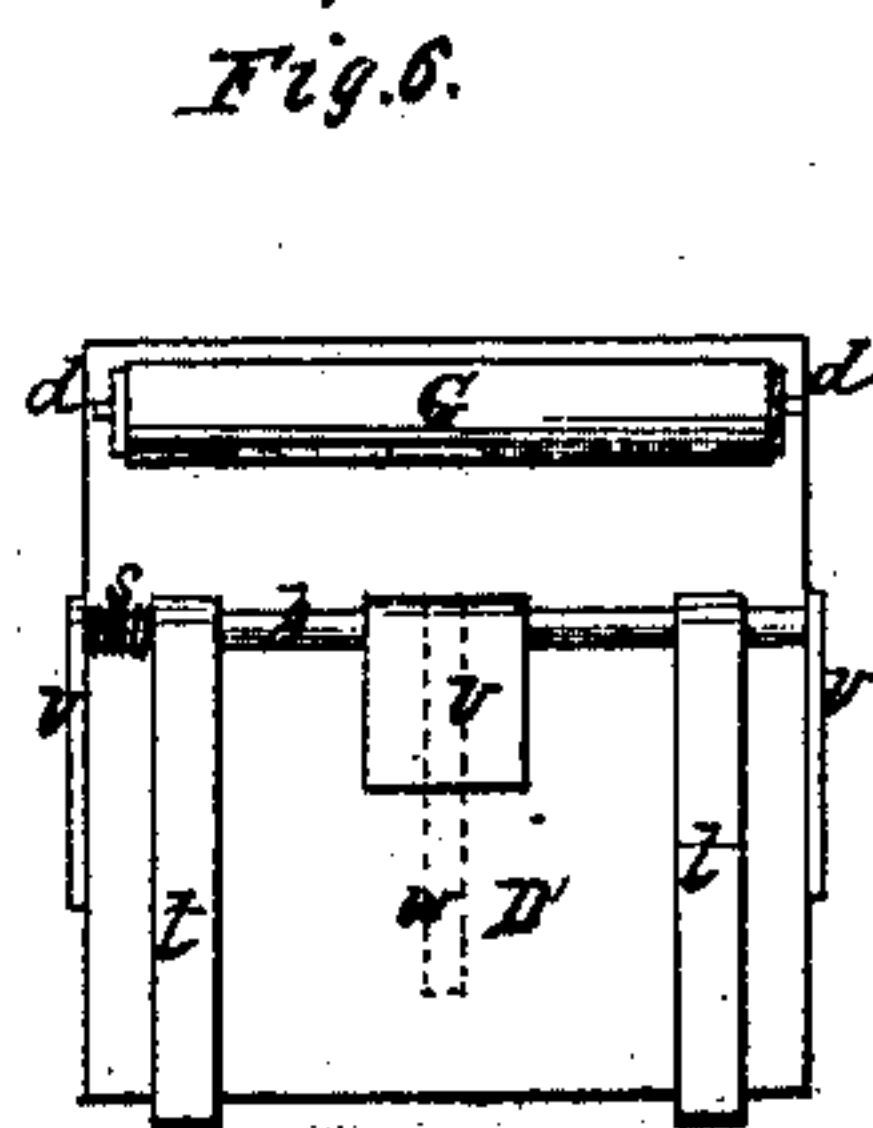
