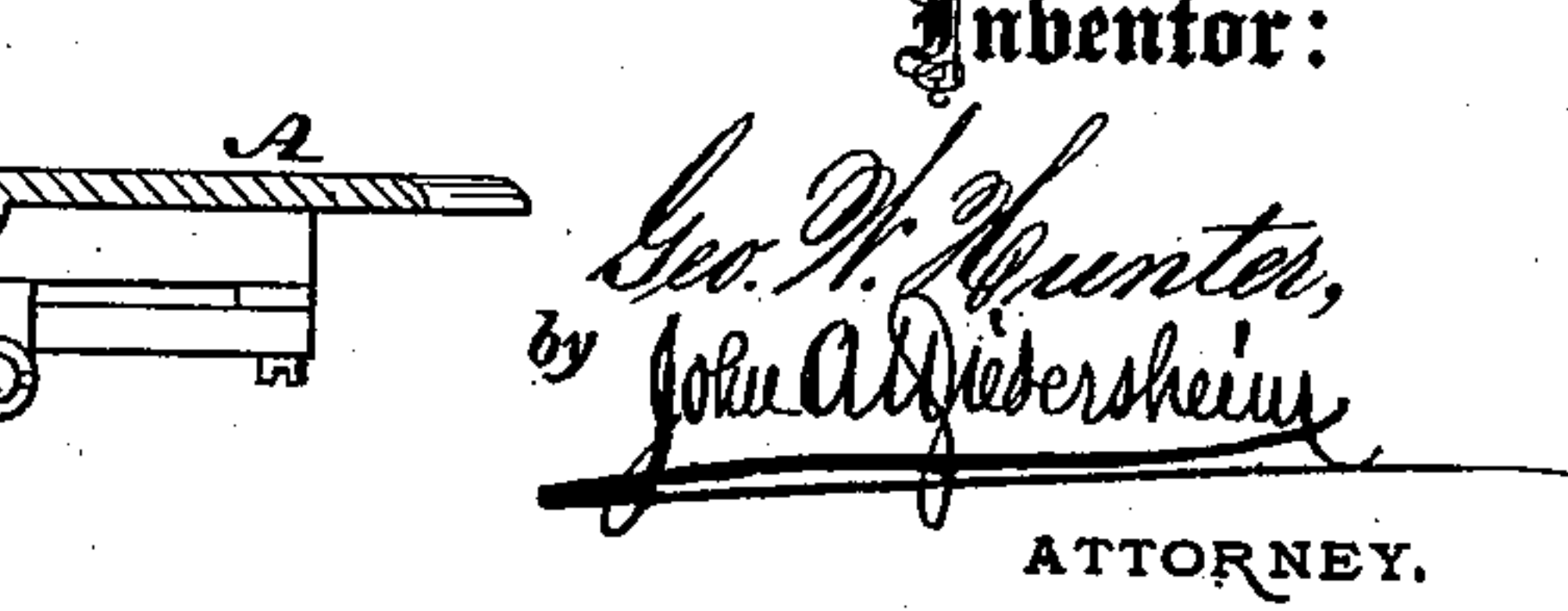
