

(No Model.)

2 Sheets—Sheet 1.

S. FEUST.

BUFFING AND POLISHING MACHINE.

No. 272,871.

Patented Feb. 27, 1883.

Fig. 1.

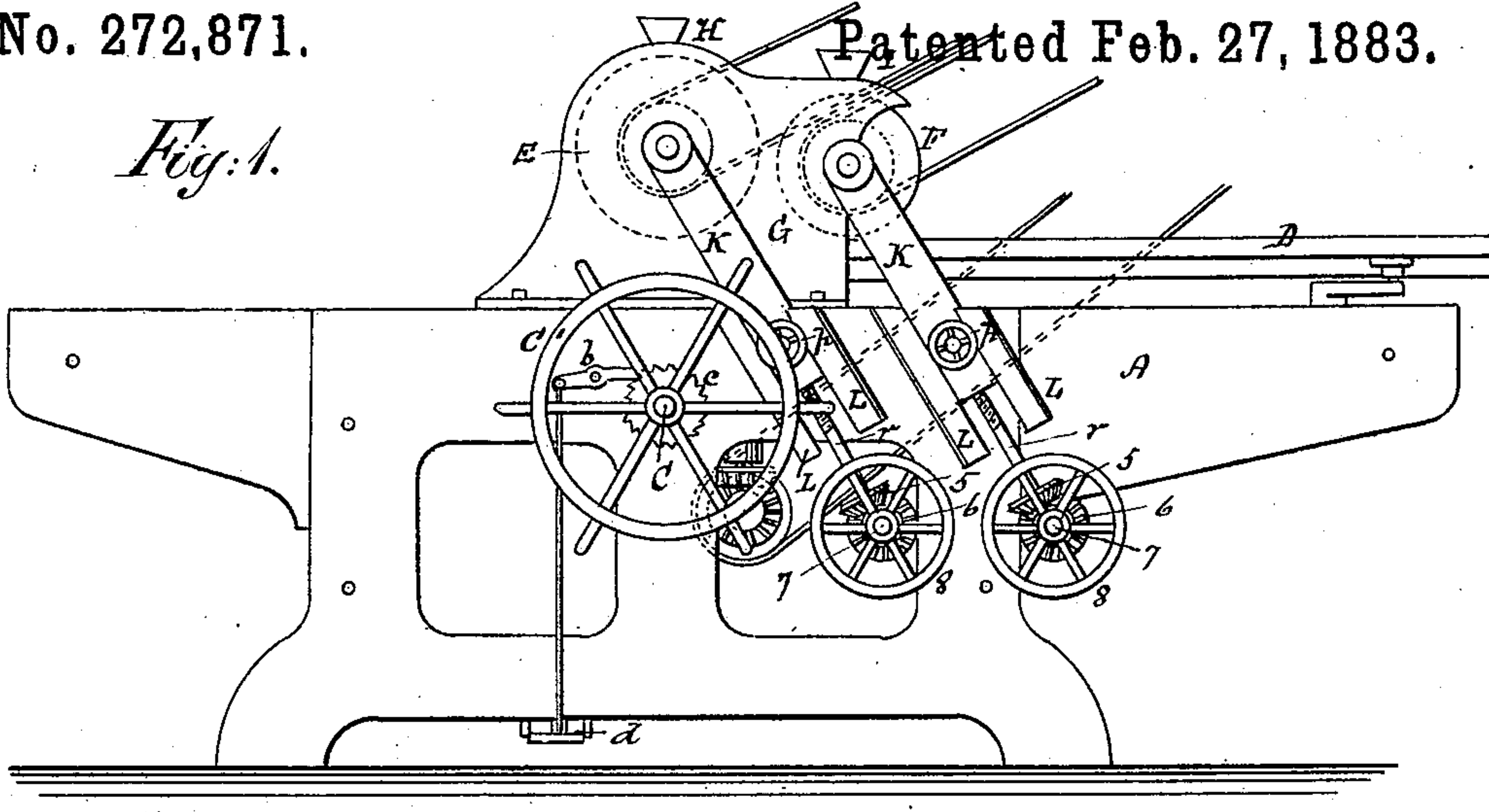


Fig. 2.