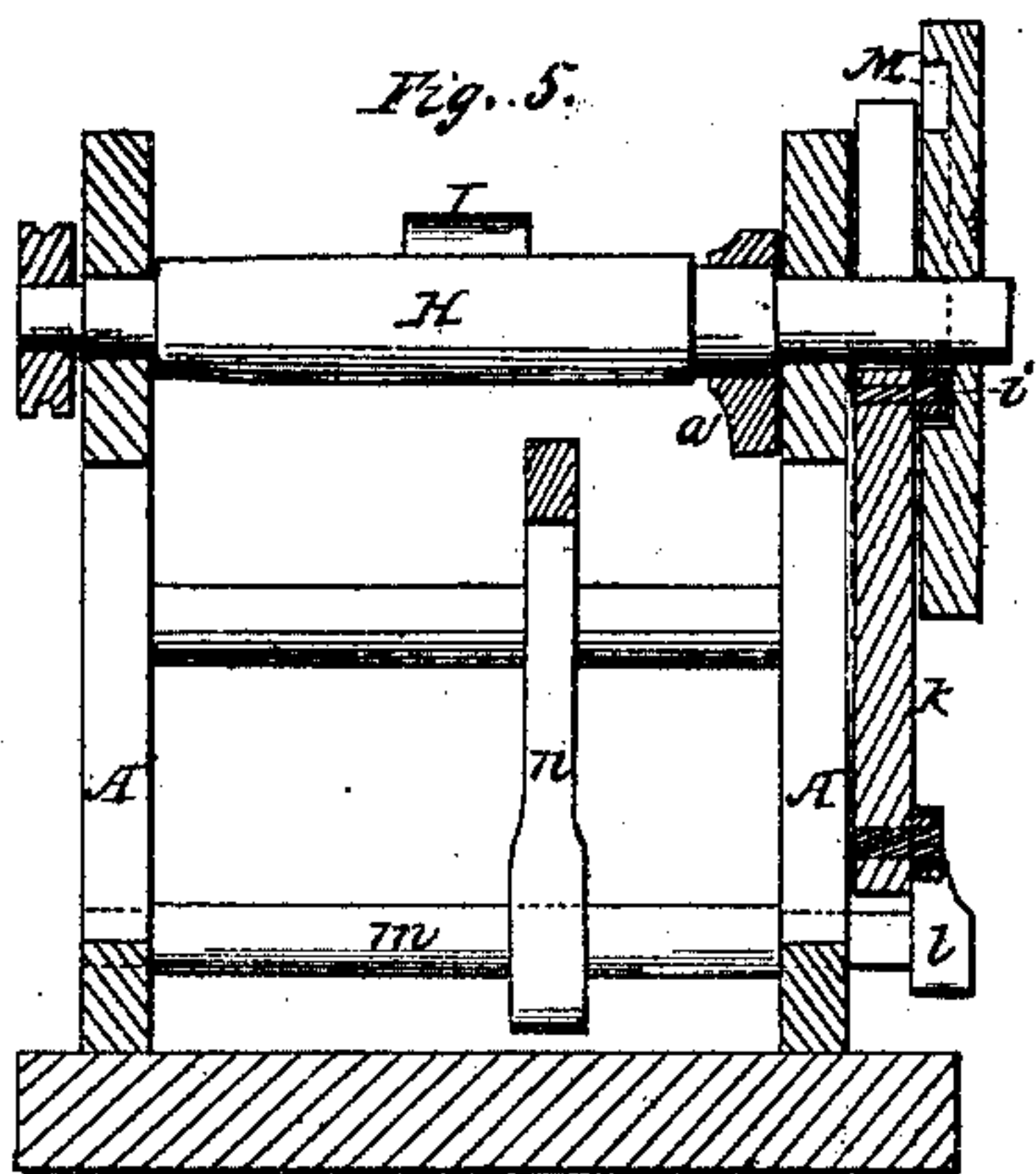
