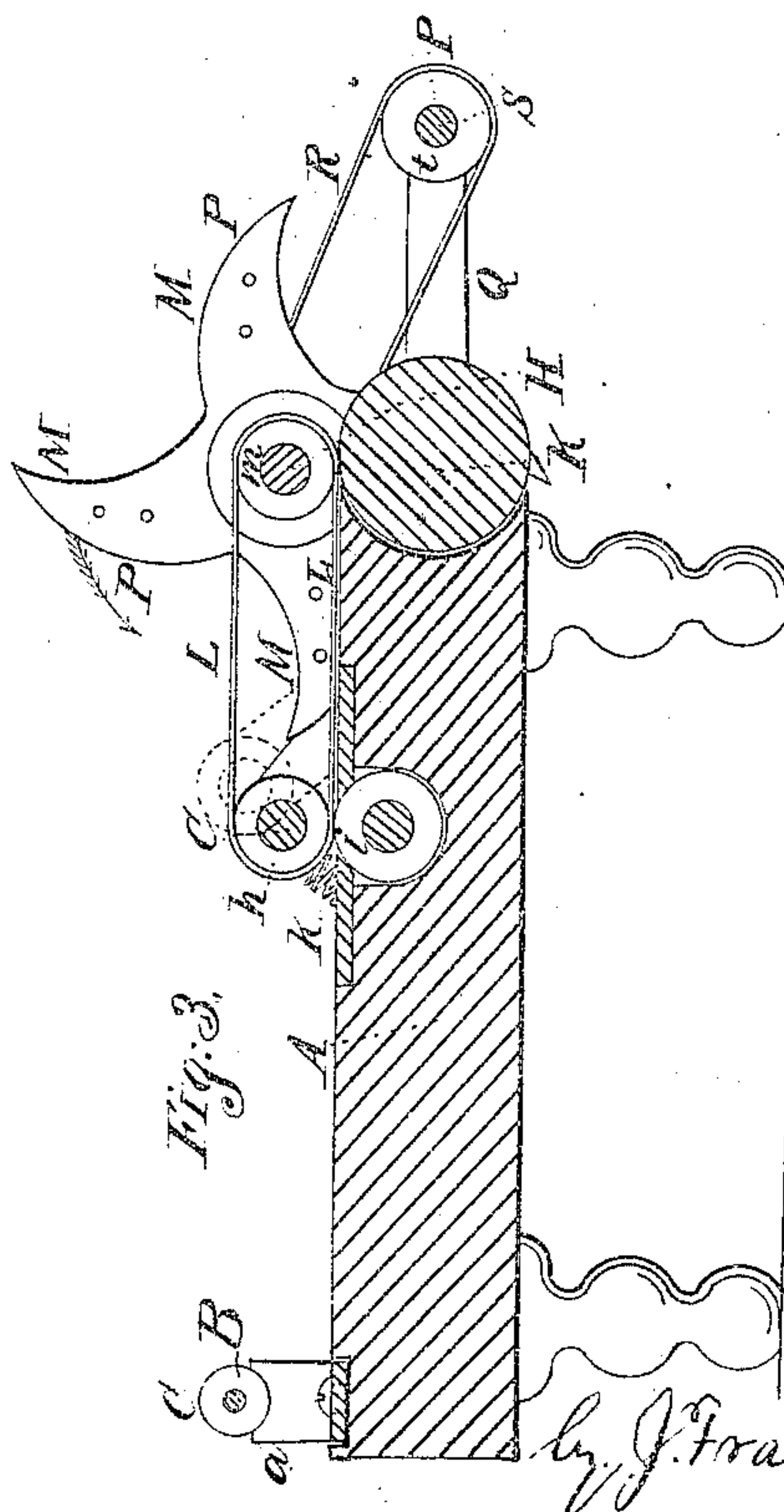
