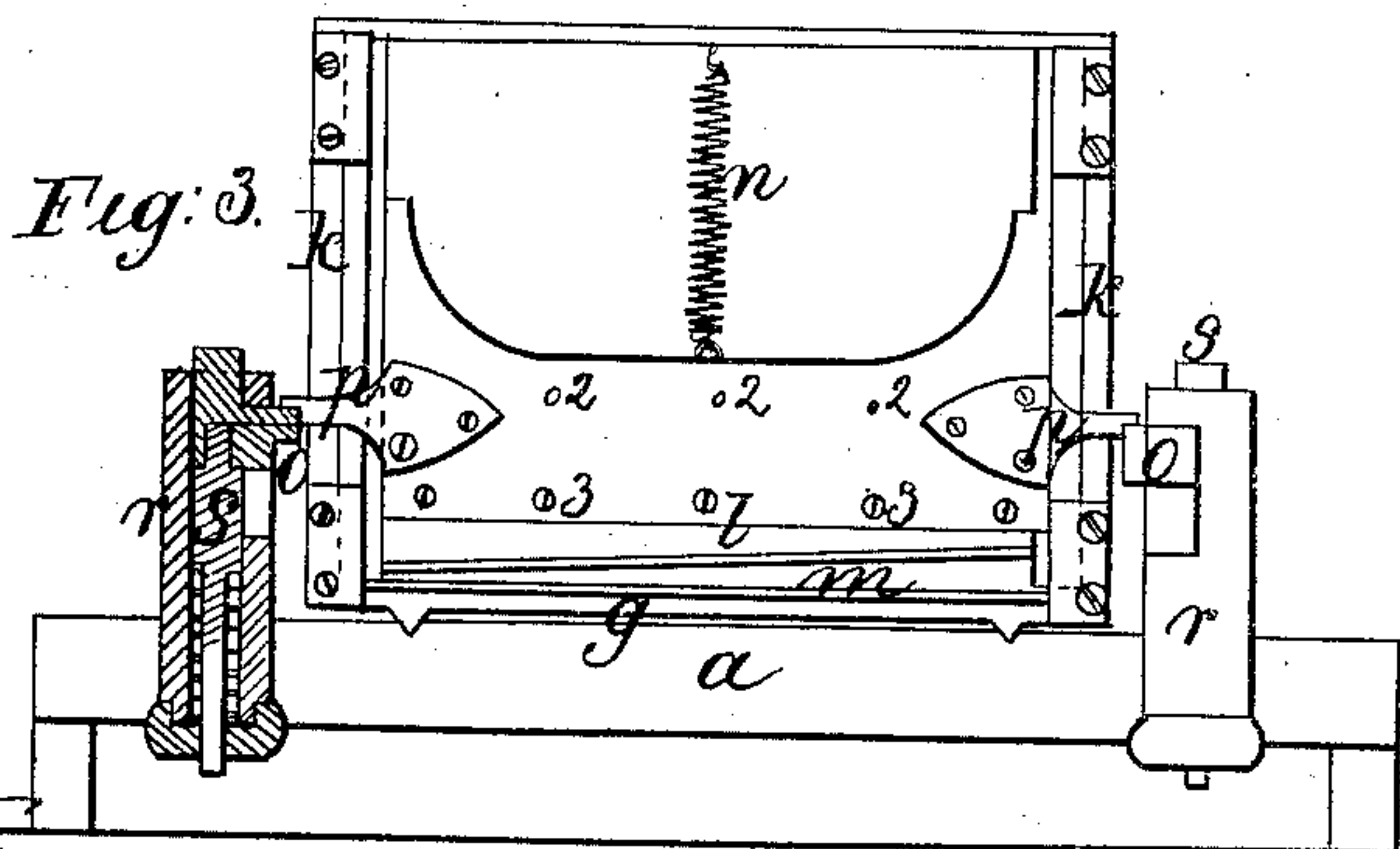
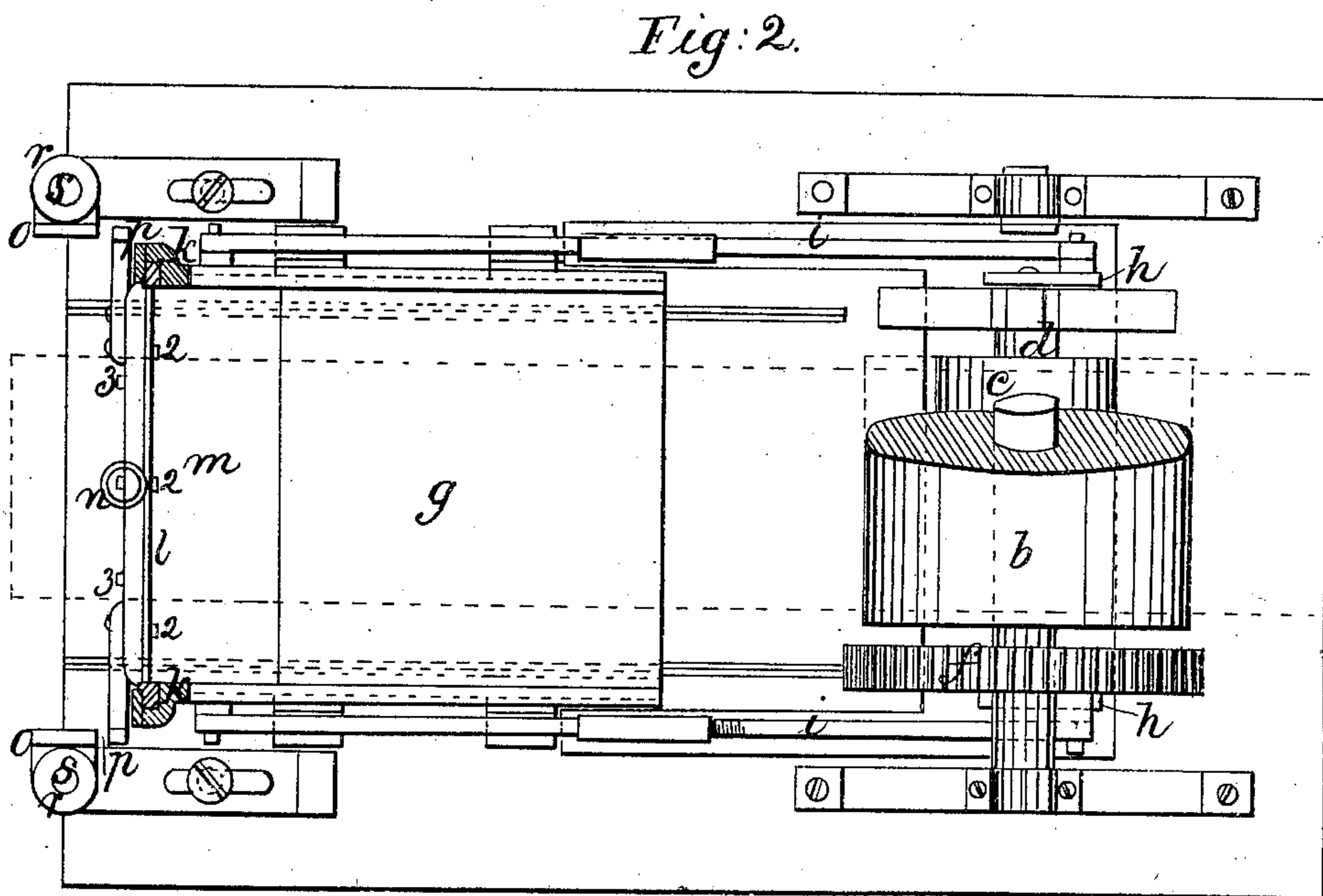