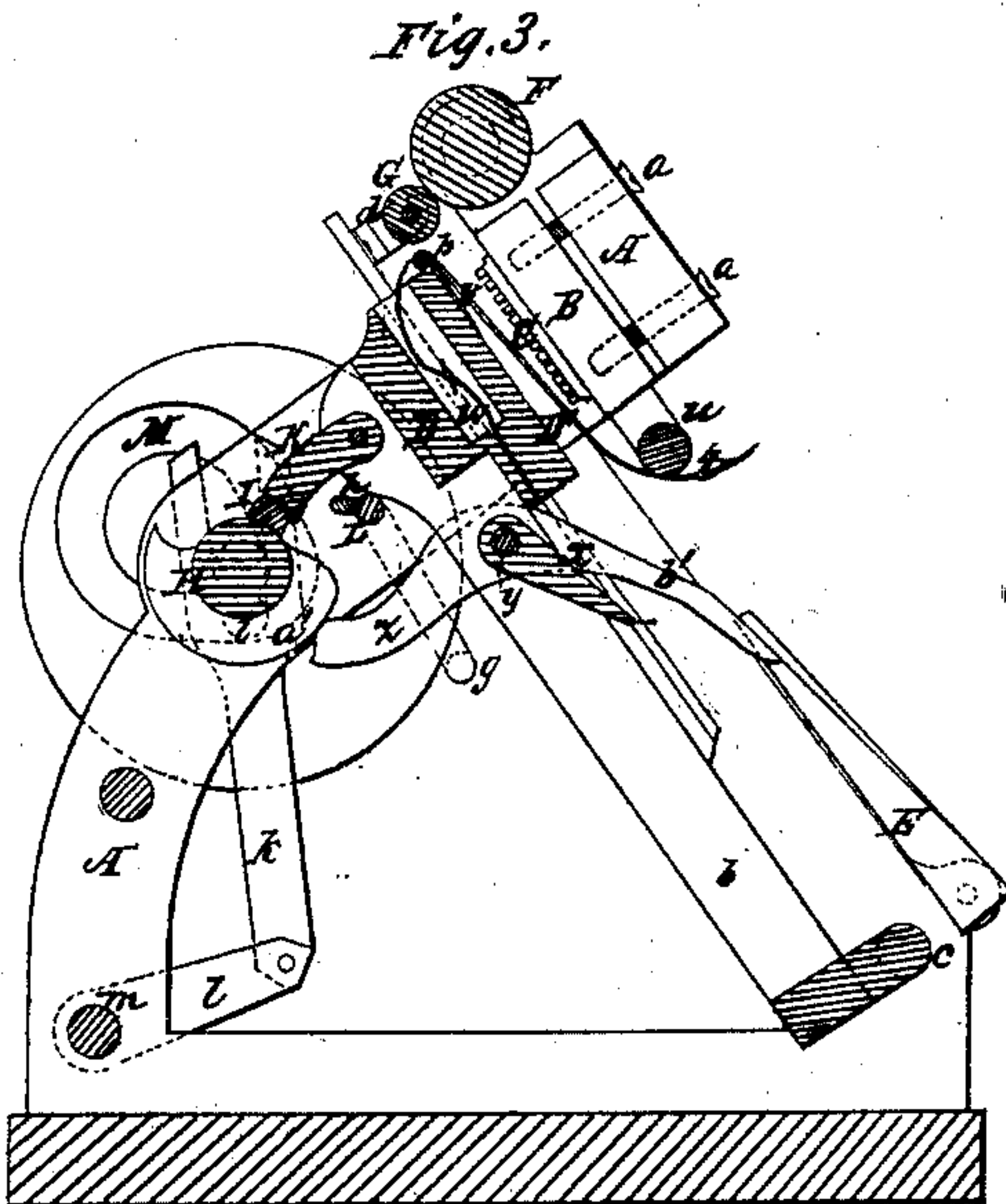
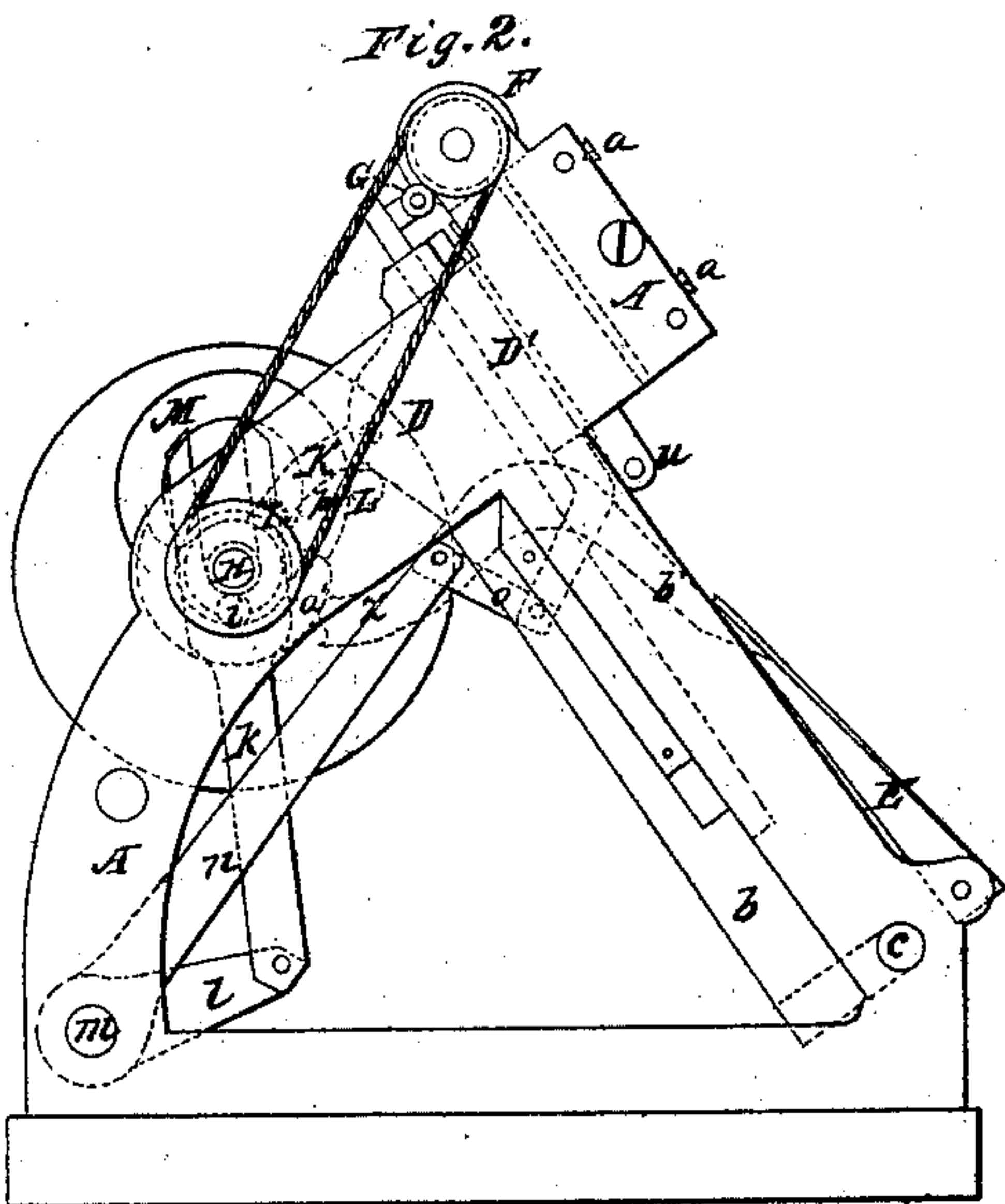
