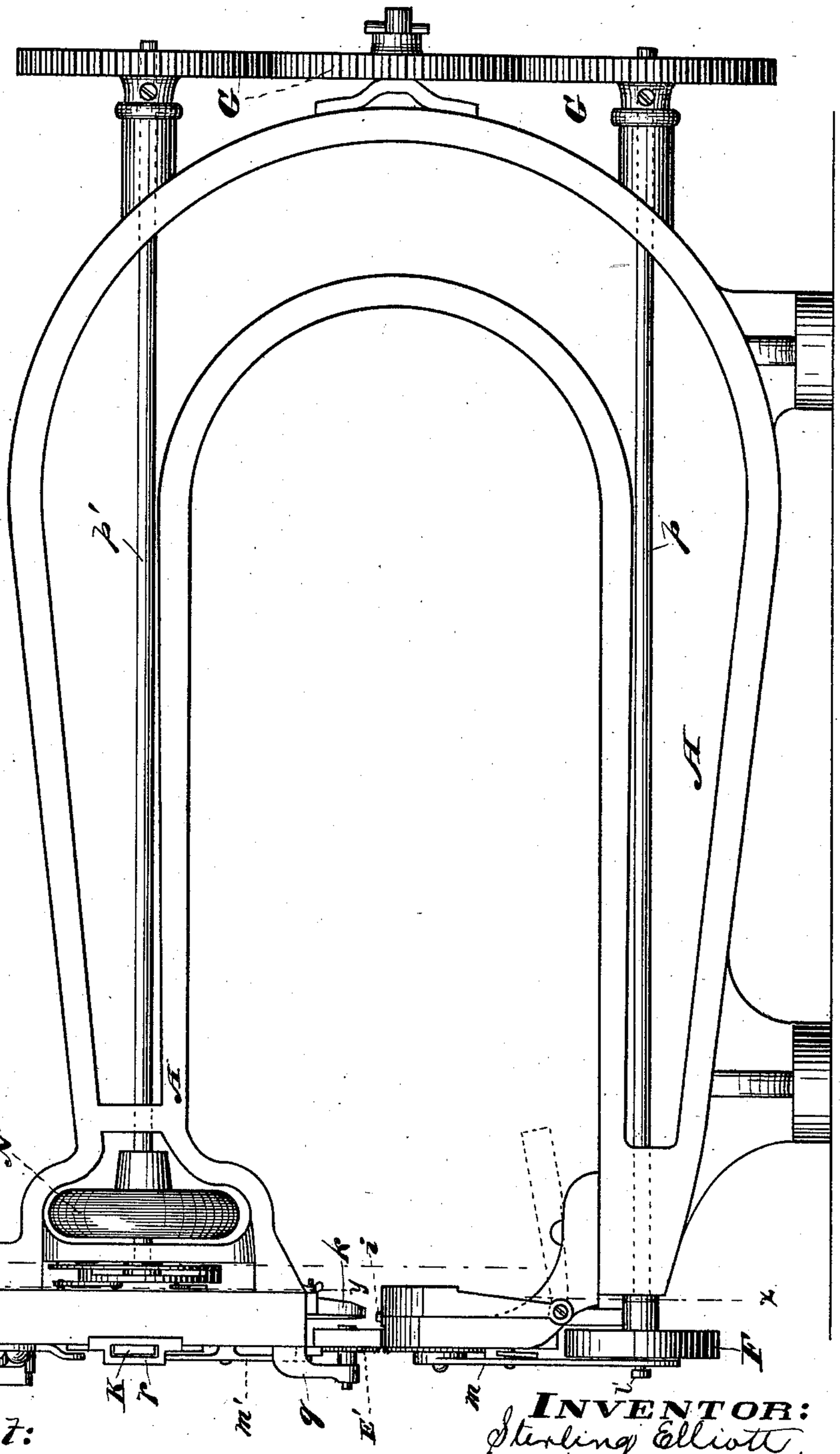
2 Sheets—Sheet 1.

S. ELLIOTT & T. B. JEFFERY.

SEWING MACHINE.

No. 250,718. Patented Dec. 13, 1881.

