

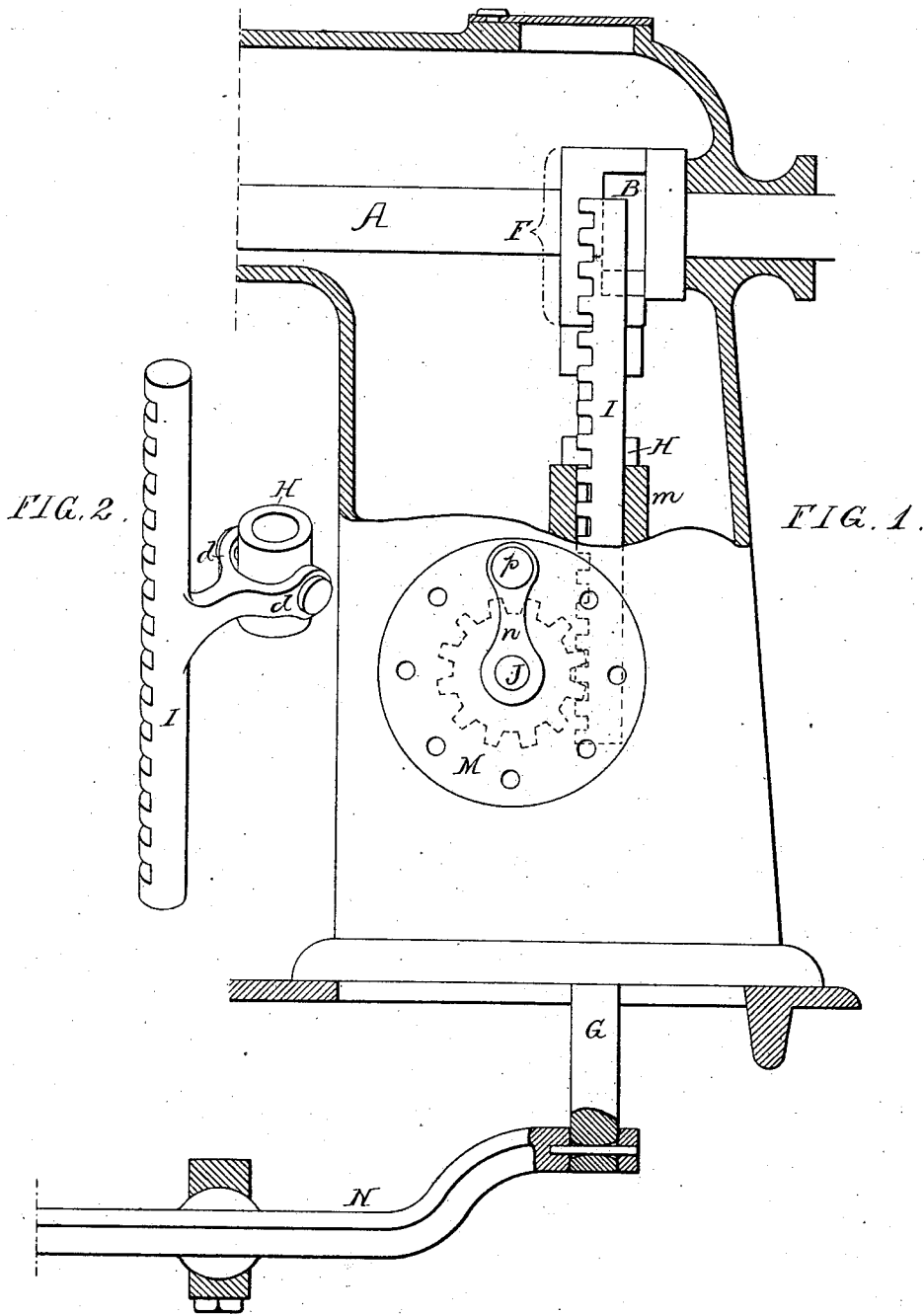
(No Model.)

2 Sheets—Sheet 1.

G. S. ROMINGER.
Mechanical Movement.

No. 237,704.

Patented Feb. 15, 1881.



