

No. 697,339.

Patented Apr. 8, 1902.

M. HASHFIELD.
FUR AND GLOVE SEWING MACHINE.

(Application filed Aug. 31, 1901.)

(No Model.)

2 Sheets—Sheet 1.

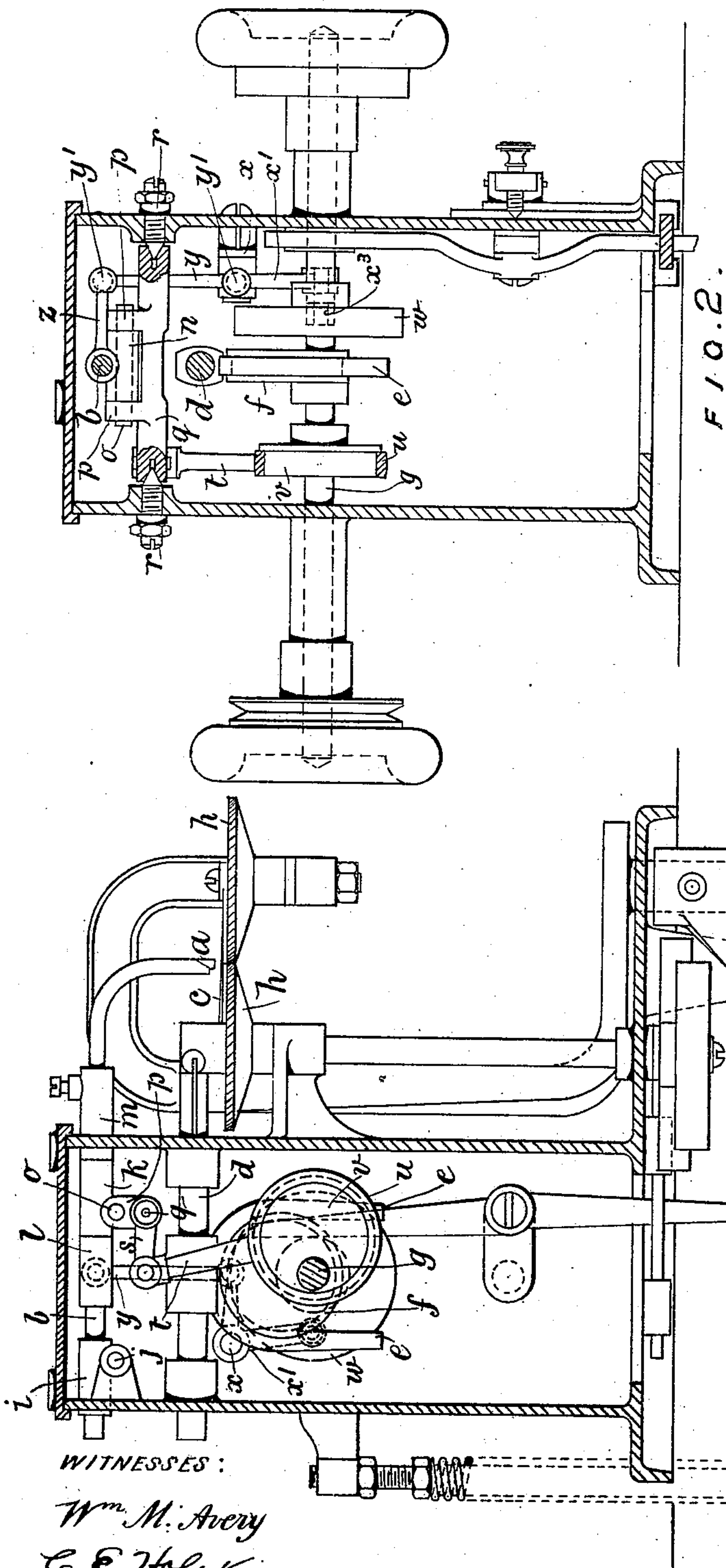


FIG. 2.

