

J. C. Forman.
Paper-Ruling Mach.
Nº 21411. Patented Sept. 7. 1858.

Fig: 1.

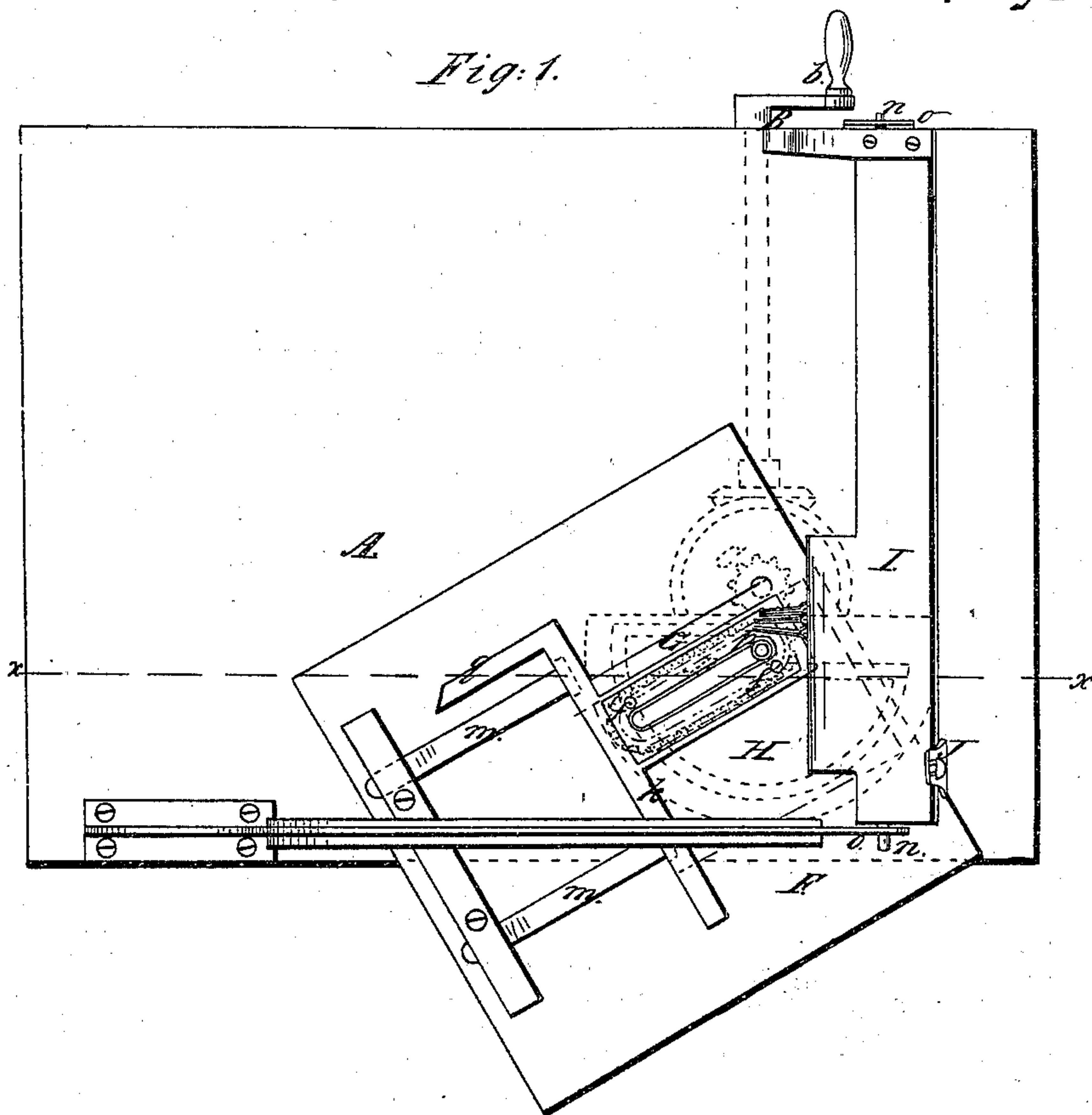


Fig: 3.