WITNESSES:

James F. Tobin
Harry Smith

INVENTOR:

George S. Rominger
by his Attorneys,
Howson and Jones

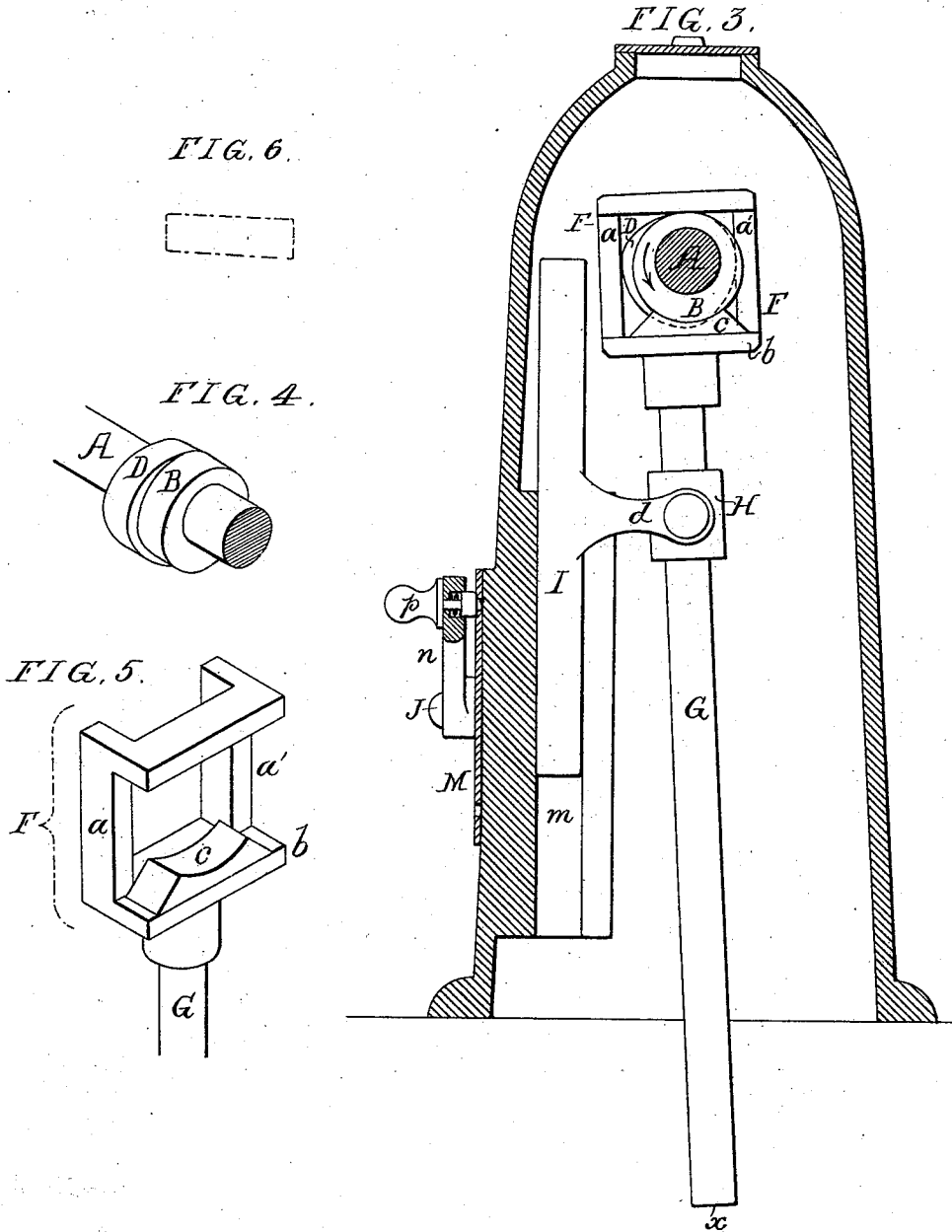
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UNITED STATES PATENT OFFICE.

GEORGE S. ROMINGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE AMERICAN BUTTONHOLE, OVERSEAMING AND SEWING MACHINE COMPANY, OF SAME PLACE.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 237,704, dated February 15, 1881.