FIG. 1.

WITNESSES:

Wm. M. Avery
C. E. Holke

INVENTOR

Morris Hashfield

BY

Murray

ATTORNEYS

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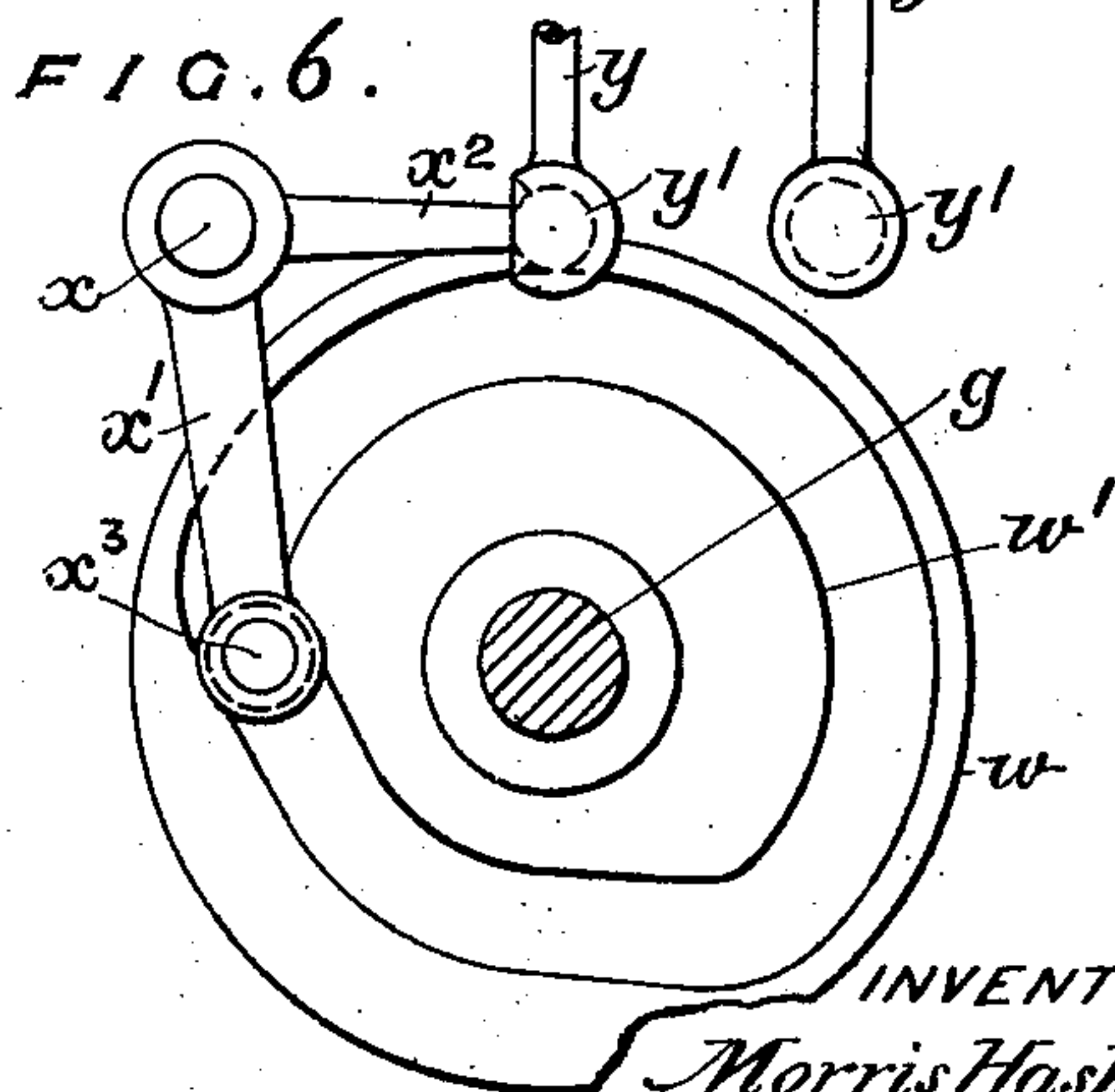