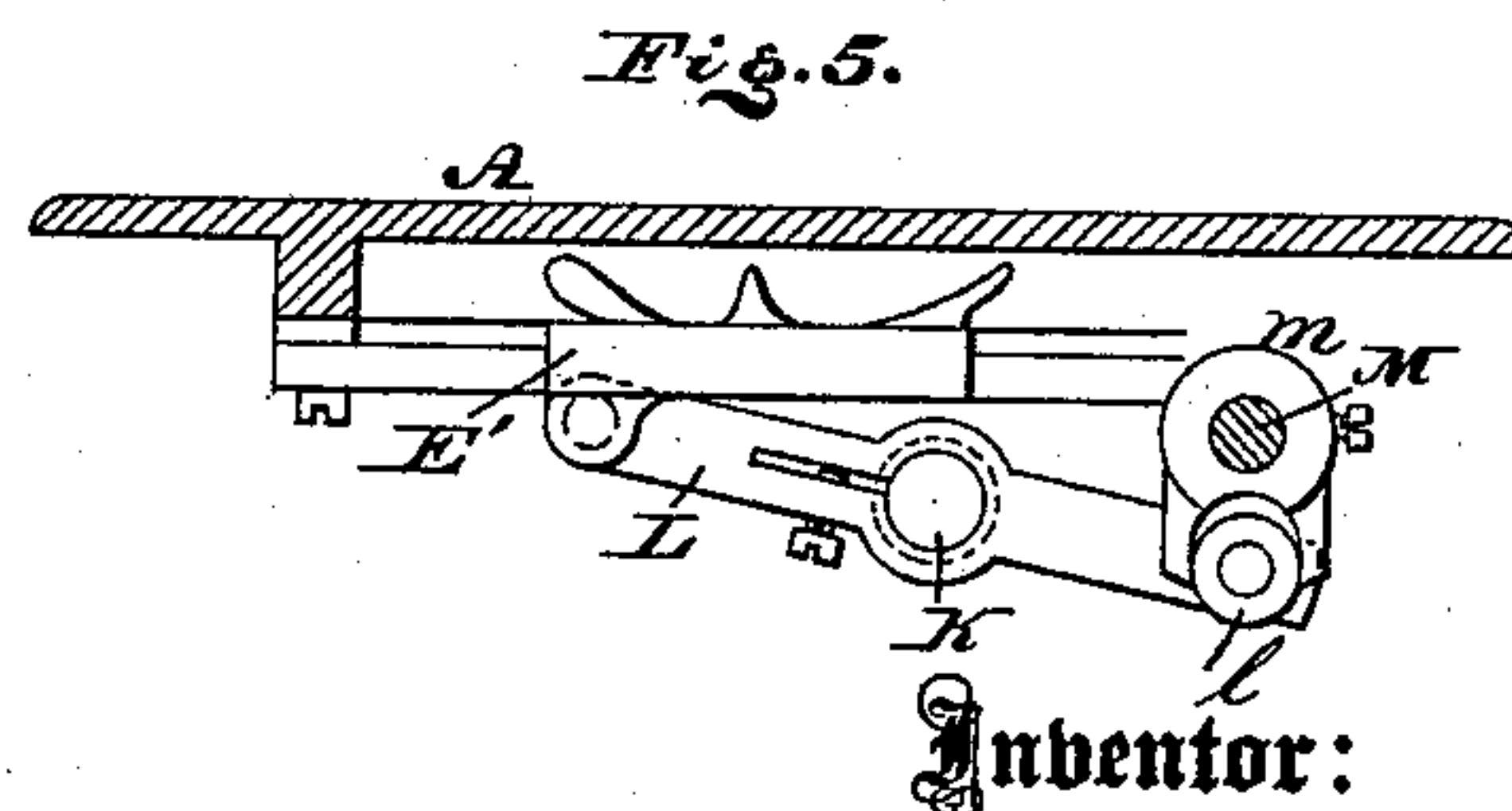