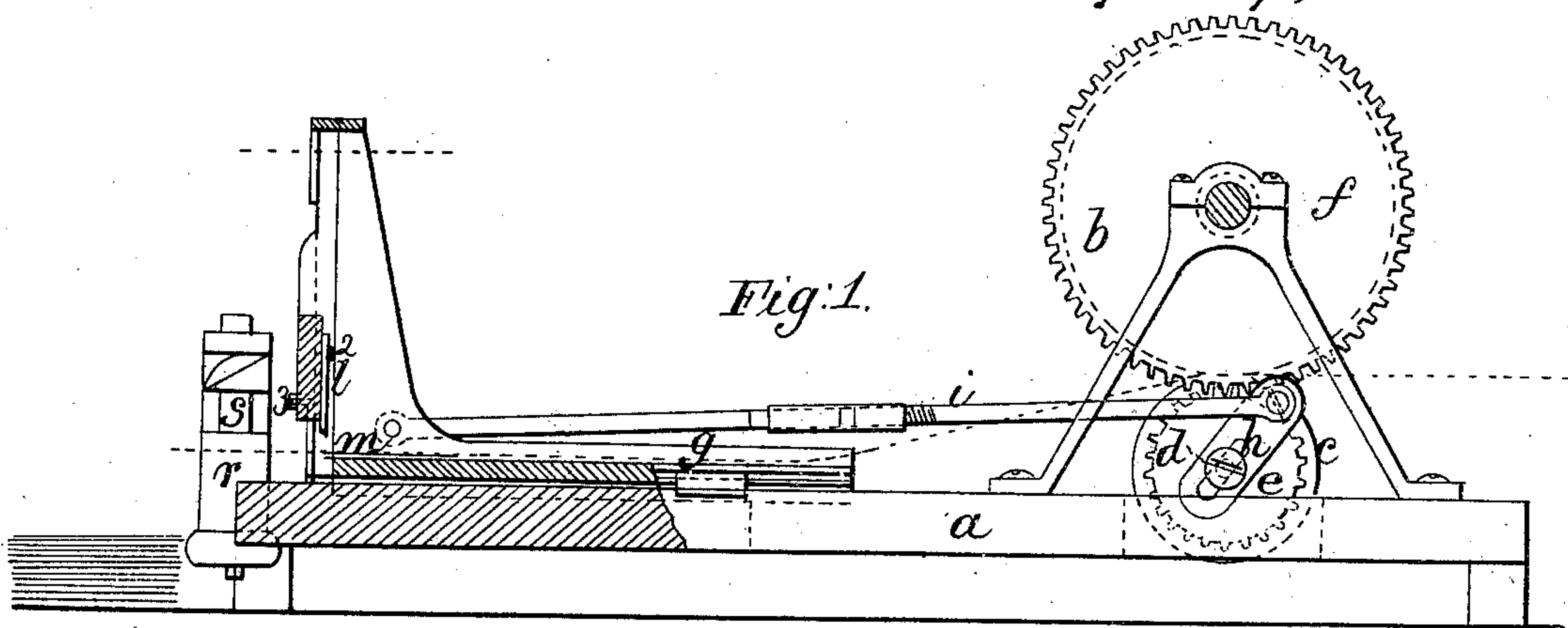


