

United States Patent Office.

ROBERT BARCLAY, OF BUFFALO, NEW YORK.

Letters Patent No. 64,830, dated May 21, 1867.

IMPROVEMENT IN SEWING MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ROBERT BARCLAY, of Buffalo, in the county of Erie, and State of New York, 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 longitudinal vertical section of this invention.

Figure 2 is a transverse section of the same.

Similar letters of reference indicate like parts.

This invention relates to a sewing machine in which the presser-foot receives an oscillating motion simultaneously with the feed-wheel by means of a cam which acts on a spring-dog which connects with the presser-foot, and which is adjustable by a set-screw in such a manner that the feed motion of the presser-foot can be regulated to correspond to the motion of the feed-wheel. Said cam is mounted on the end of the shaft which serves to produce the motion of the needle-slide, and it acts in conjunction with an additional cam which serves to impart a rising and falling motion to the take-up mechanism, the object of which is to take up the slack of the needle-thread as the needle descends, so as to prevent the formation of a loop on the top of the material to be sewed.

A represents the stand or frame of my sewing machine, which is made of cast iron or any other suitable material, and the top of which forms the table or plate which supports the material to be sewed. From the back end of this cloth-plate rises the L-shaped standard B, the front end or face of which forms the guide for the needle-slide C and the presser-foot D. A rising and falling motion is imparted to the needle-slide C by the action of an eccentric wrist-pin, *a*, in a heart-shaped cam slot, *b*, in the usual manner, said wrist-pin being secured in a disk, *c*, which is mounted on the end of a shaft, E, that has its bearings in the L-shaped standard B, and to which a revolving motion is imparted by a belt, or any other suitable means, from the driving-shaft of the machine. The presser-foot D is held in position in the forward part of the L-shaped frame, and has at top a cam lever, F, pivoted to it at *d*, which serves to raise and lower the presser-foot, and said foot is so arranged that an oscillating motion can be imparted to it in addition to the rising and falling motion which it receives by the action of a cam, *e*, on a lever, G. This lever has its fulcrum on a pivot, *f*, secured in a lug, *l*, which projects from the horizontal arm of the L-shaped standard B, and the front end of which catches in a mortise in the presser-foot, while its rear end is acted on by the cam *e* which is secured to a disk or drum on the shaft E. The oscillating motion of the presser-foot is produced by the action of a cam which is formed by the circumference of the disk *e*, and which acts on a spring-dog, *m*, hung upon a pivot, *n*, and connected to the lever G by a slide, *o*, in such a manner that the desired motion is imparted to the presser-foot at the proper interval. The connection between the dog *m* and slide *o* is effected by a set-screw, *p*, so that the oscillating motion of the presser-foot can be regulated to correspond to the motion of the feed-wheel H. By these means the material to be sewed is clamped between two rough surfaces, viz, that of the presser-foot and that of the feed-wheel, and by the oscillating motion of the presser-foot and the intermittent rotary motion of the feed-wheel the desired feed motion of the material to be sewed is produced. The motion thus produced is perfectly rectilinear, and the material to be sewed is not liable to deviate from a right line, so that the operation of sewing straight seams is rendered simple and easy. The slack of the needle-thread is taken up by a rod, *q*, the upper end of which forms an eye to admit the thread, and to which a rising and falling motion is imparted by a cam, *r*, on the shaft E. Said rod is situated between the needle-slide and the tension device *t*, and its motion is so timed that it descends just before the needle-slide reaches its highest point, and stops its descent a little in advance of the time that the needle enters the cloth, so that it takes up the slack and prevents the formation of a loop on the upper surface of the material to be sewed.

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

1. The sliding rod *q*, situated between the needle-slide and tension device *t*, in combination with the needle-operating shaft E and cam *r*, the whole arranged and operating as and for the purpose specified.

2. The combination and arrangement of the adjustable pivoted dog *m*, slide *o*, and lever G, in combination with the presser-foot D, constructed and operating substantially as and for the purpose set forth.

The above specification of my invention signed by me this 11th day of July, 1866.

ROBT. BARCLAY.

Witnesses:

WM. F. McNAMARA,

W. HAUFF.