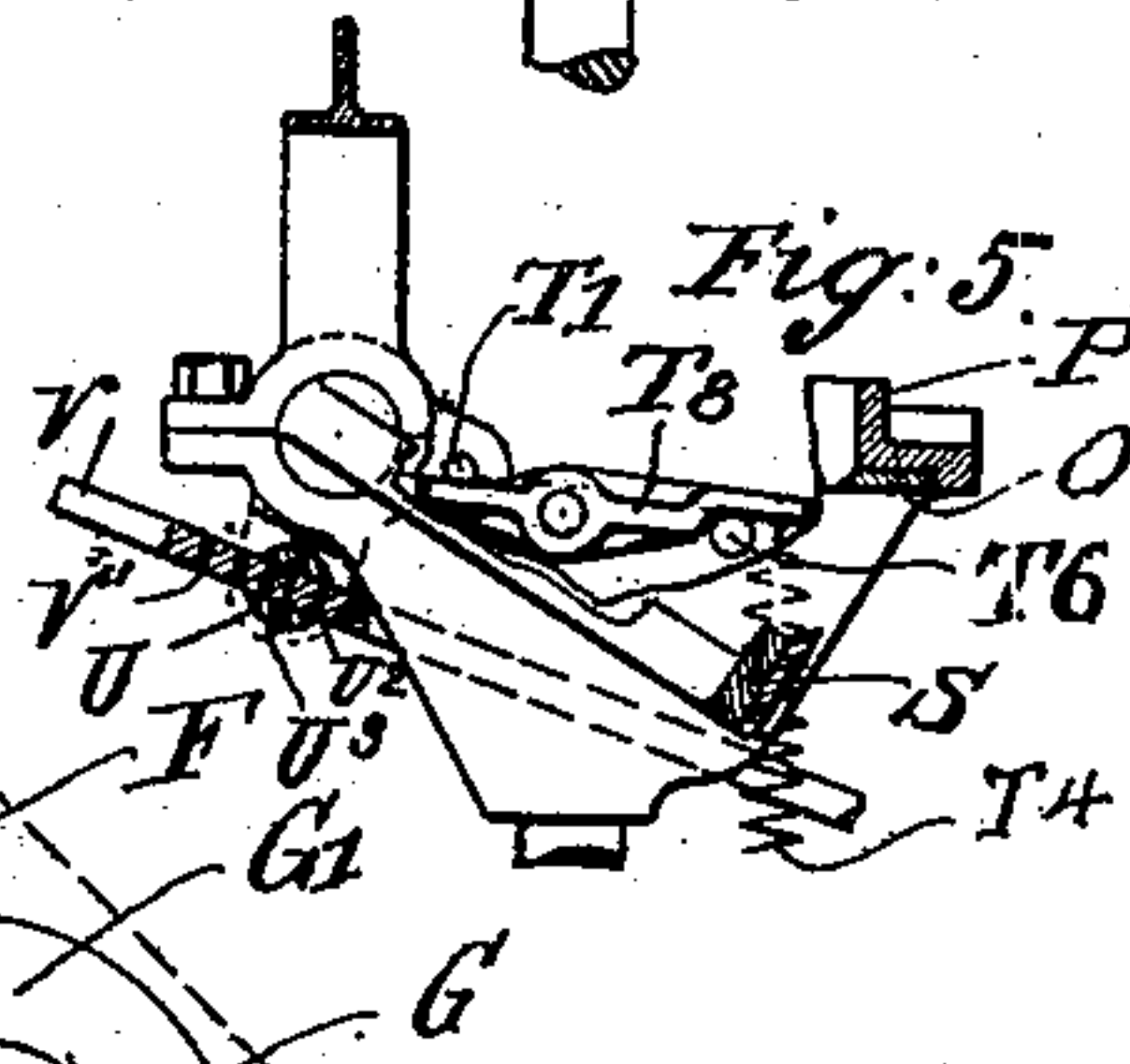