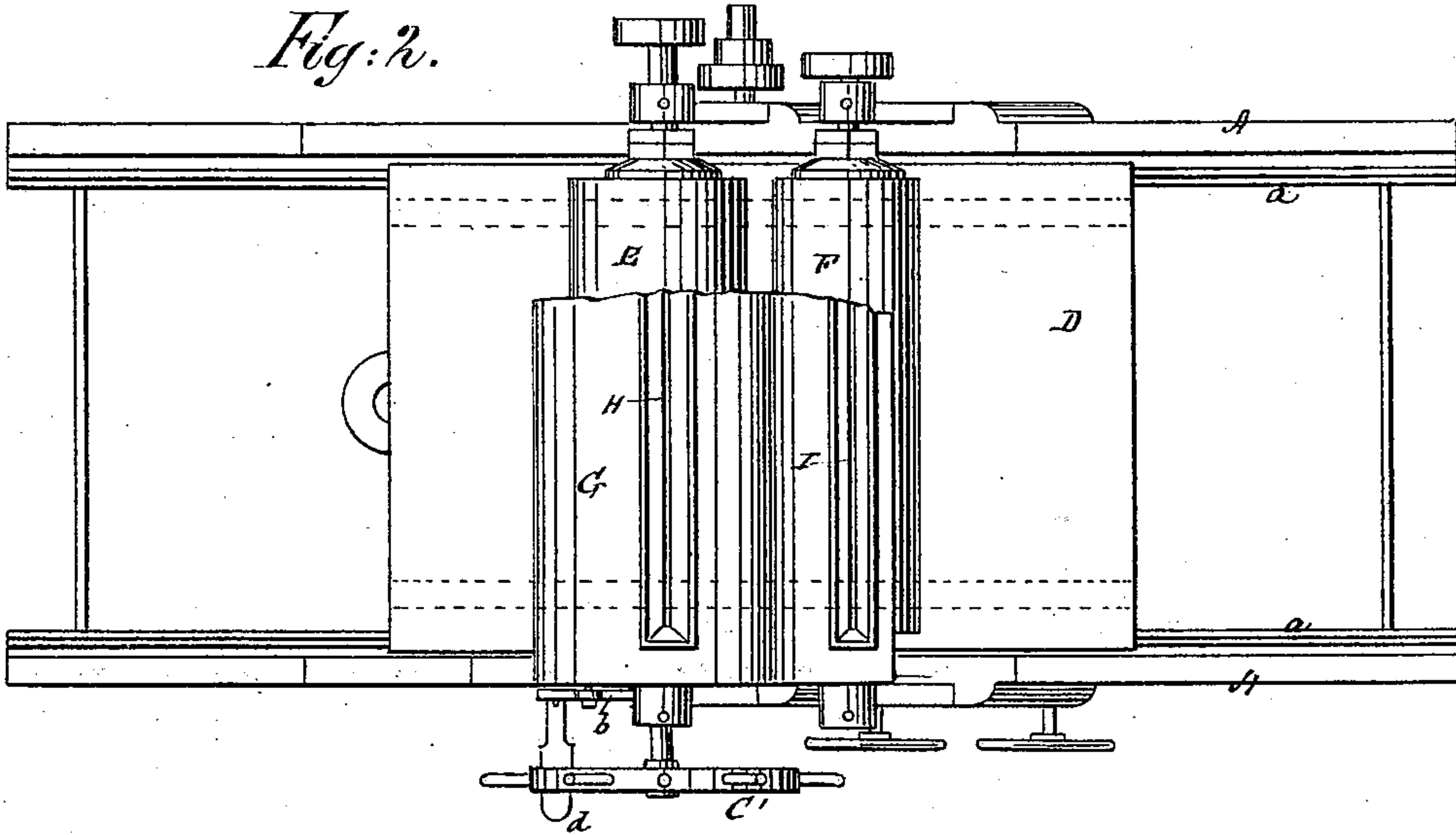