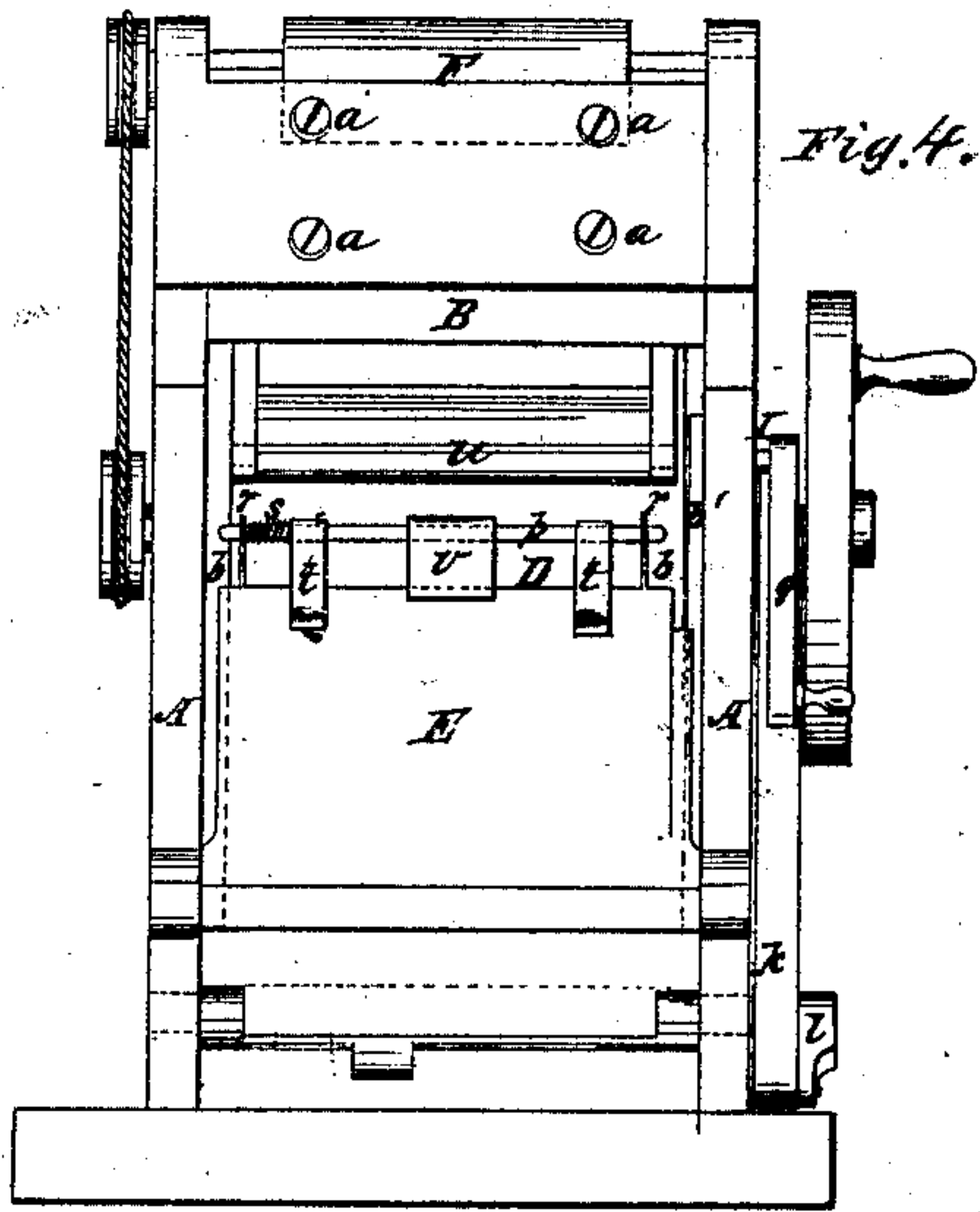
