b c*, project down from it, the part *f* of the cam E being arranged between them. A screw, *d*, provided with a clamp-nut, *e*, screws through the outermost one of the said arms, and is arranged so that its end shall be met by the periphery of the said cam *f* during each backward movement of the compound cam. The feeder rests on the periphery of the rear part, *g*, of the compound cam, such part serving to elevate the feeder. Said feeder is jointed at one end to a rocker-arm, *h*, supported by and so as to be capable of freely turning on a stationary bracket or arm, *i*, projecting from the bed-plate.

The rocker-arm *h* rests against a shoulder, *k*, formed on the arm *i*, and is pressed up to such shoulder by a friction-brake or apparatus, which consists of a screw, *l*, a nut, *m*, a helical spring, *n*, and a washer, *o*. The screw is cut on the arm *i*, which is encompassed by the washer, the spring, and the nut respectively, the said nut being screwed on the screw and against the spring, which rests against the washer, which, in turn, rests against the rocker-arm *h*, the whole being as represented in the drawings.

The compound cam having reciprocating rotary movements given to it, will, by its action against the arm *c* and the screw *d*, effect longitudinal reciprocating movements of the feeder.

The object of the friction apparatus applied to the arm *i* of the feeder is to prevent the feeder from rebounding after a movement of it in either direction horizontally by the cam *f*, such rebounding of the feeder causing variations in the lengths of the stitches made by the machine.

The screw *d* affords a means of regulating the length of each stitch or the endwise movement of the feeder.

I claim—

1. The arrangement and combination of the cams *f g*, the feeder F, its arms *b c*, the regulating-screw *d*, and the vibratory arm *h*.

2. The combination of the same and the friction apparatus, substantially as hereinbefore described.

G. N. GOODSPEED.

Witnesses:

F. P. HALE, Jr.,

G. H. WASHBURN.