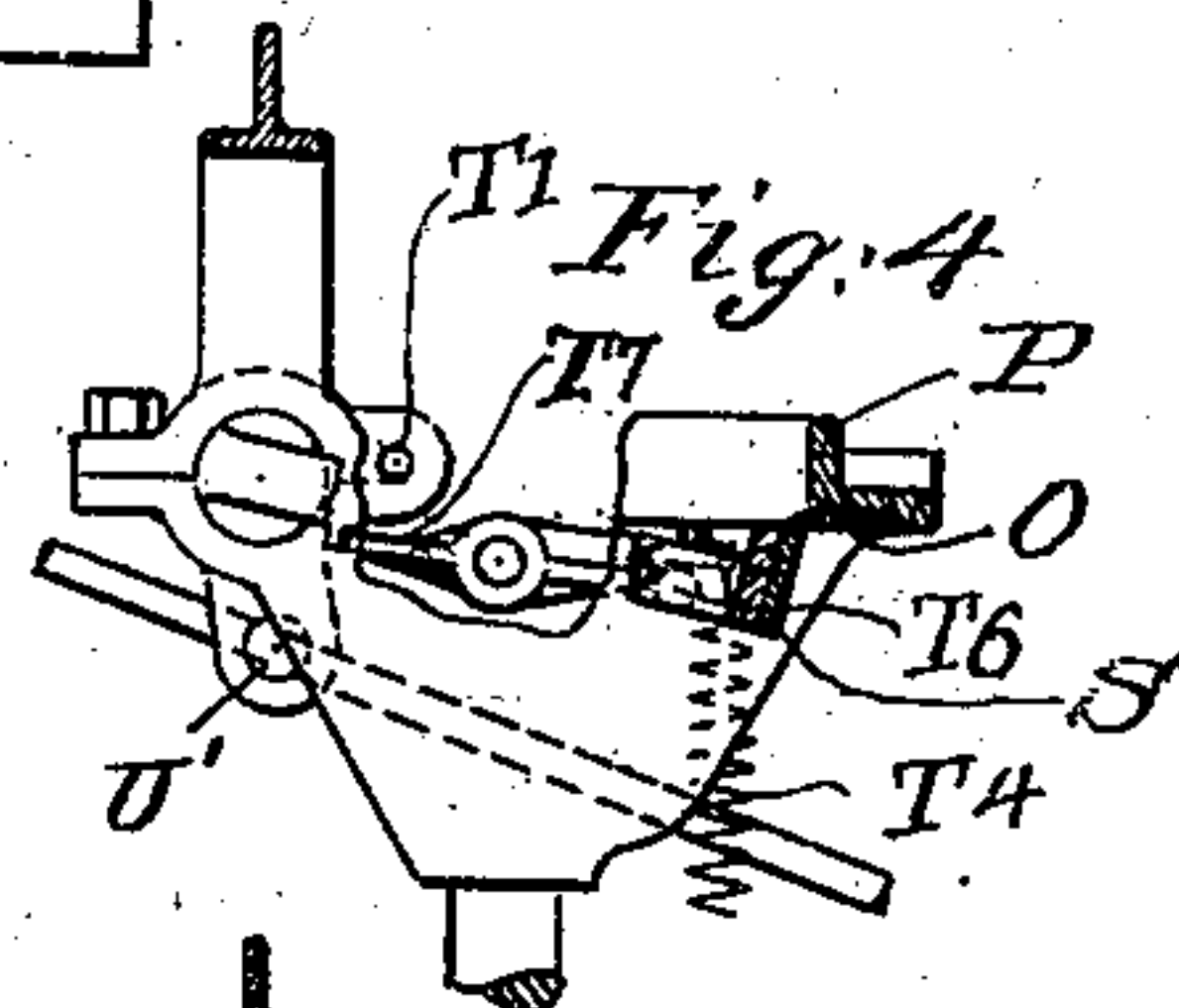
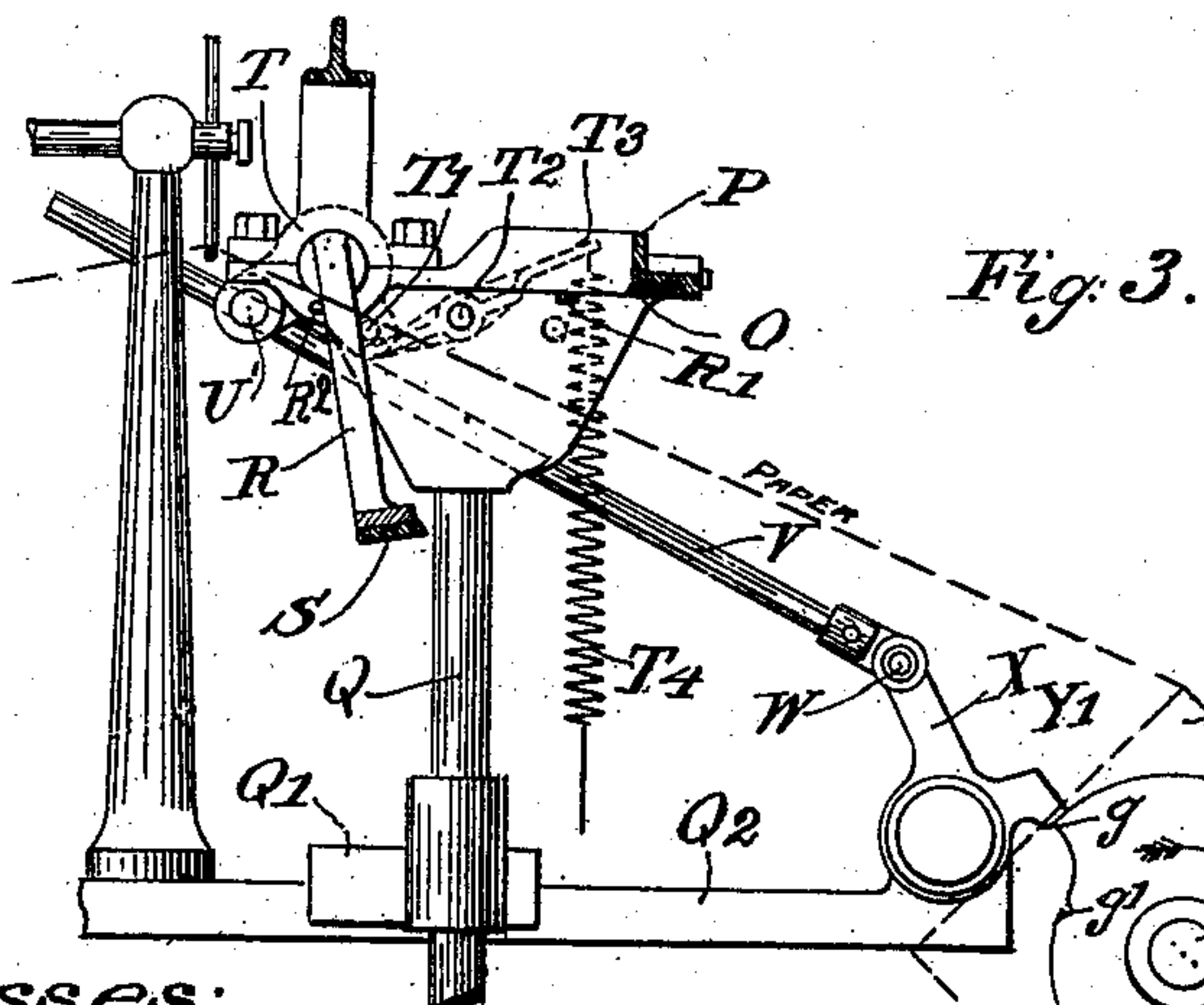