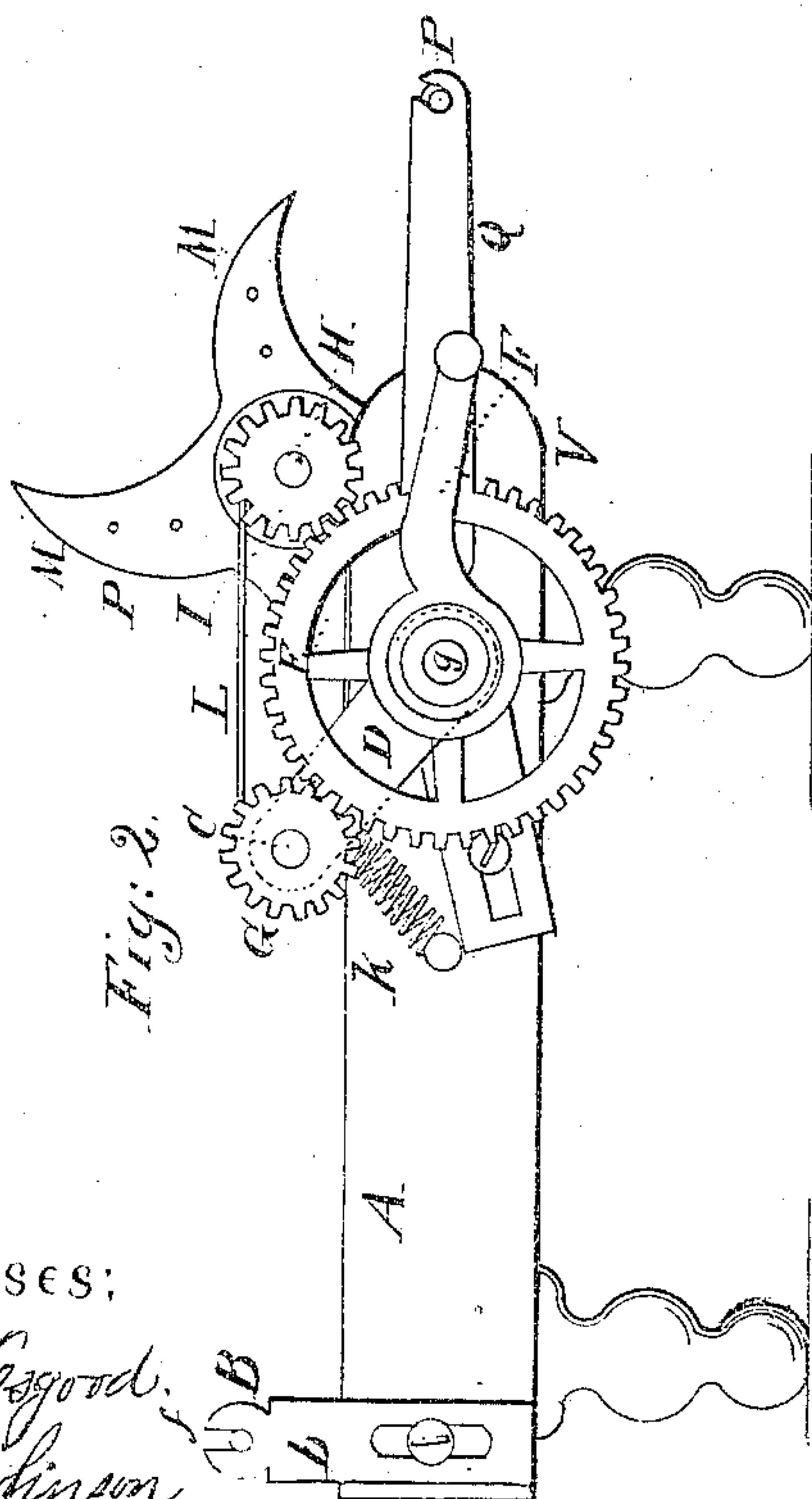