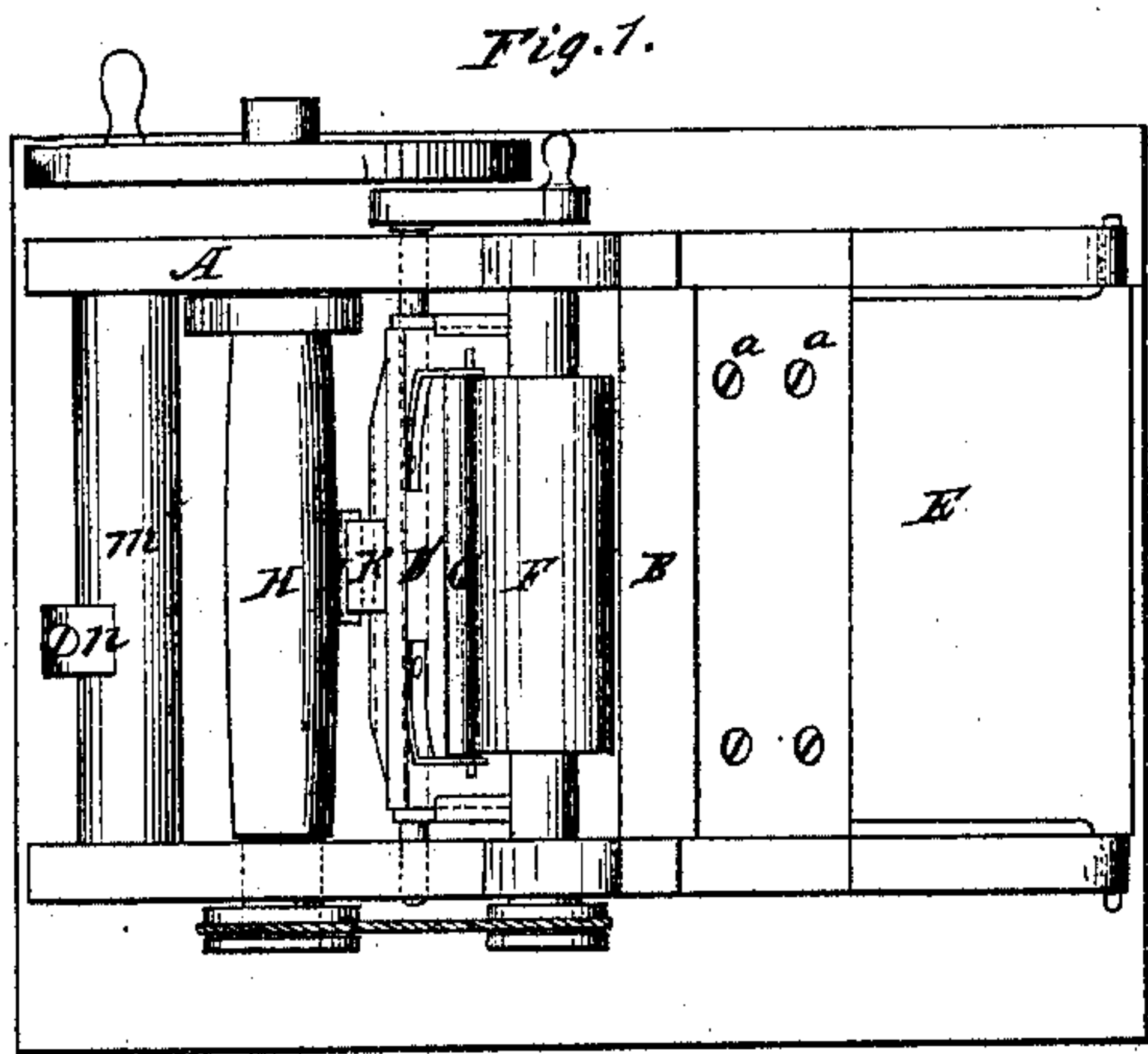