Fig. 1



Attest:

W. L. Baker.

C. B. Baker.

INVENTOR:

Sterling Elliott,

Thomas B. Jeffery.

By R. Dyrenforth,

Attorney

2 Sheets—Sheet 2.

S. ELLIOTT & T. B. JEFFERY.

SEWING MACHINE.

No. 250,718. Patented Dec. 13, 1881.

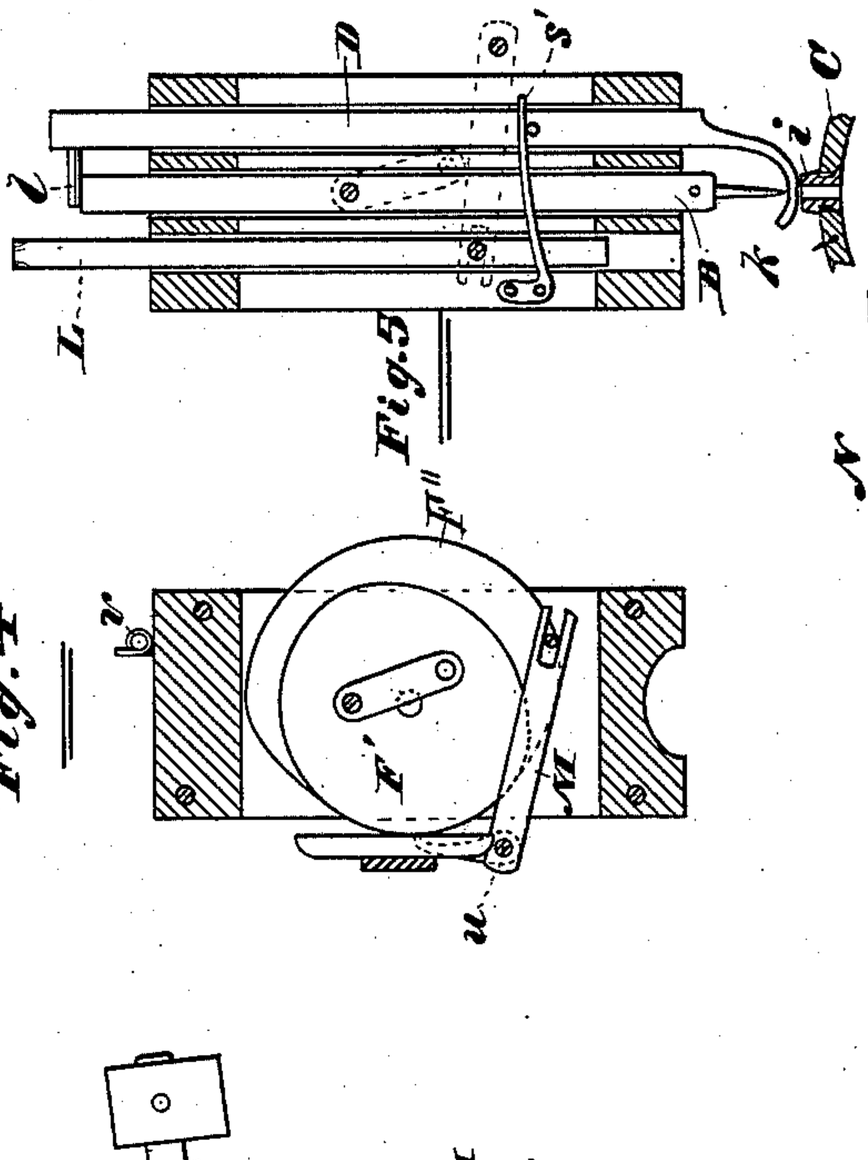


Fig. 5

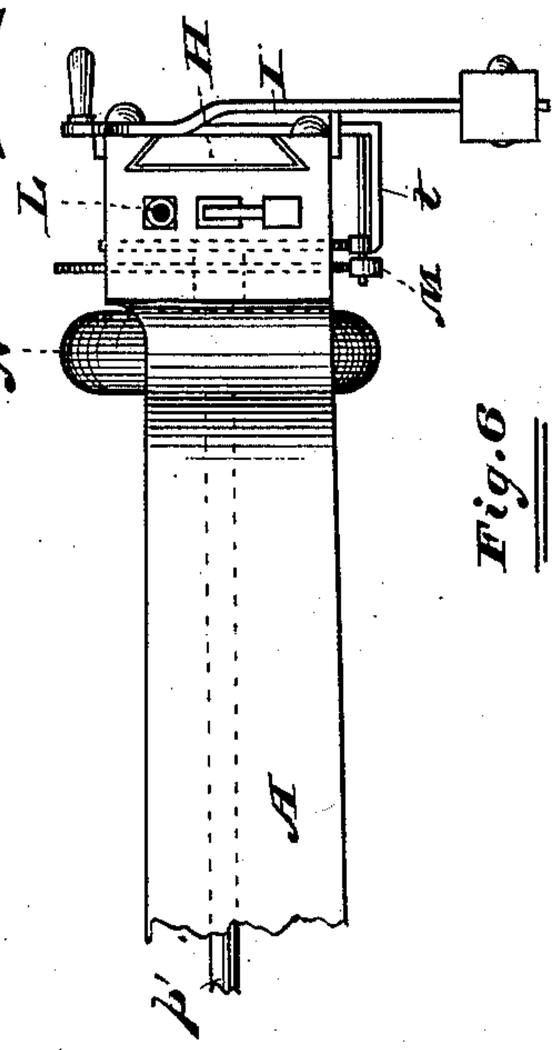


Fig. 6

Fig. 4

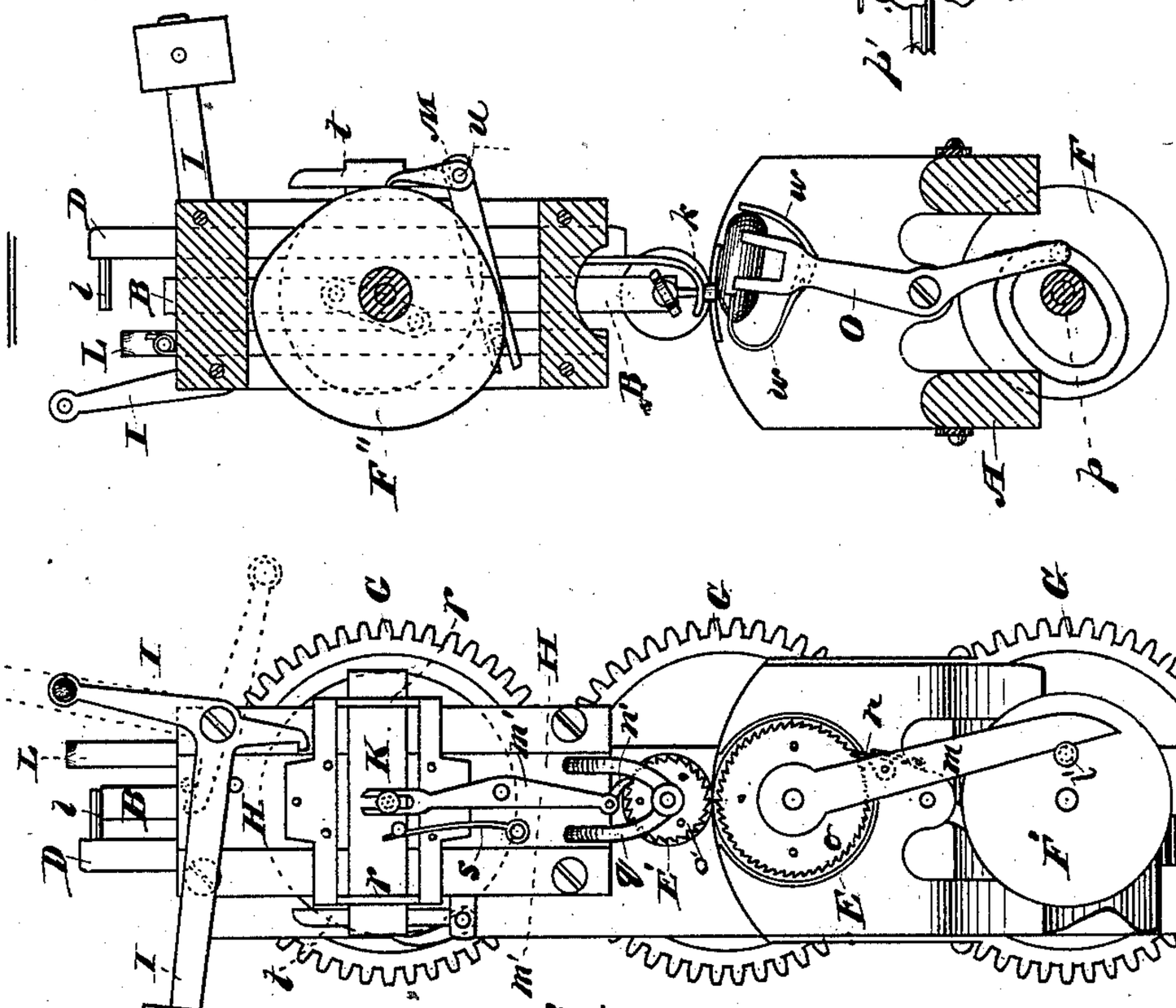


Fig. 3

Fig. 2

Attest:

W. L. Baker.

C. B. Baker

INVENTOR:
Sterling Elliott,
Thomas B. Jeffery,
By P. J. Dyrenforth,
Attorney.

UNITED STATES PATENT OFFICE.

STERLING ELLIOTT AND THOMAS B. JEFFERY, OF CHICAGO, ILLINOIS; SAID JEFFERY ASSIGNOR TO SAID ELLIOTT.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 250,718, dated December 13, 1881.

Application filed April 16, 1879.

To all whom it may concern:

Be it known that we, STERLING ELLIOTT and THOMAS B. JEFFERY, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sewing-Machines; and we hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, of which—

Figure 1 is a side elevation of the part of the machine containing our improvements; Fig. 2, a front elevation of the same; Fig. 3, a vertical cross-section taken on the line *x x*, Fig. 1; Fig. 4, a vertical cross-section taken on the line *y y*, Fig. 1; Fig. 5, a sectional detail view, and Fig. 6 a plan view.