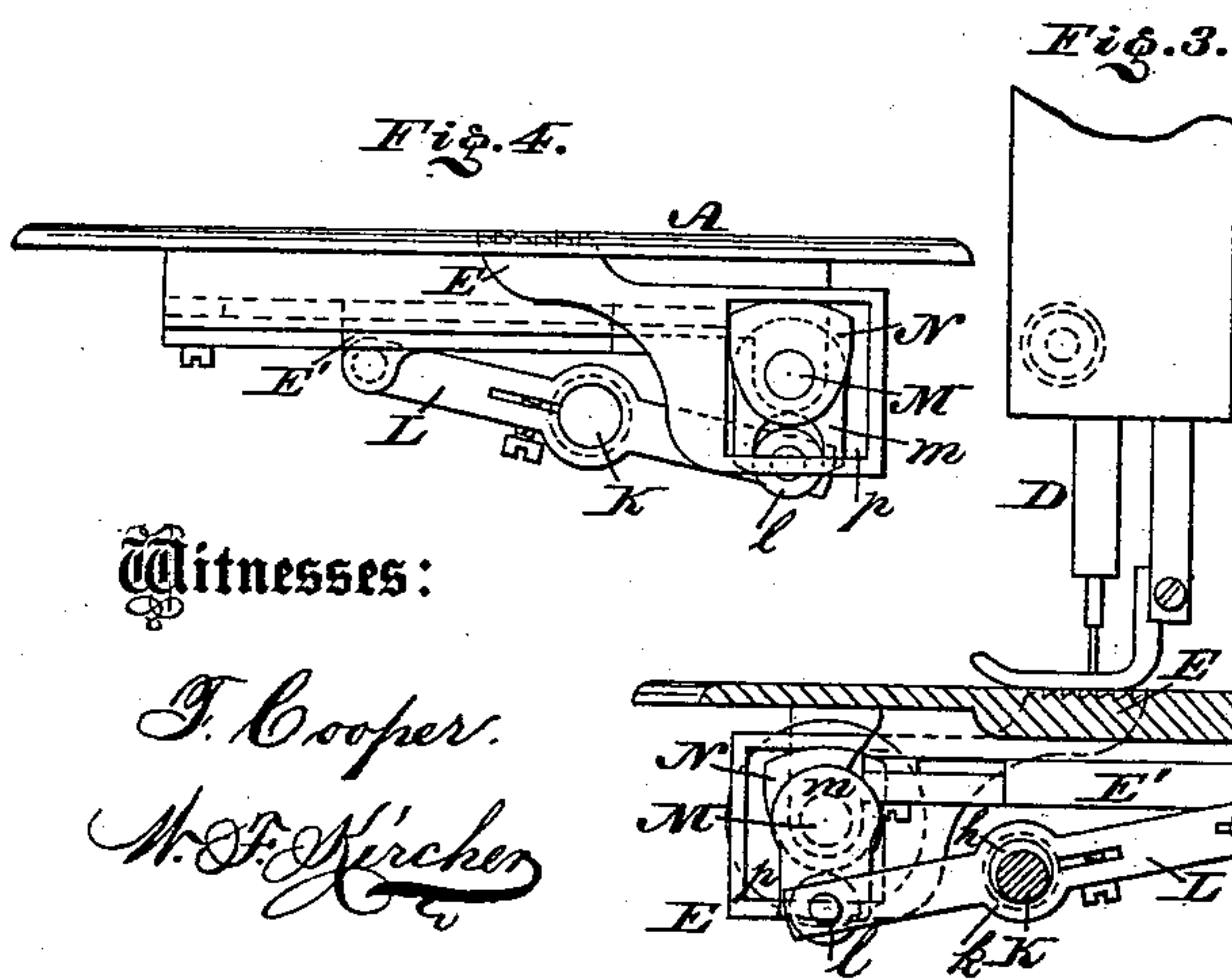