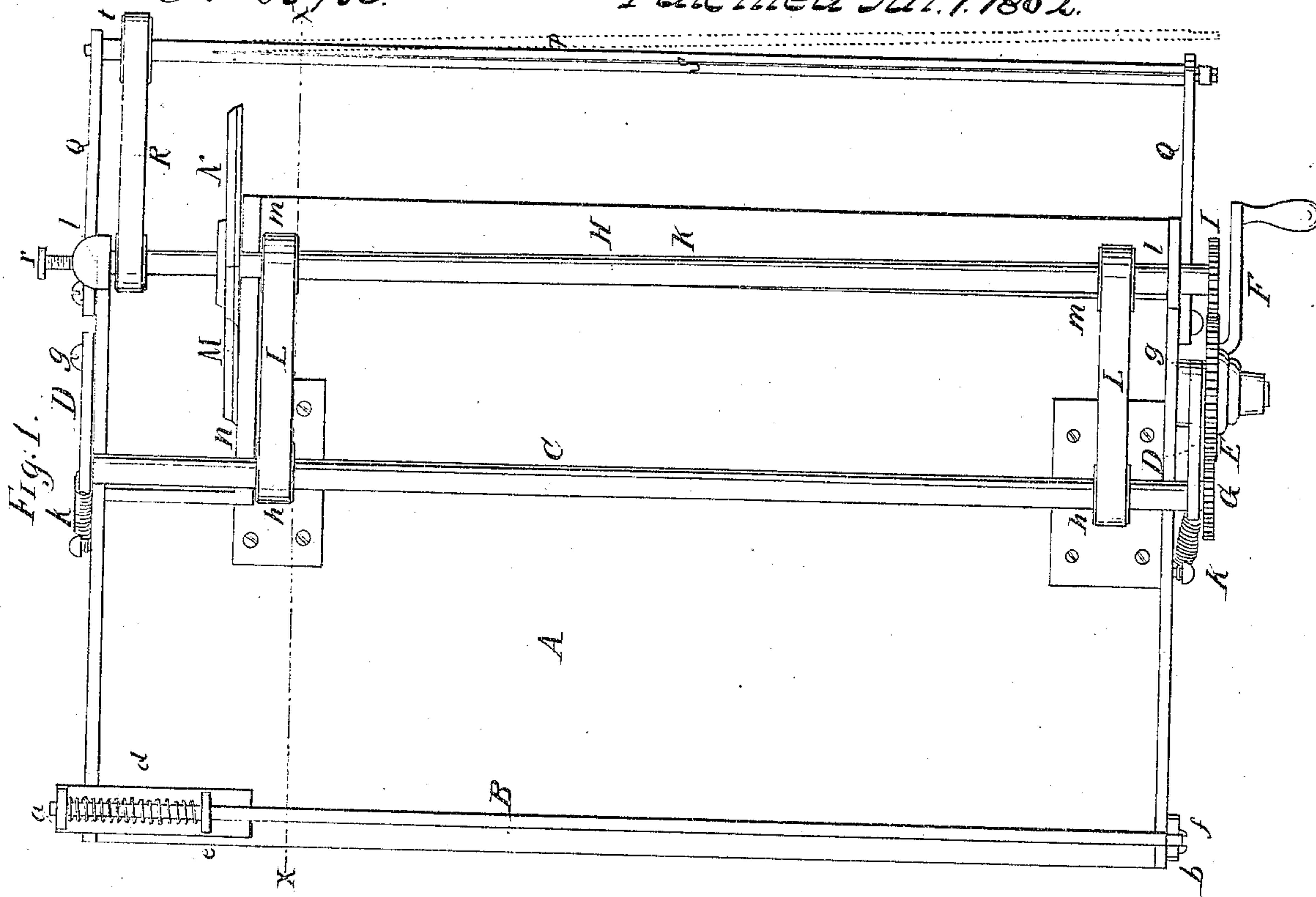