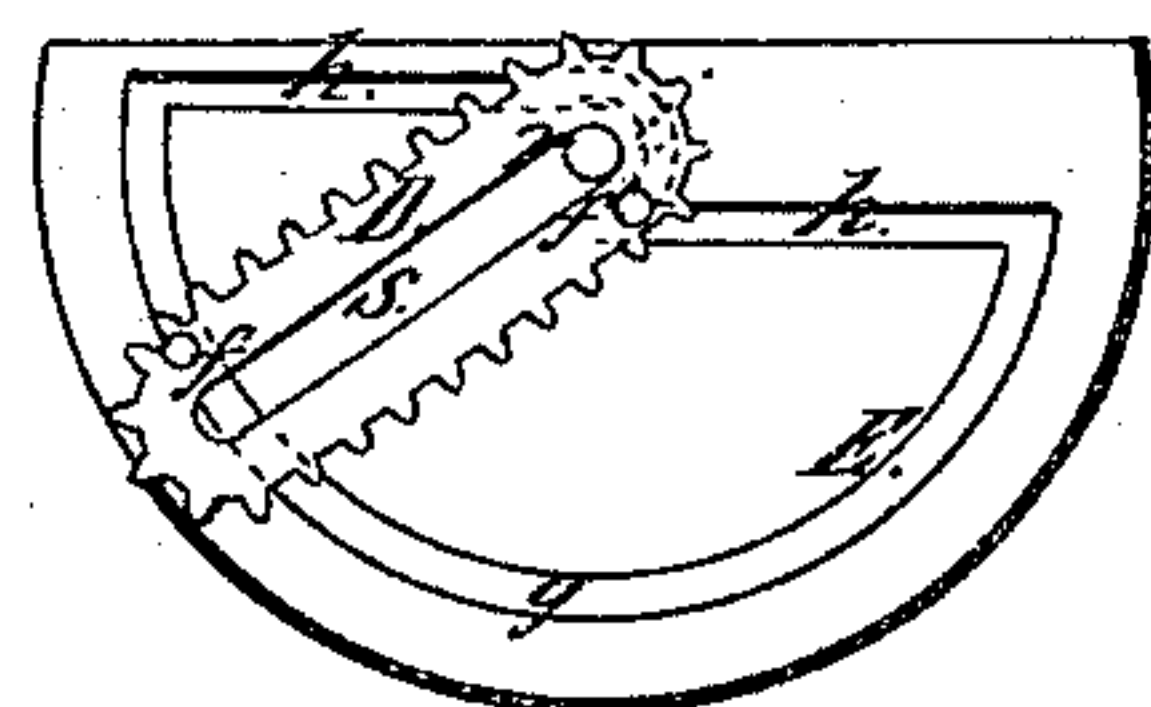
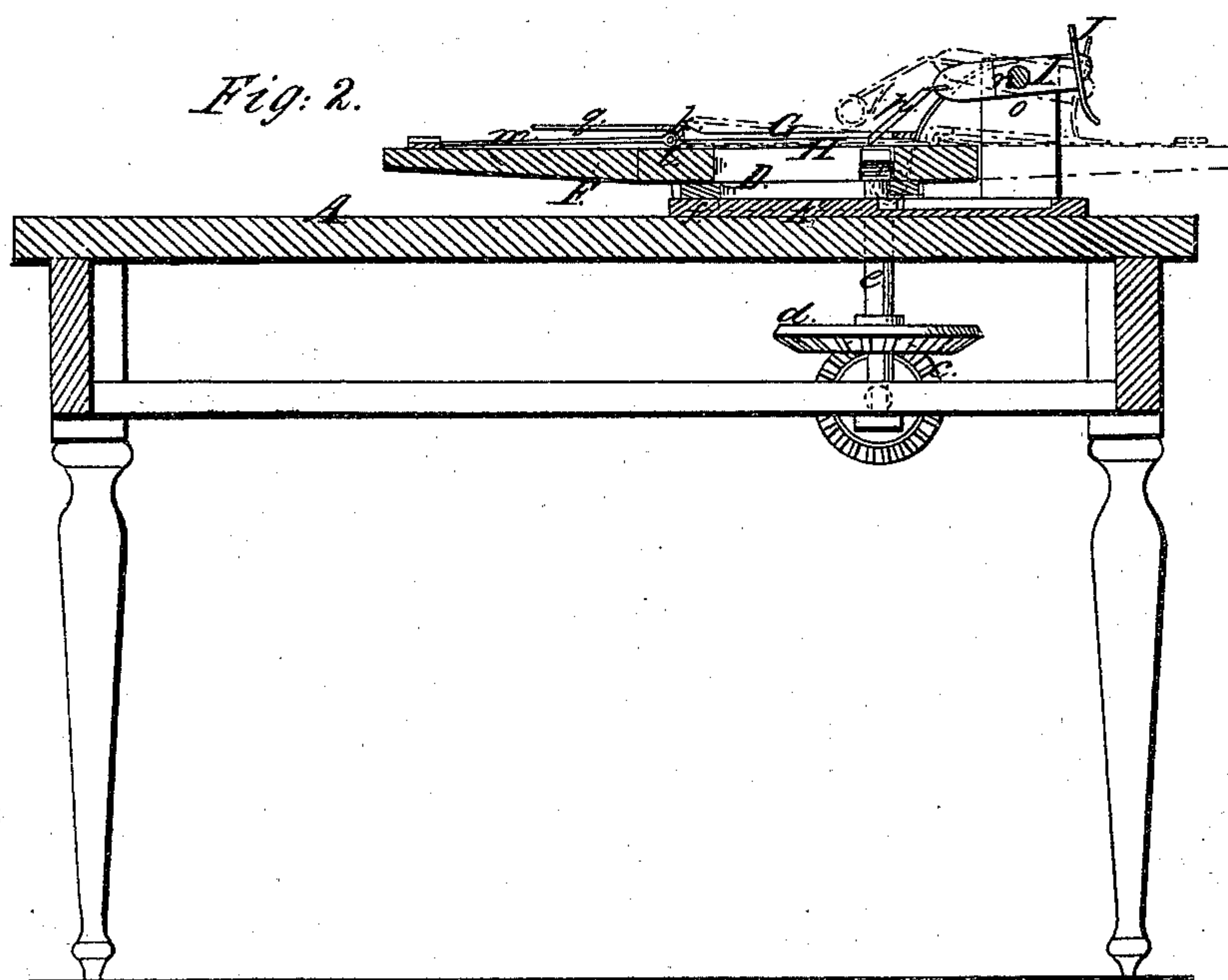