F. L. Bailey.
Printing Press.

Nº 17615.

Patented Jun. 23. 1857.



UNITED STATES PATENT OFFICE.

FRANKLIN L. BAILEY, OF BOSTON, MASSACHUSETTS.

PRINTING-PRESS.

Specification of Letters Patent No. 17,615, dated June 23, 1857.

To all whom it may concern:

Be it known that I, FRANKLIN L. BAILEY, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Printing-Press; and I hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a top view of said press. Fig. 2 is a side elevation of it. Fig. 3 a central vertical and longitudinal section of it. Fig. 4 is a front view of it.

In these drawings A denotes the frame of the machine, the same serving to support an adjustable type bed, B, which is arranged at the upper part of the frame and in the inclined position as shown in Fig. 3. The bed is connected with the frame by means of screws *a, a, a, a*, by which it may be adjusted so as to bring the printing face of the type into a correct position as the thickness of the paper to be printed may vary.

The form of type is shown at C, as fastened to the inner surface of the bed. D is the platen which is also arranged about parallel with the bed and is supported by journals projecting from the lower part of one extension, *b, b*, from the platen. One of said journals is seen at *c* in Fig. 2. The said extensions serve as ways for supporting and guiding a sliding metallic plate or sheet carrier D', which slides freely up and down and forces the platen toward and underneath an inclined sheet tablet or holder E, which is arranged on the frame A, as seen in Figs. 2, 3, and 4, and turns on journals at its foot and in such manner that at its upper edge it may either approach toward or recede from the sheet carrier.

An ink cylinder F is arranged above the bed and has its journals supported by the frame A. An inking roller, G, is affixed to the upper part of the sheet carrier by a spring, *d*, and so that when the carrier is at its highest position the said roller G may be in contact with the cylinder, F. During the descent and ascent of the sheet carrier the roller G will be rolled against the printing surface of the form of type and will impart ink thereto.

The platen is worked by a cam I, projecting from a rotary shaft, H, and operating in connection with a swinging toggle, K, jointed to the platen, the extent of rearward movement of the platen being determined by a transverse shaft L, against which the platen

brings up. This shaft not only has a crank, *g*, fixed to one end of it, but a stud or cam, *h*, extending from its middle, the same being arranged so as to enable a person by laying hold of the crank and turning it to move the toggle either into or out of the path of rotation of the cam I, in order that the platen may be put in movement or not, as occasion may require. An intermittent reciprocating rectilinear motion is given to the sheet carrier by a grooved cam, M (see Fig. 5 which is another vertical section of the machine), fixed on the driving shaft. A stud or friction roller, *i*, extending from the under side of a bifurcated slider, *k*, enters the groove of the cam M. The fork of the slider embraces and slides on the shaft while the lower end of the slider is jointed to an arm, *l*, projecting from a shaft *m*. (See Figs. 2 and 4.) Another arm, *n*, extended from the shaft *m* (see Fig. 2), is connected with the sheet carrier by means of a pitman, *o*, jointed to both. Thus during the rotation of the cam M it will so act on the slider, the arm *l*, shaft *m*, the arm *n*, and pitman *o*, as to impart to the sheet carrier its necessary motions and intervals of rest.