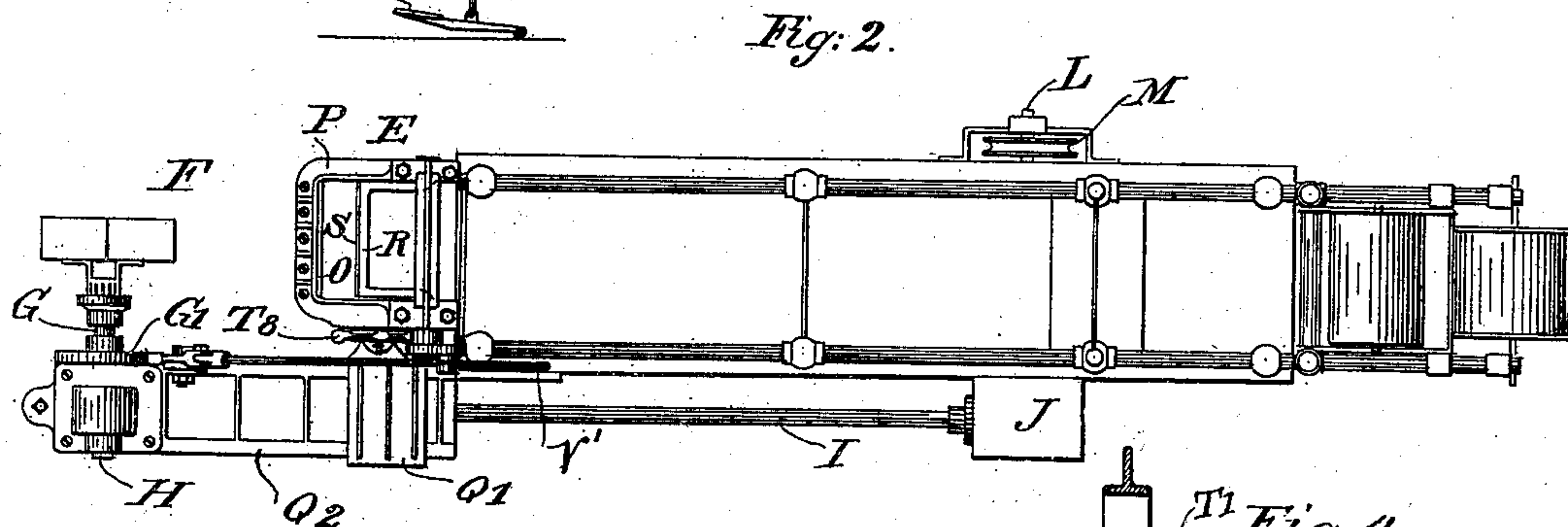
