No. 692,379. Patented Feb. 4, 1902.

C. STONE.

MECHANICAL MOVEMENT.

(Application filed May 24, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.

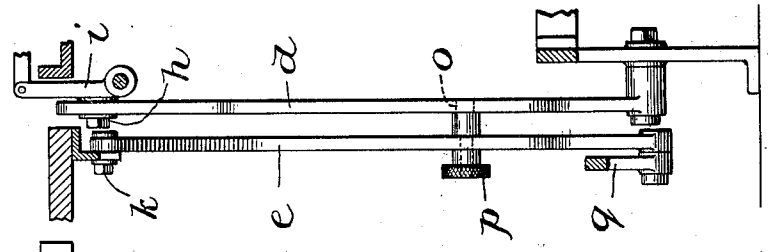
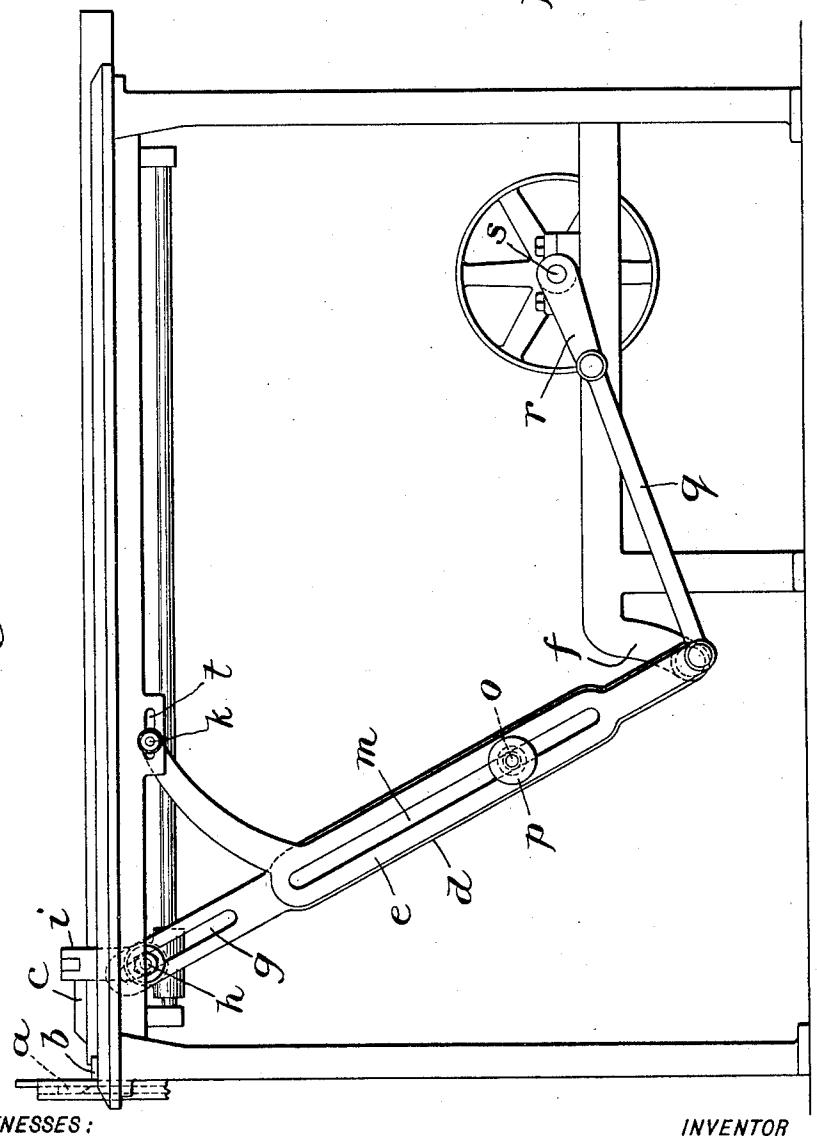


Fig. 1.



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Fig. 4.