D. Flower.
Paper Trimmer.

N^o 35,750.

Patented Jul. 1. 1862.



Witnesses:

R. L. Cogswold.
D. C. Johnson

Inventor:

D. Flower.

by J. Fraser & Co. Attys

UNITED STATES PATENT OFFICE.

DAVISON FLOWER, OF GENEVA, NEW YORK.

MACHINE FOR TRIMMING WALL-PAPER.

Specification forming part of Letters Patent No. 35,750, dated July 1, 1862.

To all whom it may concern:

Be it known that I, DAVISON FLOWER, of Geneva, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Machines for Trimming Paper-Hangings; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a plan of my improved machine; Fig. 2, an end elevation thereof; Fig. 3, a transverse vertical section of the same, the plane of section being indicated by the line *x x*, Fig. 1.

Like letters designate corresponding parts in all the figures.

The working parts of the machine are all mounted on a suitable table or platform, A, on which the paper is fed along in the direction indicated by the arrow, Fig. 1. On the rear of the table are two vertical standards, *a* and *b*, on opposite sides, supporting, respectively, the ends of a rod, B, on which the uncut roll of paper is placed preparatory to trimming. The standard *a* is adjustable laterally, to adapt the device to rolls of different lengths, by means of a slot in its right-angled base, in which screws a set-screw. The standard *b* has an open notch, *f*, in its top, in which rests the journal of the rod. On the end of the rod, corresponding in position with the knives by which the paper is cut, is situated a sliding stop or head, *c*, having behind it, around the rod, a coiled spring, *d*, for throwing it forward, as shown most clearly in Fig. 1. The end of the roll of paper rests against this stop, which yields laterally to the force applied to the roll by the hand of the operator, who is thus enabled to guide the paper to the knives (presently to be described) by merely pressing against the end.

It is frequently the case that the margin of the figures of ordinary wall-paper does not present a straight line, and therefore it is necessary that the roll may be adjusted endwise, so that the knives will only remove the blank edge, or the figures will be cut so that the paper cannot be matched. I accomplish this in the simplest and most effective way, and my device is adapted to rolls of different lengths. It is also perfectly adapted to trimming the narrow borders placed around rooms at the head of the walls, the margins of which

are frequently very curved and irregular. The perfect adjustability of the paper against the stop allows the margin to be cut of any shape required by the figure. By this arrangement the roll is expeditiously placed on the rod by merely raising one end of the latter from the notch *f*, thus requiring no removal or sliding of the parts.

At a suitable position in front of the rod B, and parallel with it, is situated a shaft, C, its extremities resting respectively in one end of bearing-arms D D, whose opposite ends are jointed at *g g* on a common axis. At the right-hand end of the machine this axis forms the bearing of a cog-wheel, E, turned by a winch, F, and meshing with a pinion, G, on the end of the shaft. The shaft C is provided near each end with feed-rollers *h h*, of suitable size, resting on similar friction-rollers, *i i*, Fig. 3, in the table, the sets thereof being at such distance apart as will correspond about with the length of an ordinary roll of paper. Intermediate rollers may also be used, if desirable; but under ordinary circumstances they are not necessary. Thus arranged, the shaft C, with its rollers, may be raised up away from the table, as indicated by red lines in Fig. 3, by means of its bearing-arms D D turning round the axis *g g* and still the cog-wheel and pinion remain in gear. This result is very desirable and necessary in order to insert the end of the paper evenly under the feed-rollers as it is started from the roll. This can be done by a single person before the machine is actuated. Were the shaft stationary it would be difficult for one person to guide the paper properly under the rollers and at the same time turn the crank. This advantage is apparent. Also, if at any time the paper becomes wrinkled or needs adjusting, the difficulty is easily obviated by raising the rollers so that it may be smoothed or otherwise arranged. The shaft and rollers are held down by coiled springs *k k* or their equivalents, secured respectively to the upper ends of the arms D D and to the side of the table. These springs are sufficiently elastic to allow the rollers to be raised to insert the paper.