Near its upper end the sheet carrier is provided with a transverse shaft, *p*, which turns on bearings *r, r* (see Fig. 6, which is a front view of the sheet carrier), and has a coiled spring *s*, arranged on it, one end of the spring being fixed to the shaft while the other end of it is attached to one of the bearings of the shaft. From the said shaft two elastic springs, *t, t*, project so as to rest respectively on the two opposite edges of a sheet of paper when on the carrier. These springs may be so applied to the shaft as to be adjusted laterally thereon. During the upward movement of the carrier such springs are borne against a roller, *u*, fixed in position as shown in Figs. 3 and 4 and by it are bent down so as to rest on the paper and hold it at its opposite edges firmly down on the sheet carrier. These springs also serve to confine the sheet of paper on the carrier during the rearward movement of the platen, the paper being pulled off the type by being held down to the carrier during its rearward movement with the platen.

Besides the springs *t, t*, this shaft has a nipper, *v*, arranged and made to turn on its middle part. The nipper is constructed as shown in Fig. 3, in the form of a bent lever where two legs stand at an acute angle with

each other. A spring, *w*, fixed to the rear side of the sheet carrier presses against the front face of the back leg so as to cause the front leg of the nipper to hold a sheet of paper down to the sheet carrier. In rear of the said back leg an arm, *x*, extends down from a shaft, *y*. From this shaft another arm *z*, projects and toward and against the periphery of a cam *a*¹ (see Fig. 5) fixed on the driving shaft. The object of these devices is to so operate the nipper as to press its rear leg inward so as to move its front leg off the sheet of paper in order that after having been printed such sheet may fall off the carrier. An arm, *b*¹, also extends from the shaft, *y*, toward and against the sheet tablet *E*, and operates so as to elevate the tablet off the sheet carrier in such manner as to allow the printed sheet while being discharged from the press to fall behind the tablet.

In operating with the machine the paper to be printed after having been laid on the tablet, *E*, is seized and drawn off the same by the action of the nipper and carrier and is borne down in place on the carrier by the springs *t*, *t*, which coöperate with the nipper; the carrier takes the paper from the tablet and up to the form of type where after having been printed it is freed from the type by the grip of the springs *t*, *t*, against the carrier or sliding plate *D*¹ and is then guided and supported downward by the downward movement of the said carrier so as to come back of the tablet when it will be discharged by gravity. Should it not be entirely discharged by the action of gravity the tablet by resting against the sheet carrier during its next ascent will cause the sheet to fall out of the machine.

The arrangement of the type, the receiving tablet, the sheet carrier and the platen in an inclined position to the horizon causes the

paper to be discharged by the action of gravity and the tablet. Besides this, it prevents in a great degree the types of the form from becoming displaced or falling out of the chase as they are liable to do when they stand vertically and with their printing faces downward.

The arrangement of the sheet carrier on ways carried by or projecting from and moving or vibrating with the platen is advantageous, as the sheet carrier during the operation of printing is controlled by the platen and is not so independent of it as to be capable of a separate lateral, transverse movement either toward or away from the type. Other advantages also ensue from this arrangement.

I claim—

1. The combination and arrangement of the nipper and holding springs applied to the sheet carrier and made to operate therewith substantially as described, and whether said springs be made stationary or adjustable laterally on their shaft.

2. I do not claim a sliding platen or plate moving out from beneath the type-form for the purpose of receiving a sheet to be printed, but I do claim the sliding carrier or plate *D*¹ when made to move in an inclined, or vertical direction for the purpose set forth.

3. I also claim the combination of the sheet carrier or plate *D*¹ with ways placed on the platen or vibrating frame *D*, on which it slides, so that it may assume the positions for receiving the sheet to be printed, and also for giving the impression to the same.

In testimony whereof, I have hereunto set my signature.

FRANKLIN L. BAILEY.

Witnesses:

R. H. EDDY,
F. P. HALE, Jr.