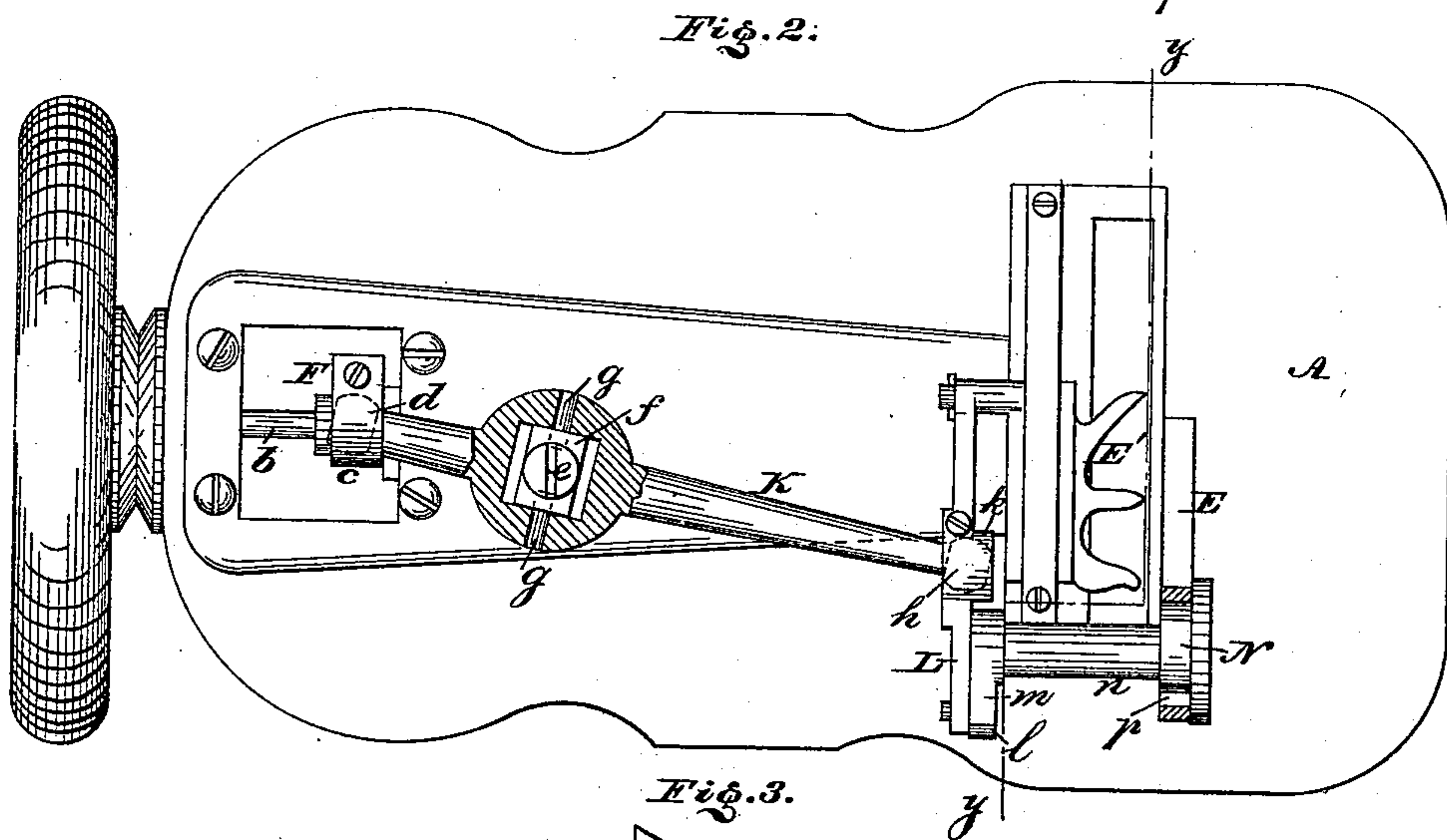