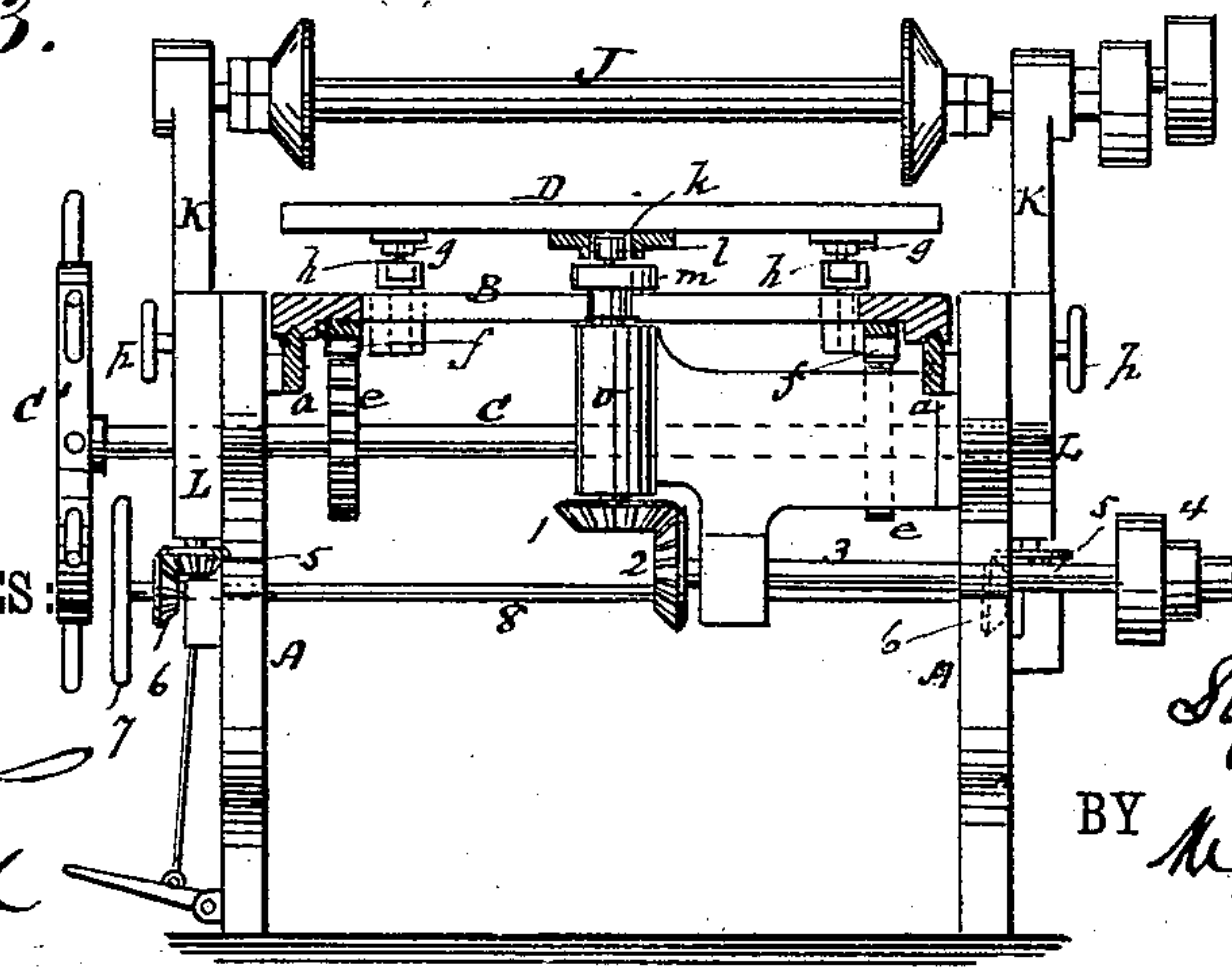