Our invention relates to a machine for stitching leather around cylindrical, or partly cylindrical, bodies, and it is designed with an especial view to covering metallic dash-frames.

It consists, first, in combining with a raised needle-plate a needle-bar, two independently-operating pressers, and a mechanism for imparting to said needle-bar and one of said pressers a vertically-reciprocating motion independently of the other presser; also, in the combination of parts by which the sewing and feeding are effected; and, furthermore, in the combination of parts whereby the requisite motion is imparted to the upper feed-wheel, all as hereinafter more fully set forth.

In the drawings, A is the frame; B, the needle-bar; C, the needle-plate, having the raised nipple *i*, through which the needle passes; and D, the presser-bar, provided with the foot *k*. The relative arrangement of these parts is such that the presser-foot *k* is carried up and down simultaneously with the needle. One way of effecting this is represented in the drawings, where the needle-bar in passing upward meets a pin, *l*, projecting from the presser-bar, and thus carries the latter up with it. The presser-bar is carried upward in opposition to a spring, *s'*, or a weight, which operates in the usual manner to cause the foot to press, when permitted, hard upon the nipple *i*, or the material above the same.

We do not limit ourselves to the particular means shown for giving the described motion to the presser-bar, but only suggest that as being, in our opinion, the best way of accomplishing the desired result. The end sought is that the presser-foot shall move up and down simultaneously with the needle, being limited, however, in its downward progress by the needle-plate, or the material upon the same, whereas the needle continues on through the plate. The effect of the action of the presser-foot in conjunction with the needle, as described, said foot being borne down, as stated, by means of a spring or weight, is obviously to stretch the material tightly around the object which is being covered at just the proper point and at the instant the stitch is formed.