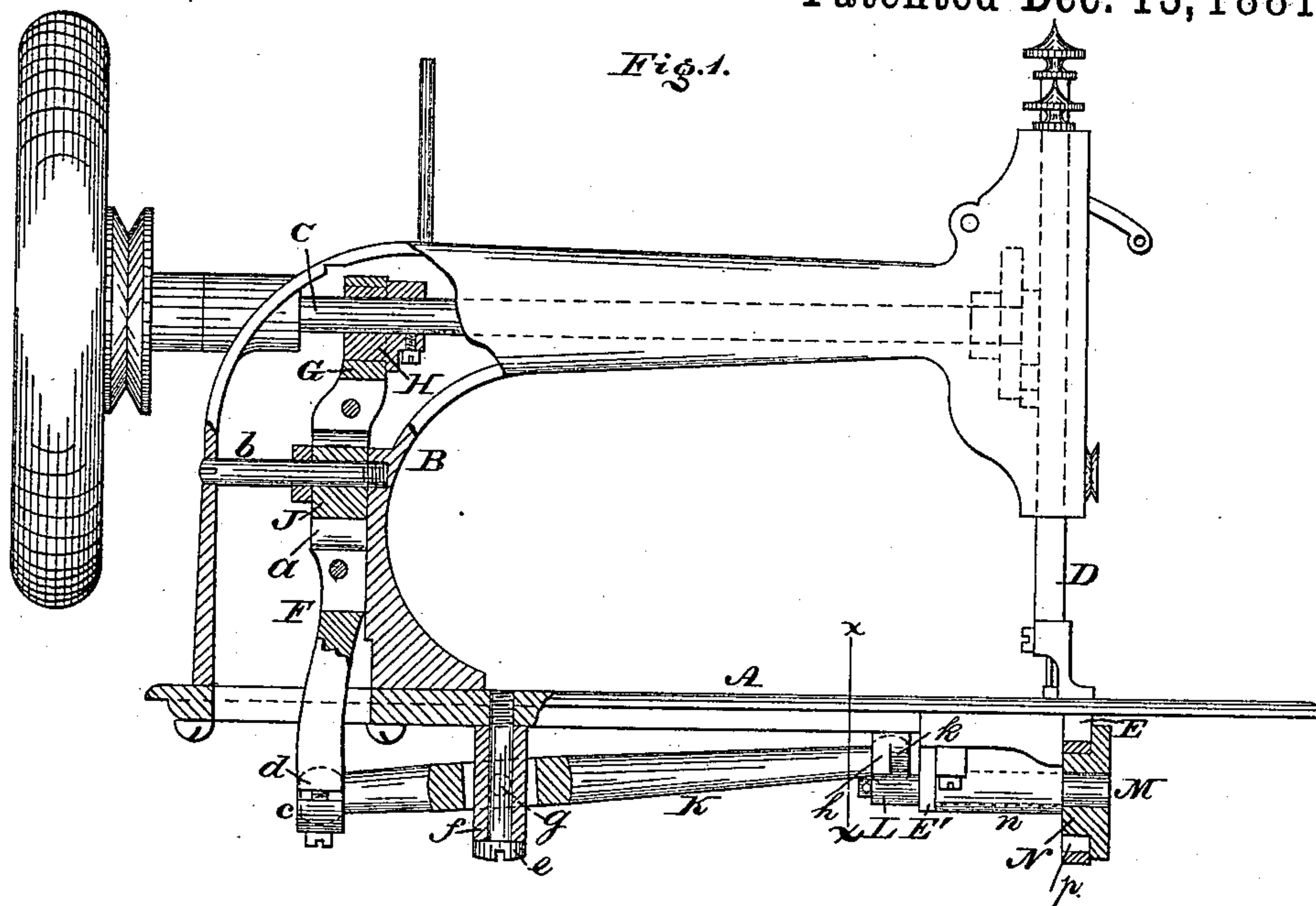