Fig. 3.



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Fig: 4.

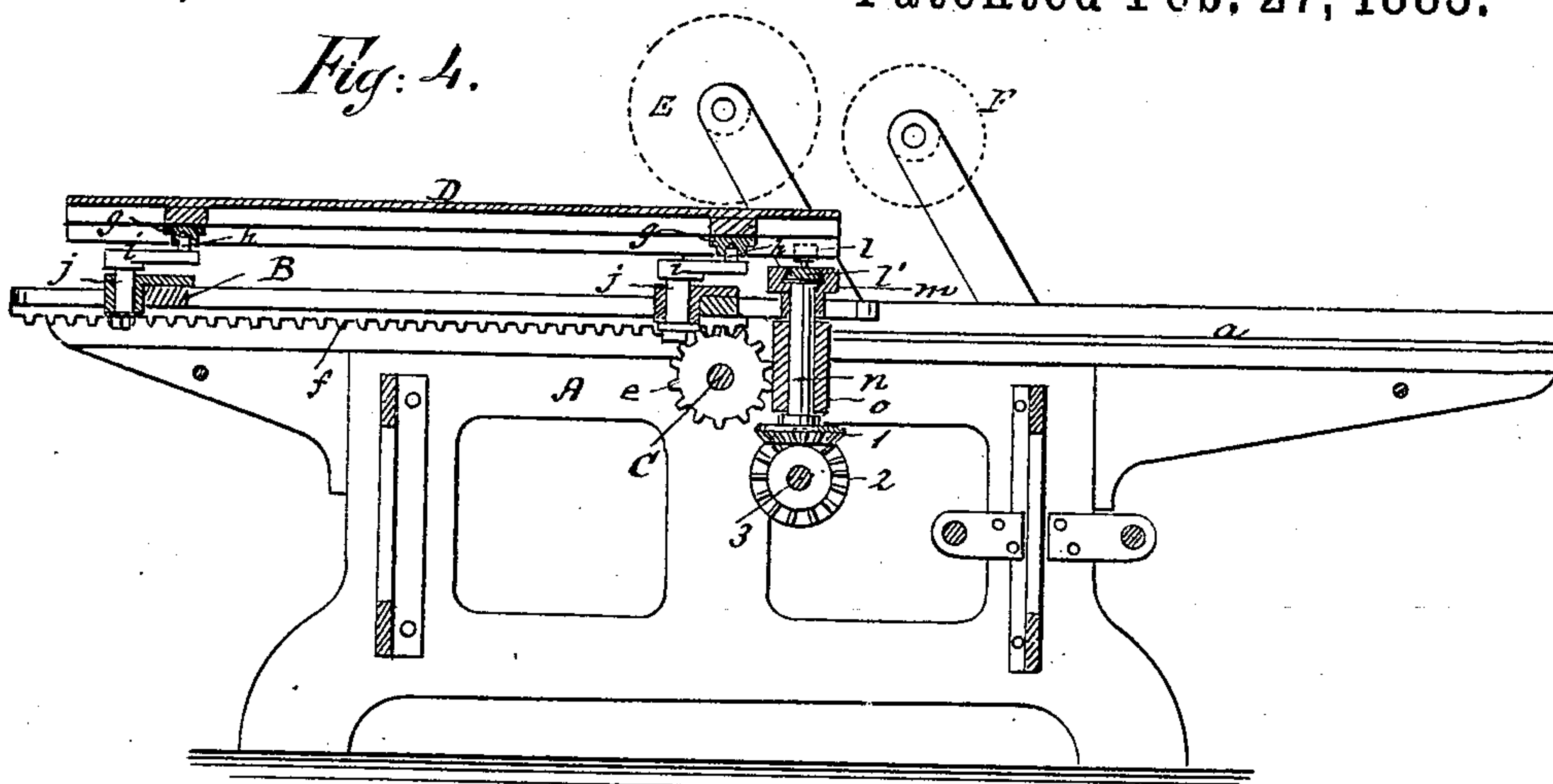


Fig: 5.