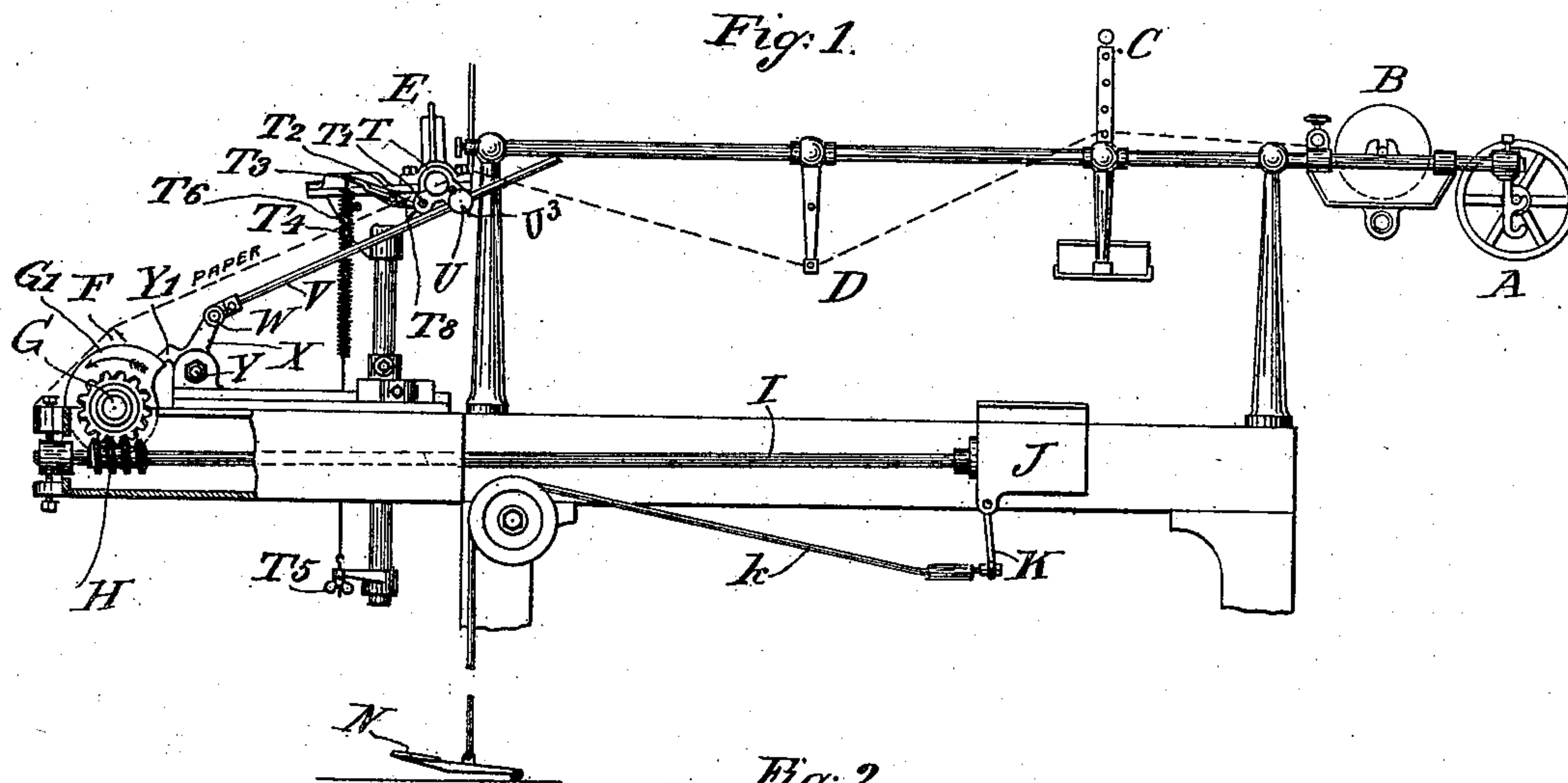