(No Model.)

G. W. HUNTER.
SEWING MACHINE.

No. 250,664.

Patented Dec. 13, 1881.



Witnesses:

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Inventor:

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UNITED STATES PATENT OFFICE.

GEORGE W. HUNTER, OF WASHINGTON, D. C., ASSIGNOR OF FIVE-SIXTHS TO A. REX, OF PHILADELPHIA, PA., AND HENRY M. BAKER AND JAMES H. VERMILYA, BOTH OF WASHINGTON, D. C.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 250,664, dated December 13, 1881.

Application filed January 24, 1881. (No model.)

To all whom it may concern :

Be it known that I, GEORGE W. HUNTER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented a new and useful Improvement in Sewing-Machines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation, partly sectional, of the sewing-machine embodying my invention. Fig. 2 is a bottom view thereof, partly sectional. Fig. 3 is a transverse vertical section thereof in line *x x*, Fig. 1. Fig. 4 is an end view of the machine, omitting the parts above the cloth-plate, the flange of the cam which operates the feed-bar being removed. Fig. 5 is a transverse vertical section in line *y y*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a sewing-machine having a single lever so combined and arranged as to impart motions to both the shuttle-carrier and the operating-shaft of the feed-bar, as will be hereinafter set forth.

Referring to the drawings, A represents the cloth-plate of a sewing-machine; B, the goose-neck or arm; C, the driving-shaft of the needle-bar D; E, the feed-bar; and E', the shuttle-carrier, all generally of well-known form and construction.

F represents a vertically-arranged oscillating arm, the upper end of which is formed with a yoke, G, which encircles an eccentric, H, on the shaft C. In the arm F is a vertically-extending slot, *a*, which receives a swinging box, J, whose horizontal axis is a pin or screw, *b*, connected to the arm B. At the lower end of the arm F is a socket, *c*, in which is fitted a ball, *d*, at the end of a lever, K, which latter extends horizontally and longitudinally under the cloth-plate, and is connected thereto by a ball-and-socket joint or a universal joint, as follows: A vertical stud, pin, or screw, *e*, is secured to the cloth-plate and sustains a rotary sleeve, *f*, and the lever K, embracing said sleeve, is connected to the same by means of a horizontal axial pin, *g*, whereby the lever K

may swing on said pin *g* and rotate with the sleeve *f*. The end of the lever K, opposite to the ball *d*, is formed with a ball, *h*, which enters a socket, *k*, formed in a driver or arm, L, which extends horizontally and transversely, and has one end pivoted to the shuttle-carrier E', and has the other end provided with a roller, *l*, which plays in a slot at the end of a crank, *m*, of a shaft, M, which, extending horizontally and longitudinally, is mounted on a boss or bearing, *n*, on the under face of the cloth-plate.

Formed with or secured to the shaft M, on the end opposite to the crank *m*, is a cam, N, which enters the slot *p* at the end of the feed-bar E.

It will be seen that the lever K and arms F and L are connected by ball-and-socket joints, and the universal motion of said lever K may be accomplished by a ball-and-socket joint, in which case the sleeve *f* may be the ball, and the opening of the lever which receives the sleeve and coincides with the ball serving as the socket of the joint.

The operation is as follows: Power is applied to the shaft C, whereby the needle-bar is raised and lowered, and oscillating motions are imparted to the arm F. The lever K thus receives motions, which will be found to be up and down and forward and backward, and motion is communicated to the arm L, this arm being pivoted to the shuttle-carrier and the crank *m* of the rotary shaft M, as has been stated, and receiving sliding and rotary or oscillating motions from the lever K, whereby the shuttle-carrier is moved forward and backward, and rotary motions are imparted to the crank-shaft M, which, carrying the cam N, as has been stated, operates the feed-bar E, it being noticed that the feed-bar and shuttle-carrier are operated by a single lever and connected mechanism.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The shuttle-carrier and feed-bar, in combination with the rotary shaft M, formed with a cam, the oscillating driver or arm L, and sin-

gle lever K, substantially as and for the purpose set forth.

2. The shuttle-carrier and feed-bar, in combination with the rotary shaft M, driver or arm L, lever K, and arm F, substantially as described, whereby the shuttle-carrier and feed-bar are adapted to be operated by the single lever K and connected parts.

3. The shuttle-carrier and feed-bar, in com-

bination with the shaft M, driver or arm L, lever K, and arm F, said lever K being connected to the cloth-plate by a universal joint, and to the arms L F by ball-and-socket joints, substantially as and for the purpose set forth.

GEO. W. HUNTER.

Witnesses:

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