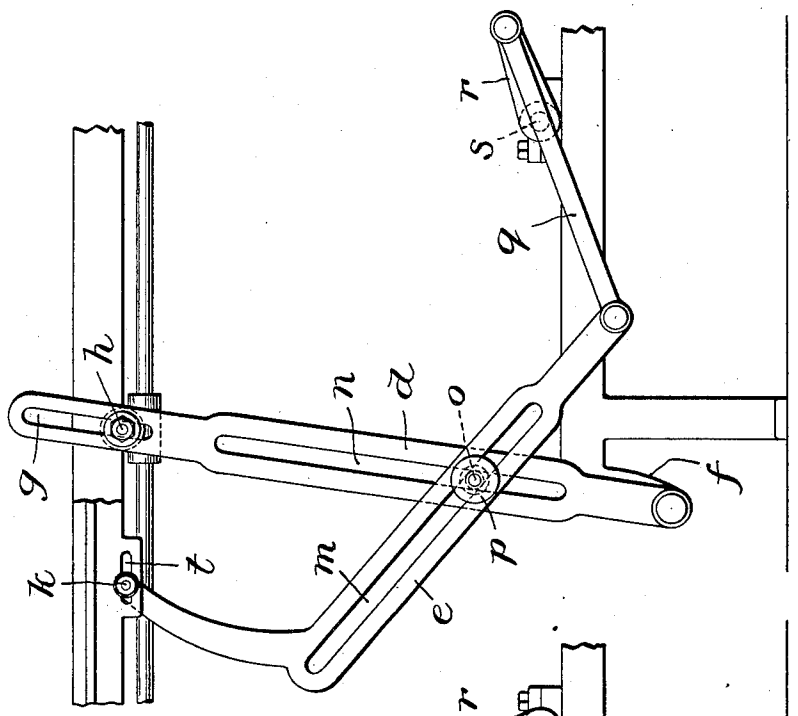
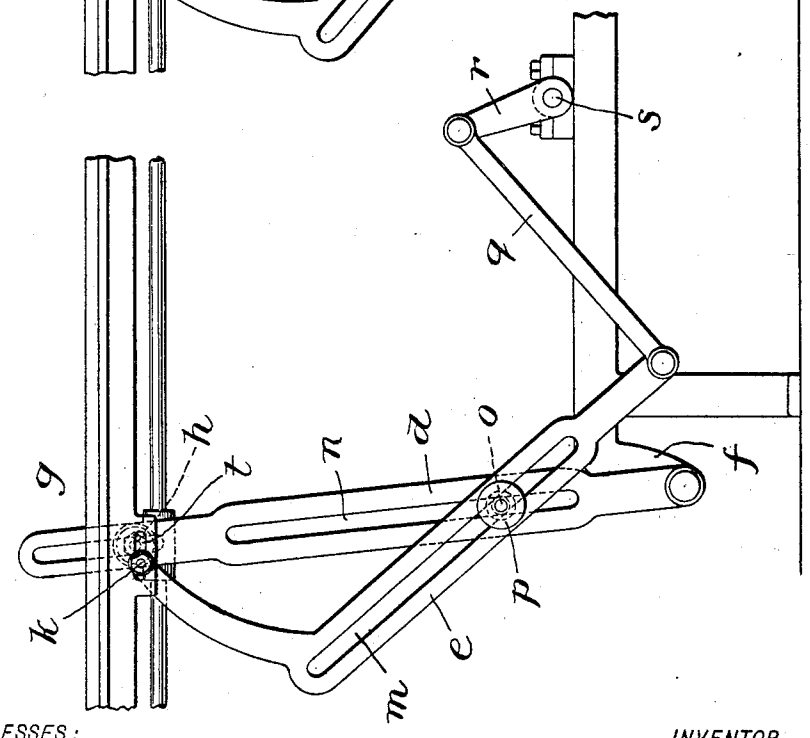


Fig. 3.



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UNITED STATES PATENT OFFICE.

CLARENCE STONE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO ADAMS TOP CUTTING MACHINE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 692,379, dated February 4, 1902.

Application filed May 24, 1901. Serial No. 61,798. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE STONE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Mechanical Movements, of which the following is a specification, reference being had therein to the accompanying drawings.

The present invention relates to a mechanical movement or driving mechanism arranged to convert a rotary motion into a reciprocatory motion.

The object of the improvements is to provide a movement or driving mechanism in which the converted reciprocatory motion may be varied in its extent of reciprocation within any desired limits, and, furthermore, to provide a movement in which one of the limits of motion shall remain constant while the extent of motion in the reverse direction may be varied, as desired, such as is needed in operating the feeder of a fabric-cutting machine adapted to sever a fabric into varying short lengths.

A further object is to provide a simple and compact mechanism noiseless in operation and so readily adjustable that unskilled labor may handle the same without danger of mistakes and injury to themselves.

The accompanying drawings illustrate a practical embodiment of the invention, in which—

Figure 1 is a side elevation thereof, a portion of a fabric-cutting machine with which it may operate being also shown. Fig. 2 is an end elevation thereof, certain parts of the connected machine being shown in section. Figs. 3 and 4 are diagrams showing different positions of the movements.

