

J. L. & D. H. COLES.

Feeding Mechanism for Sewing Machines.

No. 83,133.

Patented Oct. 20, 1868.

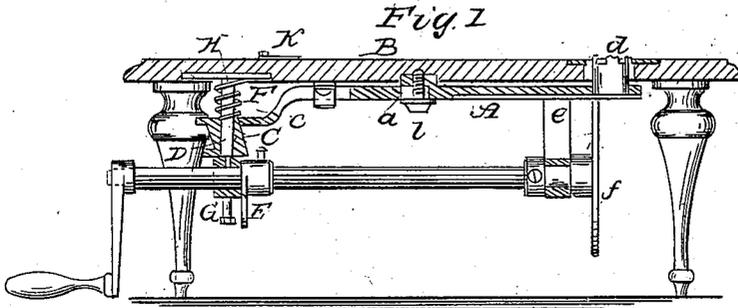


Fig. 2

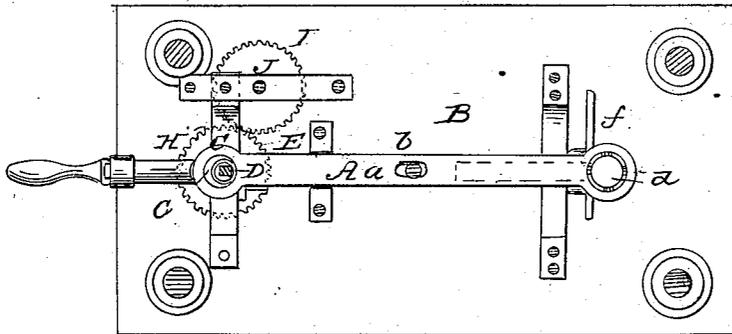
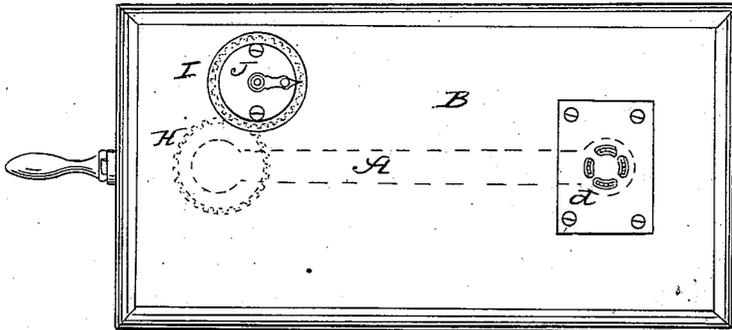


Fig. 3



Witnesses  
E. F. Kastenhuber  
L. Wapler

Inventor  
J. L. Coles  
D. H. Coles  
per  
Van Sarswold & Hauffattop

# UNITED STATES PATENT OFFICE.

J. L. COLES AND DAVID H. COLES, OF NEW YORK, N. Y.

## IMPROVEMENT IN FEEDING MECHANISMS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 83,133, dated October 20, 1868

### *To all whom it may concern:*

Be it known that we, J. L. COLES and DAVID H. COLES, both of the city, county, and State of New York, have invented a new and useful Improvement in Sewing-Machine Feed; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a sectional side elevation of this invention. Fig. 2 is a horizontal section thereof. Fig. 3 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention relates to a universal feed for sewing-machines which depends upon the action of a cam-slide, and which is constructed in such a manner that by turning said cam-slide the feed can be made to act in any direction of the compass, and by adjusting the cam-slide in a longitudinal direction the length of the stitch can be adjusted. The teeth of the feed-bar are arranged in a circle surrounding the needle-throat.

A represents the feed-bar, which is provided with a slot, *a*, through which passes a screw, *b*, which secures the same to the under surface of the cloth-plate B.

The rear end of the feed-bar forms a ring or eye, *c*, which embraces the cam-slide C. This cam-slide consists of a cylinder placed in an oblique position on the rod D, and it is subjected to the action of a cam-disk, E, and of a spring, F, which spring has a tendency to press the cam-slide toward the face of the disk. By the combined action of the cam-disk and spring the cam-slide receives a reciprocating motion through the eye of the feed-bar, compelling said feed-bar to assume a reciprocating or oscillating motion corresponding to the obliquity of the cam-slide.

By a screw, G, the cam-slide can be set closer to or farther from the cam-disk E, and the length of the stitch is changed.

On the rod D, to which the cam-slide is attached, is mounted a gear-wheel, H, which gears into another cog-wheel, I, mounted on an axle, J, which projects up through the

cloth-plate B, and to the upper end of which is secured an index-hand, K, which sweeps over a dial-plate inserted into or marked on the cloth-plate. By turning the index-hand the rod D, with the cam-slide, is turned and the direction of the feed is changed, the index being adjusted in such a manner that it indicates the direction in which the feed takes place.

The teeth *d* of the feed-bar are secured to a spring, *e*, which is attached to the under surface of said feed-bar, and which is exposed to the action of a cam or eccentric, *f*, so that the teeth are caused to project through suitable openings in the cloth-plate or throat-plate at the proper intervals. Said teeth are arranged in a circle surrounding the needle-throat, and they are so formed that they feed the fabric in any desired direction, the openings in the throat-plate through which they project being made of such a size that they can move the required distance in every direction.

By this arrangement a sewing-machine feed is obtained which can be properly termed a "universal feed," since it is capable of feeding in every direction of the compass.

We are aware that reversible feeds, and also feeds capable of acting in four different directions, have heretofore been constructed; but our feed is superior to these, since it acts in every desirable direction. We are also aware of the well known four-motion feed in general use in many sewing-machines. These devices we do not claim.

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

1. The cam-slide C, in combination with the feed-bar A, substantially as and for the purpose described.

2. The feed-bar A, in combination with the cam-slide C, constructed as described, and its mechanism for adjustment, as and for the purpose set forth.

3. The adjusting-screw G, in combination with the cam-slide C and feed-bar A, substantially as and for the purpose described.

J. L. COLES.

DAVID H. COLES.

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.