In front of the shaft C, a sufficient distance for the purpose designed, is another similar shaft, H, resting in suitable bearings, *l l*, from the table, and having on its right-hand end a pinion, I, gearing with the cog-wheel of the

same size with the pinion G, and turning in the same direction. This shaft is not parallel with the other, but converges with it slightly from right to left, as indicated in Fig. 1, and for a purpose presently to be described. This shaft is provided with feed-rollers *m m*, corresponding in size and position with those of the shaft C, but resting on a discharging-roller, K, at the front of the machine, extending its whole length, and over which the paper is carried after it is trimmed. The feed-rollers *h* and *m* at each end of their respective shafts are connected by an elastic band, L, made of india-rubber or other suitable equivalent material, as represented most clearly in Figs. 1 and 3. The under side of this band runs closely to or in contact with the surface of the table, and being always taut by its elasticity serves to hold the paper while it is fed along, and also to keep it smooth and unwrinkled between the rollers while it is being trimmed. By its friction with the paper that passes under it it also aids the rollers in feeding it along, which is very essential, especially in papers with a glazed or polished surface that are liable to slip.

The band at the left hand running closely to the cutting-edge *n*, where the paper is cut, especially serves to hold it firmly in place to trim. Other similar bands may be used intermediately, if desired, to prevent the paper from rising or wrinkling in the middle.

The cutter by which the paper is cut is composed of a set of shear-knives, M M, usually secured to a plate or disk, N, and substantially of the shape indicated, the shear side *p* being curved away from the direction of motion. This cutter is secured to the shaft H, so that the knives shall come in contact with the cutting-edge *n* of the table at the point of cutting; but the obliquity of the shaft is such that the opposite side or heel of the cutter is thrown away from the edge of the table, as represented in Fig. 1, so as to clear and not interfere with the trimmed paper as it passes over the roller K. The cutter is adjusted to the cutting-edge of the table by means of a thumb-screw, *r*, pressing in against the end of the shaft, or in any equivalent manner. The setting of the shaft obliquely, so that the cutter shall not interfere with the paper as it is delivered at the front of the machine, is very simple, and the arrangement is not liable to get out of order.

In front of the machine is a rod, P, for roll-

ing up the paper after it is trimmed, resting in suitable supporting-arms, Q Q, as represented, that at the right hand usually having an open notch for removing the end of the rod. This rod is made split or divided near its whole length, as represented at *s*, Figs. 1 and 3. When used, the cleft is opened, as indicated by red lines, and the edge of the paper inserted therein, and it is then closed and retained by a ring fitting over its end, or in some equivalent way. The rod is revolved by means of a belt, R, passing over a pulley, *t*, thereon, and over a smaller pulley, *u*, on the shaft H, by which it is driven. Thus the rod P is driven slower than the shaft, so that as the paper winds up in a roll of increasing size it shall not be drawn on faster than it is fed along by the feed-rollers, and be thus torn or otherwise injured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The shaft C, having feed-rollers *h h*, the extremities of said shaft resting in concentric arms D D, and held down by springs *k k*, so that the rollers may be raised for inserting the edge of the untrimmed paper under them and without throwing the wheel and pinion out of gear, substantially as herein set forth.

2. The elastic band L, running closely to or in contact with the surface of the table, in combination with the feed-rollers *h* and *m*, situated at such a distance apart as is sufficient to hold the paper securely in place while it is being trimmed, substantially as herein described.

3. Placing the shaft H obliquely to the shaft C and to the direction of feed for the purpose of throwing the heel of the cutter away from the edge of the trimmed paper, so as not to interfere with it, arranged substantially as herein set forth.

4. The cleft rod P, for seizing and holding the end of the trimmed paper and rolling it as it is delivered from the feed-rollers *h m*, arranged in such a manner that the increasing size of the roll shall not take up the paper faster than it is delivered from said rollers, substantially as herein described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

DAVISON FLOWER.

Witnesses:

D. C. JOHNSON,
R. F. OSGOOD.