*J. L. Allen.*  
*Paper Cutting*  
*N<sup>o</sup> 76,373. Patented Apr. 7, 1868.*



*Witnesses;*  
*Geo S Walker*  
*Geo S Pruckmy*

*Inventor*  
*J. L. Allen*  
*per J. W. Smith*

# United States Patent Office.

J. LATHROP ALLEN, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND MARSHALL LEFFERTS, OF SAME PLACE.

*Letters Patent No. 76,373, dated April 7, 1868.*

## IMPROVEMENT IN PAPER-CUTTING MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, J. LATHROP ALLEN, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Machinery for Cutting Paper from a roll into sheets or pieces; and I do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing making part of this specification, wherein—

Figure 1 is an elevation of my apparatus, the cutter being shown in section.

Figure 2 is a plan, with the upper feed-roller partially removed and the slides of the knife in section; and

Figure 3 is an end view of the cutters, with one of the spring-cams that operate the moving-knife in section.

Similar marks of reference denote the same parts.

Heretofore difficulty has been experienced in cutting off paper from a roll or moving web, because the motion of the paper interfered with the action of the shear, or else the shear stopped the motion of the paper, rendering it liable to injury, particularly in those cases where the roll of paper was moved by drawing upon the paper itself.

The nature of my said invention consists in a reciprocating shear, moving at the speed, or nearly so, of the paper during the time that the cutting is being effected, said shear being afterwards opened and returning as the paper continues to pass through it, and then again going forward with the paper, and closing to cut it off.

This invention is particularly adapted to the cutting off of printed bills, checks, blanks, and other small articles printed by a rotary motion upon a continuous web of paper, but the same may be used for cutting off sheets of paper or similar material from a web or roll, wherever available.

In the drawing, *a* is a bed, carrying in suitable supports a roller, *b*, that is moved by suitable power, and becomes the measure of the length of the sheet of paper, or it may also be the rotary type-cylinder for printing. *c* is a roller, between which and the cylinder *b* the paper passes, as indicated by red lines. *d* is a shaft; it may be the shaft of the roller *c*, or separate therefrom; and the gear-wheels *e* and *f* cause the rotation of this shaft *d* the desired number of times for each revolution of the roller or cylinder *b*. These wheels *e* and *f* may be changeable, so as to vary the size of the sheet cut off, because the sheet of paper depends for its length upon the size of the cylinder *b* and the number of revolutions of the shaft *d* for each revolution of the cylinder *b*, a sheet of paper being cut off each revolution of the shaft *d*. At the ends of the shaft *d* are adjustable cranks *h h*, with adjustable connecting-rods, *i*, to the sliding-shear bed *g*, on which is a pair of vertical slides, *k*, carrying the moving knife *l*, that acts against the fixed blade *m* to form the shear.

The blade *l* is raised by the spring *n*, and is closed, as it moves along with the bed *g*, by the projecting fingers *p*, running under the inclines *o o*, or other suitable standing projections that depress the said shear as it moves away from the cylinder *b*, and allow it to be raised so as to return open. I have shown the inclines *o*, as set on spring-slides, *s*, in the frames *r*, so that the fingers *p*, as they return over the inclines *o*, will depress them, and said inclines spring up again.

By adjusting the length of the cranks *h*, the speed of the carriage *g*, at the point where the cutting is effected, can be made to correspond with the speed of the paper as it is delivered between the rollers *b c*. By adjusting the length of the rods *i i*, and the position of the cams or inclines *o*, the cut can be made at any desired point, so as to correspond with any printing there may be on the web.

In order to facilitate the construction of the shear and the keeping of it in good condition, I make the blade *m* comparatively thin, so as to be easily ground with a straight edge, and I make the blade *l* also rather thin, and attach it to its stock by the screws *2 2*, and I provide screws *3 3*, by means of which the cutting-edge can be adjusted to the necessary position to cut against the shear *m*.

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

Providing the reciprocating shear, having fixed inclines for closing the shear, with adjustable links and cranks for reciprocating said shear, substantially as set forth.

In witness whereof, I have hereunto set my signature, this sixth day of November, A. D. 1867.

J. LATHROP ALLEN.

Witnesses:

GEO. DENNETT WALKER,

GEO. THOS. PINCKNEY.