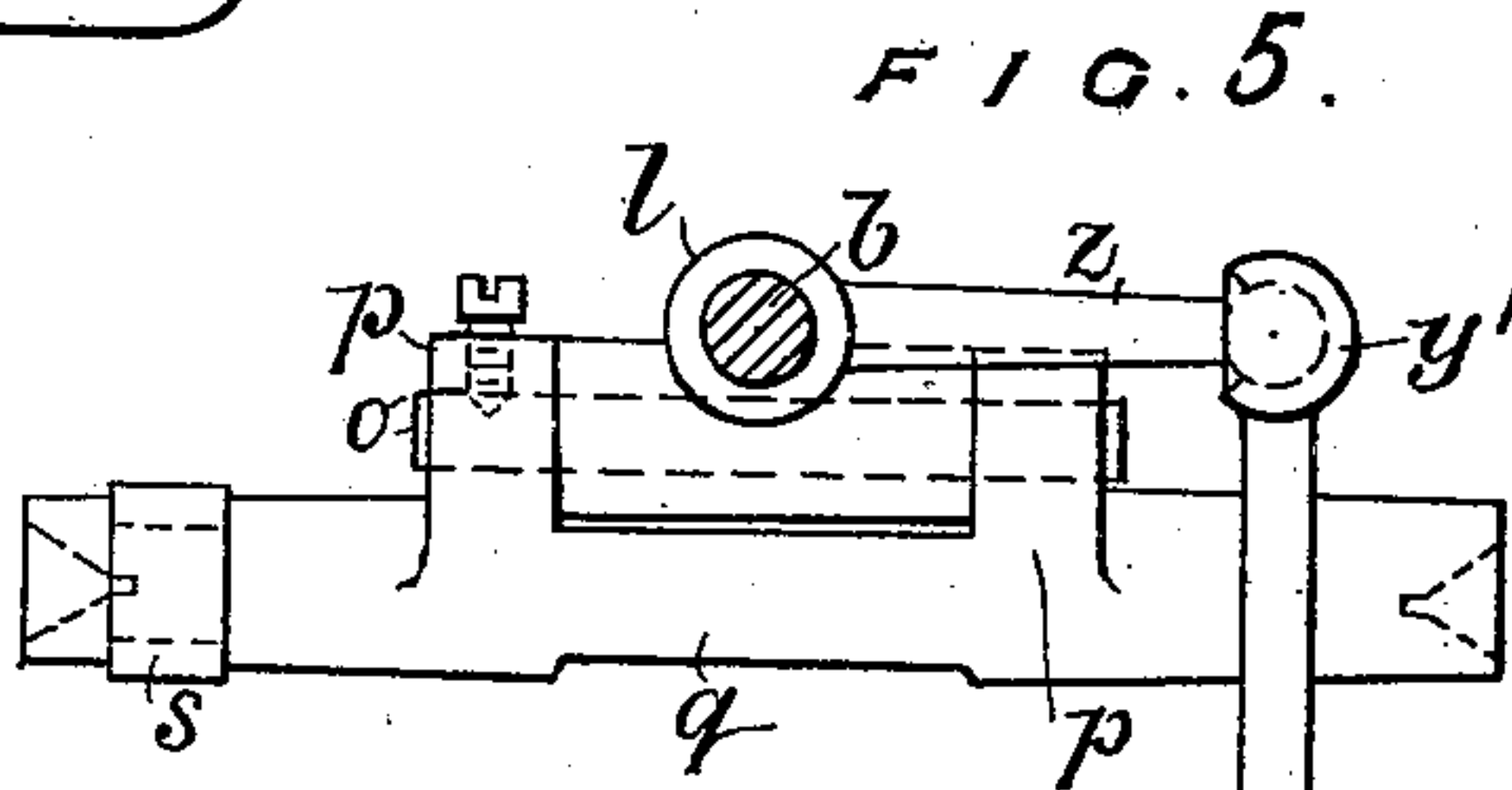
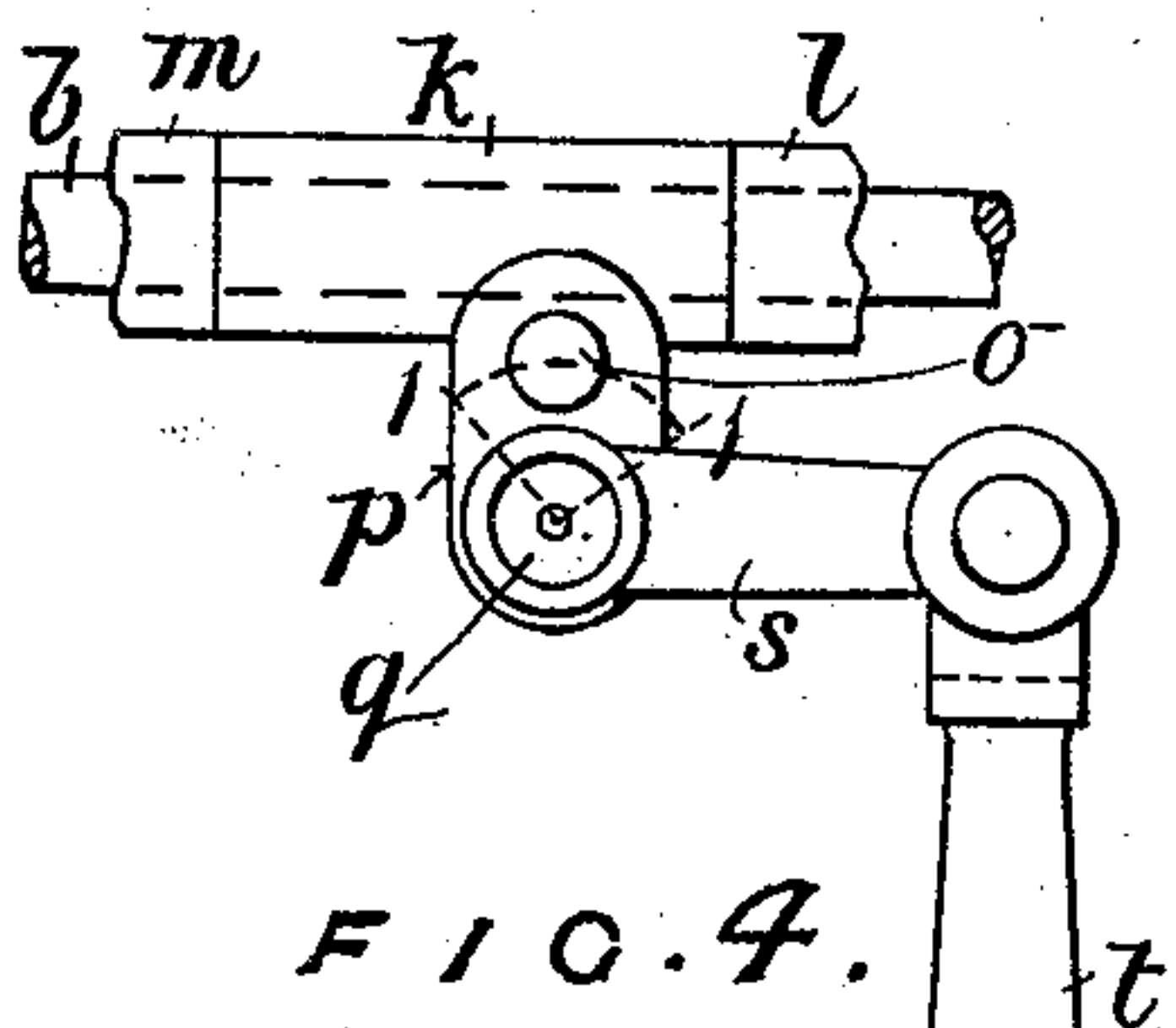
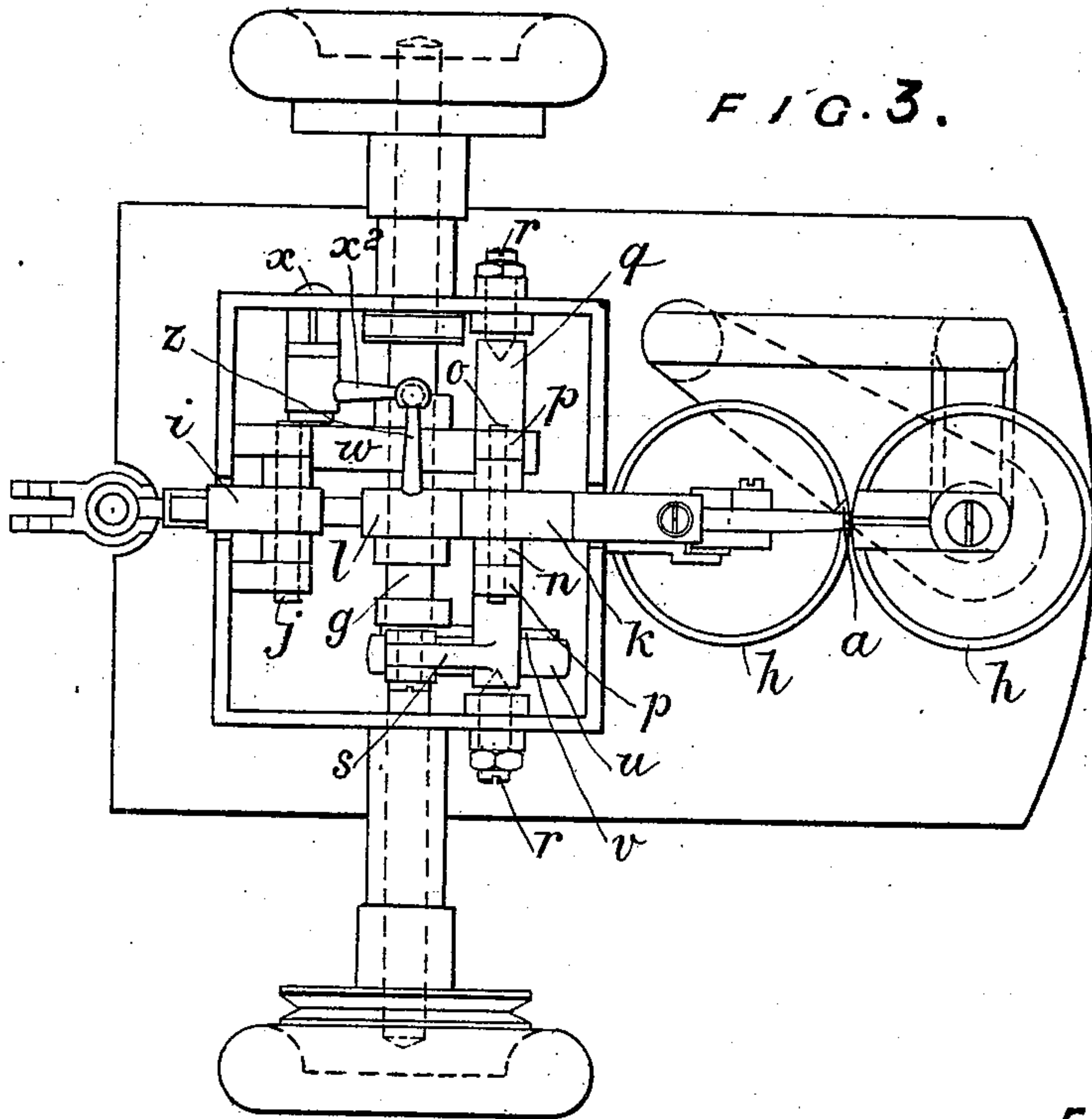
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W^m M. Avery
C. E. Holske