Application filed January 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE S. ROMINGER, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented a new Mechanical Movement, of which the following is a specification.

The object of my invention is to construct a device for imparting a combined vertical and longitudinal reciprocating movement to any desired parts of machinery—an object which I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1, Sheet 1, is a side view of the device, part of the frame-work being in section; Fig. 2, a perspective view of part of the device; Fig. 3, Sheet 2, an end view, the frame being in section; Figs. 4 and 5, detached perspective views of parts of the movement, and Fig. 6 a diagram illustrating the result of the movement.

A is a driving-shaft adapted to suitable fixed bearings, and to this shaft are secured the eccentric B and cam D.

On the upper end of a rod, G, is a duplex yoke, F, part of which is adapted to the eccentric and part to the cam. Thus the cam acts on the vertical portions *a a'* of the yoke, and the eccentric on a slide, *c*, on the horizontal portion *b* of the yoke. The rod G is arranged to slide in a sleeve, H, which is pivoted to, and therefore can rock on, projections *d* on an adjustable bar, I. When the driving-shaft is turned two movements will be imparted to the rod G—namely, a continuous vertical reciprocating movement due to the eccentric, and an intermittent oscillating movement due to the cam, the latter being so formed that there will be a dwell after each movement of oscillation. A point, *x*, at the lower end of the rod G will describe a diagram, of which an enlarged view is shown in Fig. 6.

The object of the slide *c* is to permit the eccentric to have a proper bearing-surface, the yoke being at liberty to move independently of the slide under the influence of the cam.

While the extent of the vertical movement of the rod in its slide due to the eccentric never varies, the extent of the vibration of the

rod may be varied so as to produce diagrams, Fig. 6, varying in length, but of uniform depth. This variation in the extent of the vibration of the rod is produced in the following manner:

The bar I is adjustable in a guide, *m*, on the frame of the machine to which the movement is applied, and on this bar is formed a rack, into which gears a pinion, (shown by dotted lines in Fig. 1,) this pinion being secured to a shaft, J, which has its bearing in the frame of the machine, and is provided with an arm, *n*, having a knob, *p*, part of which forms a spring-pin for entering any one of a number of holes in a plate, M, secured to the frame of the machine. The higher the position of the sleeve H due to the adjustment of the bar I, the more extended will be the vibration of the lower end of the rod, this vibration becoming less as the sleeve is moved downward.

The plate M may be so marked near the holes as to indicate what will be specific extent of the vibration of the lower end of the rod when the spring-pin is in any one of the holes in the plate.

In the present instance the movement is shown as applied to a sewing-machine as a feed-motion, the rod G, Fig. 1, being loosely connected to the short arm of the lever N, which is universally jointed to the frame, and the outer end of the long arm of which will possess the movement known as the "four-motion feed." The device, however, may be applied to any machine in which the peculiar movement of the lower end of the rod G may be available.

I claim as my invention—

1. The within-described mechanical movement, in which are combined a driving-shaft, A, having an eccentric, B, and cam D, a duplex yoke, F, having a slide, *c*, a pivoted sleeve, H, and a rod, G, connected to the yoke and adapted to the sleeve, as set forth.

2. The combination of the shaft A, having an eccentric, B, and cam D, the duplex yoke having a slide, *c*, the rod G, connected to the yoke, and the sleeve H, movable from and toward the yoke, and serving as an adjustable pivot for the rod G, as specified.

3. The combination of the rod G, having the within-described reciprocating and vibrating movement, the adjustable bar I, the sleeve pivoted to the said bar and adapted to the rod, the handle *n*, and gearing, substantially as described, for adjusting the said bar I, as set forth.

4. The combination of the bar G, having a reciprocating and vibrating movement, the pivoted sleeve H, carrying said bar, the bar I, to which said sleeve is pivoted, a handle, *n*, gearing whereby the movement of said handle

is imparted to the bar I, a stop-plate, M, and a spring-retainer for holding the handle *n* in any position to which it may be adjusted on the plate, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEO. S. ROMINGER.

Witnesses:

JAMES F. TOBIN,
HARRY SMITH.