Fig: 2.



UNITED STATES PATENT OFFICE.

J. C. FORMAN, OF CLEVELAND, OHIO.

MACHINE FOR RULING PAPER.

Specification of Letters Patent No. 21,411, dated September 7, 1858.

To all whom it may concern:

Be it known that I, J. C. FORMAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Paper-Ruling Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to annexed drawings, making a part of this specification, in which—

Figure 1, is a plan or top view of my invention. Fig. 2, is a vertical section of my invention taken in the line *x, x*, Fig. 1. Fig. 3, is a detached plan or top view of the mechanism by which the bed is actuated.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful machine for ruling paper with parallel lines bounded by curved or semi-circular ends forming borders for cards, checks, bill heads and the like.

The invention consists in giving a bed on which the paper is placed a movement below the pens corresponding to the form of the border to be ruled so that the desired lines will be drawn on the paper, the bed having a frisket attached and so arranged that the paper may be readily shifted on the bed and the machine generally manipulated with facility.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a platform supported by a suitable framing or pedestals and B, is a shaft which is fitted in proper bearings below the platform. The shaft B, has a crank *b*, on its outer end and a bevel pinion *c*, is placed on its inner end, said pinion gearing into a bevel wheel *d*, which is on the lower end of a vertical shaft *e*, which passes through the platform A, and has a pinion C, on its upper end. The pinion C, gears into a rack D, which has two parallel sides and rounded ends as shown clearly in Fig. 3, and by dotted lines in Fig. 1. This rack has two pins *f, f*, attached to its under side at opposite ends and at opposite sides of its center, and these pins fit and work in a grooved horizontal plate E, which is attached to the platform A, the groove being formed of a semi-circular portion *g*, and a portion formed of two straight grooves *h, h*, connected by a semi-circular portion *i*.

The rack D, is attached to the under side of a bed F, and to the upper surface of the bed F, a frisket G, is attached, said frisket being a rectangular metal frame attached to a bar *k*, which is connected by joints *l*, to two flat springs *m, m*, attached to the bed. The frisket G, rests directly on the sheet of paper H, to be ruled and retains it in proper place on the bed.

I, represents the pen beam, the journals *n*, of which are fitted in proper bearings *o, o*. This beam as in other paper ruling machines is allowed to tilt so that its pens *p*, may be raised free from the paper H, when desired. The pens *p*, are of usual construction and therefore do not require a minute description. To the back edge of the beam a slide or adjustable bar J, is attached, and a bar *q*, is attached to the bar *k*, at right angles.

The rack D, is slotted longitudinally and a vertical pin *r*, which is attached to the platform A, passes through the slot of the rack, said slot being designated by *s*.

The operation is as follows: The paper H, is placed on the bed F, and underneath the frisket G, a bar *t*, which is attached to the bar *k*, serving as a guide in adjusting the paper H, properly on the bed. The pens *p*, are fed with ink or fluid in the usual way, and the crank *b*, is turned by hand. The shaft B, through the medium of the gearing *c, d, C*, rotates the rack D, and consequently the bed F, and the paper H, is moved underneath the pens *b*, in such a way that a border will be drawn on the paper corresponding to the form of the rack D. The pins *f, f*, of said rack work alternately in the semi-circular portions *g, i*, of the groove in the plate E, and the rack besides this semi-rotating movement moves in a right line when its pins *f*, are in the grooves *h, h*. As each border is formed the bar *q*, passes underneath the bar J, attached to the beam I, and the operator by tilting the beam I, so that its back edge is depressed will cause the bar J, to strike the bar *q*, and thereby raise the frisket G, so that the operator can shift the paper H, without directly adjusting the frisket, see red lines Fig. 2.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is,

1. The movable bed F, operated through

the medium of the rack D, and grooved plate E, in connection with the gearing c, d, C, or its equivalent as and for the purpose set forth.

- 5 2. I also claim the frisket G, when arranged as shown, to wit, the frisket being attached to the bar k, provided with bar q,

and used in connection with the bar J, on the pen beam I, for the purpose specified.

J. C. FORMAN.

Witnesses:

A. S. SANFORD,

E. HESSEN MUELLER.