INVENTOR
Morris Hashfield
BY *Mumby*
ATTORNEYS

UNITED STATES PATENT OFFICE.

MORRIS HASHFIELD, OF LONDON, ENGLAND.

FUR AND GLOVE SEWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 697,339, dated April 8, 1902.

Application filed August 31, 1901. Serial No. 73,927. (No model.)

To all whom it may concern:

Be it known that I, MORRIS HASHFIELD, engineer, a subject of the Czar of Russia, residing at 54 Redcross street, London, England, have invented new and useful Improvements in Fur and Glove Sewing Machines, of which the following is a specification.

My invention relates to fur and glove sewing machines; and the invention has for its object to simplify the construction and increase the durability of the machine, to render the machine more noiseless in operation, and enable it to be run at a higher speed than other machines of the kind now in use.

The invention relates to the mechanism for imparting to the looper the various movements necessary to the formation of a stitch—namely, longitudinal reciprocating movement, vibrating movement in the longitudinal plane of the looper-stem, and rocking movement about the longitudinal axis thereof.

Reference is to be had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a side elevation of the machine, the casing being in section. Fig. 2 is a cross-section. Fig. 3 is a plan with the top of the casing removed. Figs. 4, 5, and 6 are detail views, on a larger scale, of the parts to which the invention relates.

The same letters of reference indicate the same parts in all the figures.

a is the looper-hook, carried by a stem *b*.

c is the needle; *d*, the needle-carrying bar, reciprocated by a yoke *e*, attached to it, embracing a cam *f* on the main shaft *g*, as usual.

h h are the work-feed disks, rotated in the usual way.

Heretofore in such machines the three movements above mentioned have been imparted to the looper-stem *b* by three distinct instrumentalities; but according to my invention I impart both the longitudinal-reciprocating and the longitudinal-vibrating movements to the looper-bar carrier by one and the same means—to wit, the radius-arm or pair of radius-arms hereinafter mentioned. For this purpose the stem *b* of the looper is fitted to slide in a rear guide-bearing *i*, mounted to vibrate on a transverse axis *j*, and the stem *b* also passes through a tubular front bearing *k*, confined between a collar *l*, fixed

by a set-screw upon the stem *b* and a shoulder *m* on said stem. The bearing *k* is carried by a transverse bearing *n*, pivoted freely upon a pin *o*, fixed in a pair of radius-arms *p p*, carried by a rock-shaft *q*, journaled on centers *r* and provided with an arm *s*, coupled by a rod *t* to the strap *u* of an eccentric *v*, fast on the main shaft *g*. By the movement of the rock-shaft *q* the arms are caused to vibrate in an arc *l l*, whereby both longitudinal sliding movement in its bearing *i* and vibrating movement about the axis *j* of said bearing are imparted to the looper-stem *b*. The rocking movement of the looper-hook *a* about the longitudinal axis of its stem is imparted from a cam-disk *w*, revolving with the main shaft *g* and having a groove *w'*, in which is engaged a stud and roller *x³* on the one arm *x'* of a bell-crank lever, fulcrumed at a fixed point *x*, and whose other arm *x²* is coupled by a link *y* with a laterally-projecting arm *z* on the collar *l*, fixed, as above mentioned, on the stem *b* of the looper-hook, the joints *y' y'* of the link *y* being spherical or universal to permit of the various relative movements of the link *y* and of the arms which it connects, the rocking movement of the looper-stem about its own longitudinal axis being so coördinated with the longitudinal sliding and vibrating movements of the looper-stem as to give the looper-hook the movements necessary for the proper formation of the stitch.