(No Model.)

M. F. WILSON.
PAPER BOX COVERING MACHINE.

No. 599,885.

Patented Mar. 1, 1898.



Witnesses:
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att'y

UNITED STATES PATENT OFFICE.

MERRICK F. WILSON, OF CHICAGO, ILLINOIS.

PAPER-BOX-COVERING MACHINE.

SPECIFICATION forming part of Letters Patent No. 599,885, dated March 1, 1898.

Application filed February 18, 1897. Serial No. 623,918. (No model.)

To all whom it may concern:

Be it known that I, MERRICK F. WILSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Paper-Box-Covering Machines, of which the following is a specification.

The object of my invention is to provide a box-covering machine with an automatic cut-off for the paper which will not require the operator to perform any special act or volition in the cutting and one that will be simple in its construction and in its adjustment for different classes of work and one that will leave the end of the continuous strip of paper in position free to be taken by the operator the very instant after the cutting is completed.

Reference will be had to the accompanying drawings, in which—

Figure 1 is a side view of a box-covering machine embodying my invention. Fig. 2 is a plan view thereof. Fig. 3 is a vertical sectional view of the front end of the machine through the blades of the cutting-off device. Fig. 4 is a side sectional detail of the cutting device at the point of completion of the cutting. Fig. 5 is a similar view with the movable cutter-blade at the point where the spring ceases to act upon it.

In the drawings, A designates the paper-roll support, and B the paste-applying device, and C and D the supporting devices for the paper, and E is the cutting-off device, and F is the box-form. The box-form upon which the box is placed to be covered is held by the axis G and is driven automatically when required by means of the worm-gearing H, (shown in Fig. 1,) driven by a shaft I, driven by a gearing inclosed in a box J, and driven by a shaft L and pulley M from any suitable source of power. The gearing J is normally disengaged from the shaft L, but is engaged at the time required by the operator by means of the lever K and the cord *k*, connected to the foot-pedal N.

The cutting-off device consists in the blade O, fixed rigidly to the arm P, supported on the post Q. Pivoted in this casting piece P there is the arm R, carrying the cutting-off blade S. On the shaft of the arm R, on the outside of the bearings of the arm P, is the

pivot-block T, which is adjustably connected at U to the rod V, pivoted at W to the block X, hinged at Y to the frame of the machine, and having a projection Y', engaging a cam-block G' on shaft G of the revoluble box-form. Bearing against a pin T', fixed to block T, is a lever T⁸, pivoted at T² to arm P and connected at T³ to a spring T⁴, connected to a projection T⁵ of the post Q, which spring through its connected mechanism actuates the cutter-blade S to cut the paper at the moment the cam-block G' permits it to do so. The position of the cam-block G' in the drawings is at a point just prior to the cutting off of the paper. A slight movement forward from the position shown permits the projection Y' to pass the projection *g* of the cam G', whereupon the spring instantly actuates the blade S to come in contact with the blade O and cut the paper, during which movement the projection Y' passes down the arc of the cam G' from the point *g* to the point *g'*, which movement takes place almost instantly, and the further movement of the cam G' retracts the spring T⁴ in position for another operation. The lever T⁸ is not connected to pin T' of block T, but simply bears against it at the point T⁷, Fig. 4, and the stop T⁶ prevents the end T⁷ of the lever T⁸ from following upward to the full limit of movement of the cutter-arm R, and hence the positive action of the spring on the cutter-blade S is to the point shown by the position of Fig. 5, and the movement of the cutter-blade imparted by the spring carries up the blade with sufficient force to cut off the paper, and then the blade falls back by gravity to position of Fig. 5, which permits the operator to immediately have access to the end of the continuous sheet of paper at the shear-blade after cutting without any additional movement of the cam-block or the actuating of any foot-treadle by the operator.