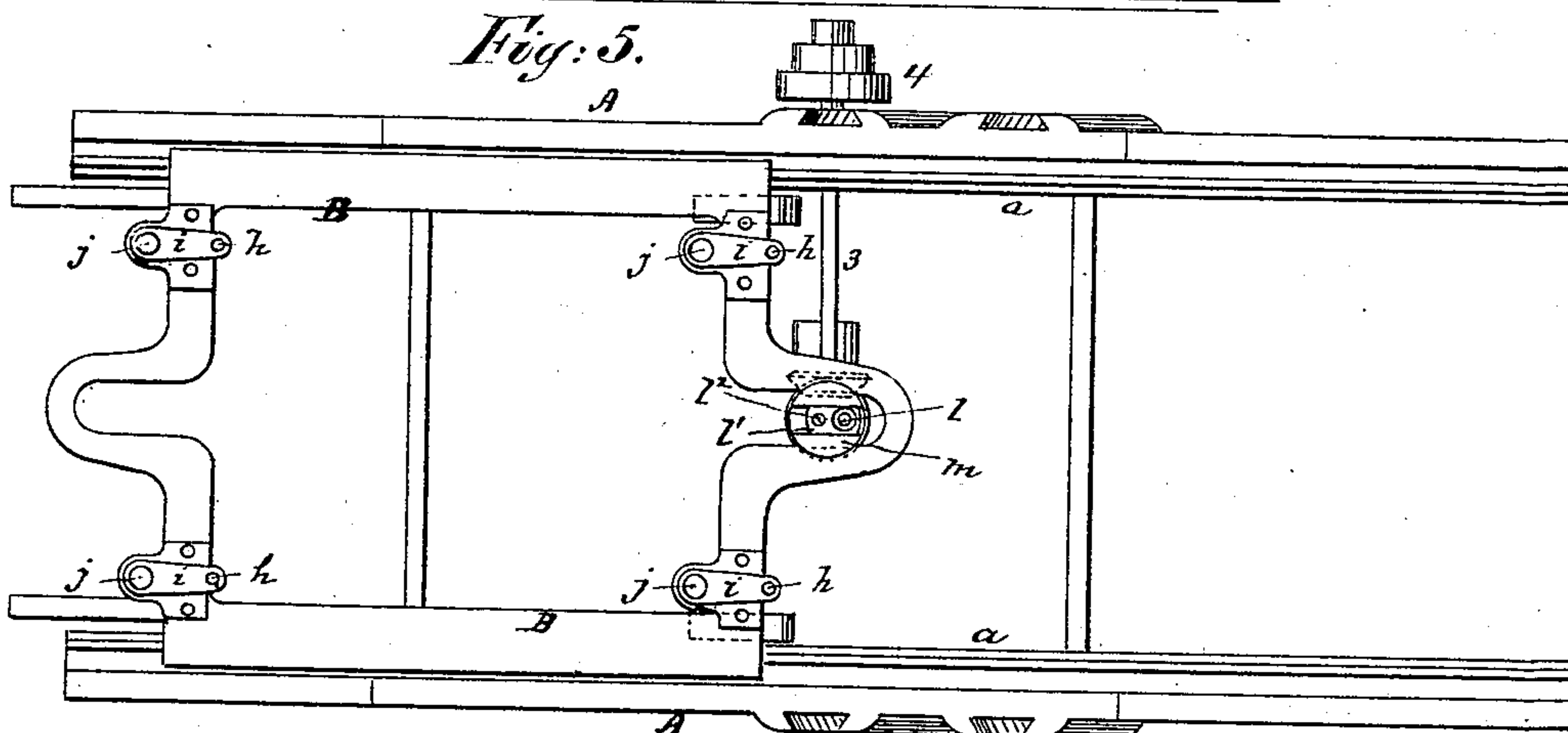
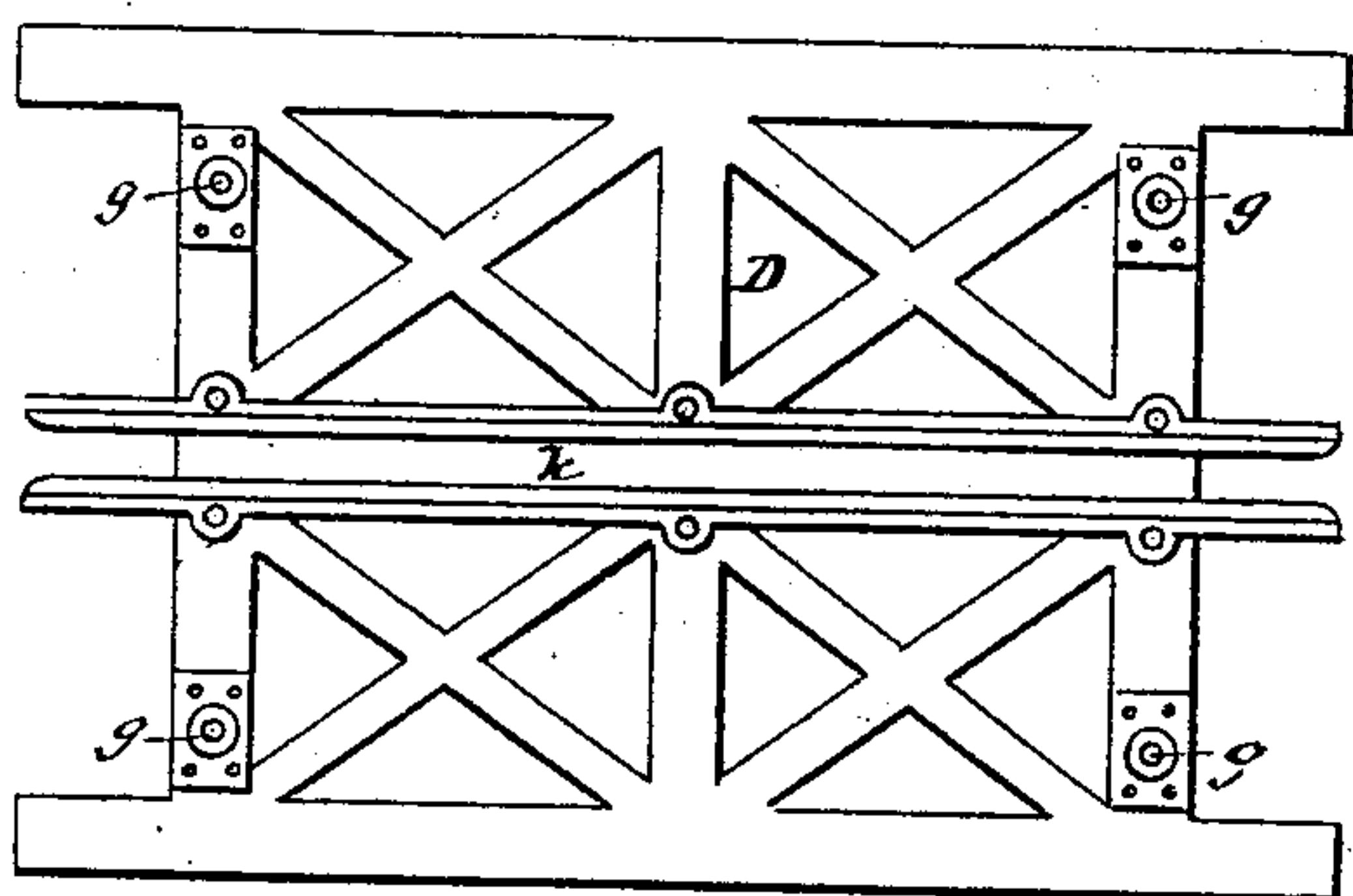