I claim—

1. In a fur and glove sewing machine the combination with the looper-hook stem, of a bearing or support for the rear end thereof in which the looper-stem is fitted to slide, a transverse horizontal axis on which said bearing is mounted to vibrate, the said bearing being adapted to permit both longitudinal reciprocating movement of the said stem and vibrating movement thereof about said axis, a bearing or support for the front end of the stem confined upon said stem so as to be incapable of longitudinal motion relatively thereto, and means for operating the looper-stem, comprising a radius arm or arms pivotally connected to said front bearing and adapted to receive angular motion about an axis transverse to the said stem, so as to thereby impart to said stem both longitudinal sliding motion and also vibrating motion in its

vertical plane about the transverse axis at its rear end, and mechanism for imparting the said movement to the radius arm or arms, as specified.

5 2. In a fur and glove sewing machine, the combination with the looper-hook stem of a bearing or support for the rear end thereof, adapted to permit both longitudinal reciprocating movement of the said stem and vibrat-
10 ing movement thereof about a transverse horizontal axis situated at the said bearing, a front bearing or support for said stem so connected to said stem as to be incapable of longitudinal movement relatively thereto, and means
15 for operating the looper-stem comprising a radius arm or arms in pivotal connection with said front bearing and adapted to receive angular motion about a transverse axis, an eccentric on the main shaft, and means inter-
20 mediate thereof and of said radius arm or arms whereby the rotation of the eccentric is caused to impart vibrating movement in an arc to the said radius arm or arms, and thereby to impart combined longitudinal sliding
25 and vibrating motion to the looper-stem, substantially as specified.

3. In a fur and glove sewing machine, the combination with the looper-hook stem so mounted as to be adapted to receive longitudinal reciprocating motion, vibrating motion
30 about a transverse horizontal axis at its rear end, and rocking motion about its own longitudinal axis, of means for imparting the said reciprocating and vibrating motion to the looper-stem, and mechanism for imparting
35 the rocking motion to the said stem about its own longitudinal axis, the said mechanism comprising a cam on the main shaft, a bell-crank lever having one arm engaged in the
40 cam-groove and the other arm coupled to a laterally-projecting arm fast on the looper-hook stem by an intermediate link and universal joints to permit of the relative movements of the parts, as described.

4. In a fur and glove sewing machine, the 45 combination with the looper-hook stem, and a rear guide-bearing in which the looper-stem is fitted to slide, the said bearing being mounted to vibrate on a transverse axis, of a front bearing through which the looper-stem 50 passes, the front bearing being held against longitudinal movement on the stem, a transverse bearing carrying the front bearing, and means for operating the looper-stem, comprising a shaft mounted to rock, radius-arms 55 carried by the rock-shaft and to which the said transverse bearing is pivotally connected, an eccentric on the main shaft of the machine, and a rod connecting the eccentric-strap with an arm on the rock-shaft, where- 60 by the rotation of the eccentric will move the radius-arms to impart to the looper-stem a longitudinal sliding movement and a vibrating movement in its longitudinal vertical plane, substantially as specified. 65

5. In a fur and glove sewing machine, the combination with the main shaft of the machine, the looper-hook stem, the bearings for the same, and means for imparting a longitudinal reciprocating motion and vibrating 70 motion in a vertical plane to said looper-stem from the main shaft, of means for imparting a rocking motion to the looper-stem about its own longitudinal axis, the said means comprising a cam-disk revolving with the main 75 shaft and provided with a groove, a bell-crank lever fulcrumed on a fixed point and having one arm provided with a roller engaging the groove of the cam, a collar fixed on the stem of the looper-hook and having a lat- 80 erally-projecting arm, and a link connected by universal joints with the said laterally-projecting arm and the other arm of the bell-crank lever, substantially as described.

MORRIS HASHFIELD.

Witnesses:

CAMPBELL G. CLARK,
THOMAS W. KENNARD.