The improvement is shown in connection with parts of a fabric-cutting machine of the character described in United States Letters Patent to Charles F. and Henry F. Adams, No. 572,094, dated December 1, 1896, and No. 616,280, dated December 20, 1898. It is, however, applicable to other like or wholly dissimilar machines.

The machine taken for illustration comprises, briefly, a fabric-severing device or knife *a*, a fabric clamp or clamps *b*, and a reciprocating fabric feeder or carrier *c*, arranged to feed the fabric to the clamp and knife, the amount of a fabric fed thereto being governed and controlled by the extent of reciprocation imparted to the feeder. To properly reciprocate this feeder, for instance, the improvement provides a pair of levers *d e*, the former being pivoted at its lower end to a bracket *f* of the machine-frame and at its opposite end having a slot *g*, that is engaged by a stud *h*, projecting from some part of the feeder *c* or connected therewith, such as the longitudinally guided and reciprocated arm *i*. The other lever *e* is pivoted at its upper end to a fixed portion of the machine-frame on a stud *k*. Each lever is provided with a slot *m n* for a considerable portion of the lengths of the levers, with which engages a changeable fulcrum *o*, capable of being loosened and moved lengthwise of the slots through a hand-wheel *p* and then tightened in place. The hand-wheel serves to tighten the changeable fulcrum fast in the slot of the outer lever *e*, and is in effect carried by that lever, while the inner end of fulcrum is free to slide in the slot of the inner lever *d* during the vibrations of the levers. For transmitting motion to the levers, the lower end of the outer lever *e* is connected through a pitman *q* to the crank *r* of a rotated shaft *s*, representing the rotary driver of the machine.

When the changeable fulcrum is moved to the upper end of the two slots and secured in place to the lever *e*, the extent of movement imparted to the reciprocated feeder *c* may be *nil* or the least extent desired, so that very short lengths of fabric will be severed by the knife, and when the changeable fulcrum is moved to the lower end of the two slots and again secured in place the extent of movement imparted to the feeder will be the longest, with the result that long lengths of fabric will be severed. Intermediate positions of the fulcrum will result in corresponding short or longer lengths of fabric being severed. In each case, however, no matter what the position of the changeable fulcrum may be, the

limit of the forward motion of the lever *d*, in proximity to the severing device *a*, will be constant and unchanged, for the reason that the lever *e* never changes its movement, and that in the forward position of the levers they lie parallel to each other, irrespective of the position of said fulcrum. The limit of rearward motion of lever *d* away from the severing device will vary according as the positions of the fulcrum may be changed.

To obtain accuracy of the forward limit of movement of the lever *d*, the stud *k*, forming the upper pivot of the lever *e*, may be mounted in a short horizontal slot *t* in the machine-frame and fixed in its adjusted position.

What is claimed is—

1. The combination of a rotating driver, a reciprocated device, a pair of intermediate levers, and means imparting to one of the levers a constant limit of movement in one direction and a variable extent of movement in the opposite direction, as described.

2. The combination of a rotating driver, a reciprocated device, a pair of intermediate levers, an adjustable fulcrum carried by one lever and loosely engaging a slot of the other, whereby the limit of movement of the reciprocated device in one direction remains constant and may be varied in the reverse direction, as described.

3. The combination of a rotating driver, a reciprocated device and a pair of intermediate levers, each having fixed pivots of vibration, a fulcrum connecting the levers, one lever connected to the reciprocated device and the other to the rotary driver, as described.

4. The combination of a rotating driver, a reciprocated device, a pair of intermediate and slotted levers, each having fixed pivots of vibration and an adjustable fulcrum engaging the slots of the levers, as described.

5. The combination of a rotating driver, a reciprocated device, a pair of intermediate and slotted levers, each having fixed pivots of vibration and an adjustable fulcrum slidingly engaging the slot of one lever and fixed in the slot of the other, as described.

6. The combination of a rotating driver, a reciprocated device, a pair of slotted levers with an adjustable fulcrum engaging the slots one lever having a pivot of vibration at its lower end and its upper end slotted to engage the reciprocated device, and the other lever having a pivot of vibration at its upper end and its lower end connected to the rotating driver, as described.

7. The combination of a rotating driver, a reciprocated device a pair of slotted levers with an adjustable fulcrum engaging the slots, one lever having a pivot of vibration at its lower end and its upper end slotted to engage the reciprocated device and the other lever having an adjustable pivot of vibration at its upper end and its lower end connected to the rotating driver, as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CLARENCE STONE.

Witnesses:
J. ALLEN HEANY,
GRANT HEEBNER.