Rubber bumpers R' are provided to arrest the upper movement of the arm and to cause it to rebound. The post Q is held adjustably in the block Q' by a set-screw, and the block Q' slides along the ways Q² and is fixed thereon also by a set-screw, and the rod V is adjustable by means of connection U to the block T. The connection U is shown in section in Fig. 5 and consists of a pivot U', Fig.

4, pivoted in block T and provided with an aperture U^2 , Fig. 5, through which the rod V passes. A pin U^3 passes down through a hole in pivot-block and through a hole in the rod V. A number of holes V' are provided in rod V to suit the different desired adjustments. A stop R^2 , Fig. 3, limits the downward swing of arm R and is used in making the adjustment of the rod V after the cutter-blades have been set to a new position. In making a new adjustment of rod V the cam G' and block X are placed as is shown in Fig. 3, then the arm R is swung down to position against the stop R^2 , and the pin U^3 is passed through the nearest hole in rod V, and the adjustment is complete. By these simple adjustments the position of the shear-blades may be made vertically or horizontally to suit the point required for each different-sized box made.

What I claim is—

1. The combination of a shear-blade mounted across the path of the paper; of a spring for actuating the shear-blade through a part of its movement; of a means for connecting the spring with the shear-blade, whereby the blade is permitted to swing forward from beyond the limit of the movement of the spring with a revoluble box-form, and a cam revolving with the box-form for retracting the spring.

2. The combination of a cutter-blade mounted to swing across the path of the paper, of a spring mounted to throw cutter-blade through a part of its movement; of a stop for arresting the action of the spring before the cutter-blade has completed its movement, with a cam for retracting the spring, substantially as shown.

3. The combination of a rotary box-form spindle, of a cam mounted on said spindle; of a cutter-blade mounted to swing across the path of the paper; of means connected to the cutter-blade and cam for throwing back the cutter-blade by the movement of the cam, with a spring mounted to throw forward the cutter-blade at a certain point in the revolution of the cam, and a stop for arresting the action of the spring before the full stroke of the cutter-blade, substantially as shown and described.

4. The combination of a revoluble box-form;

of a cam revolving in connection with the box-form, of a cutting-off device mounted to be adjusted vertically and horizontally as set forth, of an adjustable rod connecting the cam and cutting-off device through which motion is imparted to the cutting-off device by the cam; with a stop limiting the movement of the cutting-off device to determine the proper adjustment of the rod for the purpose described.

5. The combination of a cutter-blade mounted across the path of the paper and normally open to permit a free access to the end of the sheet of paper, of a revoluble box-form spindle, of a cam, connected to revolve with the spindle, for throwing the cutter-blade open beyond its normal position; with a spring mounted to act on the blade against the cam, whereby on the release of the blade by the cam, a momentum is imparted to the blade by the spring, which momentum performs the cutting.

6. The combination of a revoluble box-form spindle, of a cam mounted to revolve with the spindle; of a bell-crank arm carrying a cutter-blade mounted to swing across the path of the paper; of a rod connecting the bell-crank arm to the cam, with an adjustable pivotal connection of said rod with the bell-crank arm, said connection composed of the block U, pin U^3 , and perforation in the rod, substantially as shown.

7. The combination of a revoluble box-form; of a cam mounted on the axis of the form; of a cutter-blade mounted to swing across the path of the paper; of a rod or connection, connecting the cutter-blade with the cam, with a spring connected to a lever which is pivoted in a manner to actuate the cutter-blade, when permitted to do so by the cam, with a stop for limiting the action of the spring before the completion of the movement.

In witness whereof I have hereunto subscribed my name, on this 26th day of January, 1897, in the presence of two subscribing witnesses.

MERRICK F. WILSON.

Witnesses:

FRED BORG,
E. J. KENT.