

L. PLANER.

Feed Wheel for Sewing Machines.

No. 48,205.

Patented June 13, 1865.

FIG. 4.

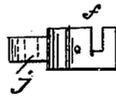


FIG. 1.

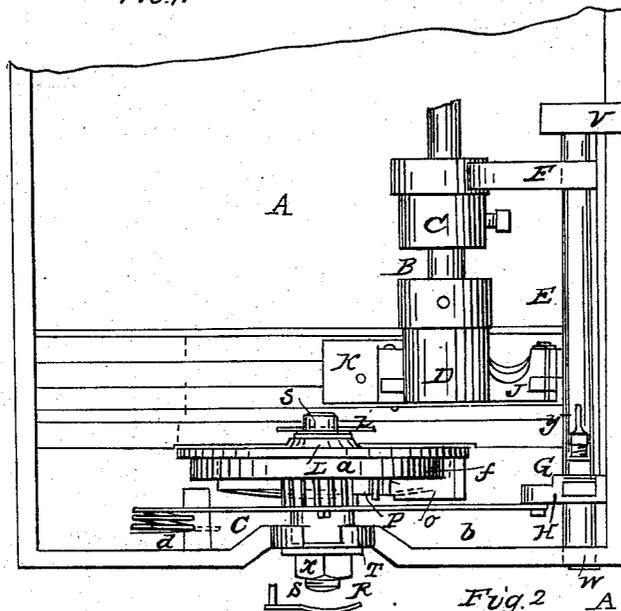


Fig. 2

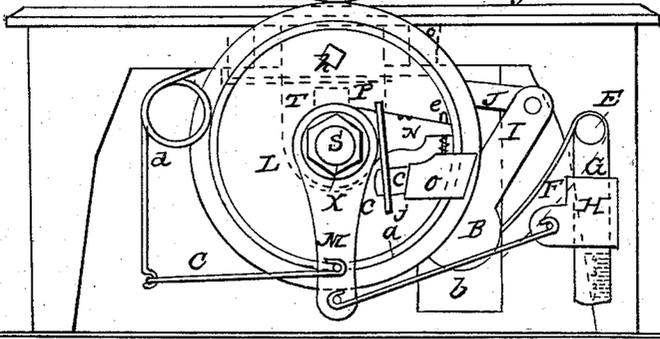
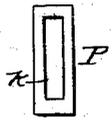


Fig. 3



WITNESSES  
*Edw. King*  
*Edward Osborne*

INVENTOR  
*Louis Planer*

# UNITED STATES PATENT OFFICE.

LOUIS PLANER, OF NEW YORK, N. Y.

## IMPROVEMENT IN FEED-WHEELS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 48,205, dated June 13, 1865.

*To all whom it may concern:*

Be it known that I, LOUIS PLANER, of the city, county, and State of New York, have invented a new and useful Improvement in Feed-Wheels for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, figures, and letters of reference thereon, making part of this specification.

Of the said drawings, Figure 1 is a full-size under-side view of part of a sewing-machine with my improved feed-wheel therein. Fig. 2 is a full-size front view of the same.

Similar letters of reference indicate like parts in all the drawings.

My invention consists in so arranging and combining the feed-dog and lever with the wheel that the dog shall always be held in its proper place upon the wheel, and a regular and certain intermittent motion of the wheel be insured.

It further consists in devices for adjusting the leverage of the feed-dog to the ring of the wheel to compensate for any wear in the dog.

It further consists in combining with the feed-wheel a rule or scale, by which the operator is readily enabled to set the wheel for any desired number of stitches to the inch.

To enable others skilled in the art to make and use my invention, I will describe the construction and operation thereof.

A represents the bed or table of a sewing-machine, to which is cast hangers to support the shafts for driving the shuttle and feed and the feed-wheel L at T. Secured in proper journals is the shaft B, which has a rocking motion imparted from the main moving shaft, and which motion is thus given to an arm, I, secured thereon, in order to drive the shuttle by means of a connecting-rod, J, attached to the shuttle-carrier. On this shaft B there is a cam, C, which operates the arm F of the rock-shaft E and gives a vibrating movement to the vertical arm G on the rock-shaft E, which arm G has a sliding clamp, H, and set-screw *y'*, as plainly shown. The feed-wheel L has a roughened surface, which projects above the table A sufficiently to grasp the material, which is held upon it by the presser-foot. The hub of the wheel is bored for the stud S, and the outside

of the hub is turned to receive the lever M. Upon the face of the wheel is a ring, *a*, projecting outward, which is finished perfectly concentric with the axis of the wheel. To this ring is fitted a dog, O, which has a groove, *f*, cut therein to fit the ring *a*, as shown in Fig. 4. The lever M has an arm, N, in which is a small screw, *e*, surrounded by a helical spring, as seen in Fig. 2. I press out with a die a link, P, Fig. 3, and finish the inner surface, *k*, perfectly square, and finish the short arm N of the lever so that it will receive the link and hold it in place by a small notch. The tail end *j* of the feed-dog O is finished to fit the link P, and has notches *c*, as shown in Fig. 2.

The operation will be as follows: The feed-dog O and arm N are coupled together by the link P, and the lever M is inserted on the hub of the wheel. The stud *S'* is then passed through the wheel to a shoulder and secured by a pin, *i*. The stud is inserted in the slot in the hanger T, and the periphery of the wheel is projected through the table so as to grasp the material, and the wheel is then secured in this position by the clamp-nut X and shoulder on the stud S. The lower end of the lever M is connected by means of a wire hook *b* and pins to the slide H on the arm G of the rock-shaft E, and as the rock-shaft is vibrated the wheel is driven forward a certain distance. The lever M and dog O are reacted after each forward movement by means of a coiled-wire spring, *d*, and hook *c* attached to a pin on the lever M.

To secure the necessary friction upon the wheel I put a spring, Q, against the side of the wheel next to the hanger T, this spring being provided with a hole to receive a pointed screw, *h*, which is adjusted to the requisite pressure, and the point of the screw *h* holds the spring in place.

The vertical arm G of the rock-shaft E is graduated like a rule, so that the slide H can be readily set to give any number of stitches to the inch. Thus if the lower edge of the slide H is secured at 1, Fig. 2, the wheel will feed for twelve stitches to the inch. If set at 2, fifteen to the inch, and so on. The stitches will be made longer by lowering the slide H and shorter by raising it.

The advantage of my invention in coupling the feed lever and dog together is that they

are always held in place without any other fastening, and the leverage on the dog for a firm bite upon the wheel is readily adjusted by varying the link in the series of notches *c*, and by the screw *e* and spring the dog is adjusted to compensate for any wear, the whole apparatus being simply and permanently adjustable.

I claim—

1. The combination, with the feed-wheel, of the slotted link P, arranged to grasp the feed lever and dog and hold the dog in proper position upon the flange of the wheel without other fastening, substantially as described and specified.

2. In combination with a feed-wheel, L, lever M, with its arm N, slotted link P, and dog O, making the apparatus adjustable, substantially as described and specified.

3. In combination with a feeding mechanism, constructed substantially as described, the rule or scale upon the arm G of the rocker-shaft, whereby the machine can be readily set to sew any desired number of stitches to the inch, substantially as described and specified.

LOUIS PLANER.

Witnesses:

C. A. DURGIN,  
EDWARD OSBORN.