In our machine the feeding device is, as before stated, separate from the presser-foot above described. It comprises a lower feed-wheel, E, and upper feed-wheel, E'. The wheel E has an intermittent rotary motion imparted to it by means of the cam-wheel F, a pin, *l'*, thereon acting against an arm, *m*, pivoted to the axis of the wheel E, and projecting downward therefrom, and carrying a pawl, *n*, which engages at each impulse with a ratchet-disk, *o*, on the face of the wheel E. The cam-wheel F is revolved by means of the shaft *p*, extending through the lower arm of the frame from the gearing G at the opposite end. The wheel E' is journaled to a bearing, *q*, at the lower extremity of the vertically-sliding bar H, which is raised and borne down by means of the weighted elbow-lever I, pivoted to the frame and acting against a stud upon the bar H, as indicated by the full and dotted lines in Fig. 2.

All the mechanism above the needle-plate, including the needle-bar, is operated by means of the double irregular cam F' F'', revolved by means of the shaft *p'*, extending from the gearing G through the upper arm of the frame.

The upper feed-wheel, E', occupies a higher or a lower position, according to the thickness of the material, and as it is a matter of very great importance that it shall have a uniform motion and power in whatever situation it may be, we provide the following-described mechanism to effect this end:

K is a horizontal bar or plate, setting within guides *r* on the frame. This bar is bent to a right angle around the edge of the frame, whereby it is brought into contact with the cam F', which latter thus, at each revolution, carries the said bar sidewise in opposition to

the spring *s*, which carries it back as soon as released by the cam. Thus a horizontally-reciprocating motion is imparted to the bar K. The portion of this bar which comes in contact with the cam may be made as broad as required to maintain it in such contact whatever the height to which the wheel E′ is raised, and as a matter of construction we prefer to bend the end again at a right angle, in order to bring the edge against the cam, as shown at *t*. A lever, *m′*, pivoted to the bar H at a point below the plate K, with its upper arm connected to the said plate and its lower arm terminating in a pawl, *n′*, which engages with a ratchet-disk, *o′*, on the face of the wheel E′, communicates the requisite intermittently-rotary motion to the said wheel.

The take-up consists of the tubular bar L, having a vertically-reciprocating motion, which is imparted to it by means of the cam F″ and elbow-lever M. This lever is pivoted to the frame, as shown at *u*, one arm resting against the cam-wheel and the other being connected to the bar L, as clearly shown in Fig. 3. The thread is passed through the ring *v*, thence entirely through the bar L to the needle, and is taken up in uniform measure by the reciprocating action of this bar.

N is a supplementary hand-wheel in the head of the frame, upon the shaft *p*. It affords a convenient means for starting the machine, since the gearing, or whatever the device may be which is employed to run the machine, is necessarily several feet away from the operator, and hence out of easy reach.

The shuttle-carrier comprises the shuttle-lever O (operated by means of the cam-wheel F) and the horns *w*, and the whole is inclosed in the usual manner. It is usual to have the horns, one of which presses against the heel and the other against the toe of the shuttle, curved outward in a horizontal plane and secured by their opposite ends to shuttle-lever. We prefer, however, to carry the horns downward in a vertical plane and connect them to the shuttle-lever beneath the shuttle, thereby reducing the breadth to the narrowest practicable limits.

What we claim as new, and desire to secure by Letters Patent, is—

1. In a sewing-machine, the combination, with a raised needle-plate, of a needle-bar, two independently-operating pressers, and mechanism for imparting to said needle-bar and one of said pressers a vertical reciprocating motion independently of the other presser, substantially as described.

2. In a sewing-machine, the combination, with a raised needle-plate and a feeding mechanism, of a needle-bar, two independently-operating pressers, and mechanism for imparting to said needle-bar and one of said pressers a vertical reciprocating motion independently of the other presser, substantially as described.

3. The combination of the needle-bar B, presser-bar D, mechanism adapted to impart to the said needle-bar and presser-bar a vertically-reciprocating motion simultaneously, a raised needle-plate, and the rollers E and E′, with mechanism for rotating the same, whereby they are caused to operate as a supplementary presser and feed, substantially as described.

4. The combination of the L-shaped horizontal bar K, frame provided with the guides *r*, cam F′, shaft *p′*, spring *s*, lever *m′*, pawl *n′*, and ratchet *o′*, for operating the upper feed-wheel, E′, substantially as described.

STERLING ELLIOTT.
THOS. B. JEFFERY.

In presence of—
SAML. C. SMITH,
ALONZO F. WILLIAMS.