Fig: 6.



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UNITED STATES PATENT OFFICE.

SIGMUND FEUST, OF NEW YORK, N. Y.

BUFFING AND POLISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 272,871, dated February 27, 1883.

Application filed January 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, SIGMUND FEUST, of the city, county, and State of New York, have invented certain new and useful Improvements in Buffing and Polishing Machines, of which the following is a specification.

My improvements are directed to machines designed more particularly for buffing and polishing metal, and they have special reference to the operations of polishing and coloring brass, the "coloring operation," so called, being designed to give the concluding or finishing polish to the brass.

In buffing and polishing it is of material benefit to perform the coloring polishing operation while the brass or other work is still hot from the preliminary polishing operation, since under these conditions the coloring polish is obtained more quickly and with better effect. To this end I combine with the work-supporting table, which has a combined lengthwise and laterally-reciprocating movement, two buffing-rolls—the one a polishing-roll and the other a coloring-roll, which is placed in rear of the first-mentioned roll relatively to the direction of lengthwise movement of the table—so that the work as it leaves the polishing-roll, and while it is still hot from the effect of this preliminary polishing operation, shall be subjected to the action of the coloring polishing-roll, which thus gives it the coloring polish under most favorable conditions. Inasmuch, however, as some work requires, before receiving the coloring polish, more preliminary polishing than can be obtained by passing only once under the polishing-roll, I mount the coloring-roll so that it can be moved away from or toward the table as desired, so as to throw that roll out of action until the work has been preliminarily polished to the required extent, after which the coloring-roll can be brought into action and the polishing-roll can in turn be thrown out of action while the coloring polish is being imparted to the work. In this way I am enabled with one machine to perform two operations which heretofore have required two distinct apparatuses or machines, and I so organize the parts that these successive operations are performed more effectively and with better results than heretofore.

In the accompanying drawings, Figure 1 is a side elevation of so much of a machine embodying my improvements as needed for the purpose of explaining my invention. Fig. 2 is a plan of the same with the roll-covering hood partly removed. Fig. 3 is a sectional end elevation of the machine with the hood removed. Fig. 4 is a longitudinal central section of the same, with the two rolls represented by dotted lines. Fig. 5 is a plan of the machine with the work-supporting table removed. Fig. 6 is a view of the under face of the table.

A is the frame of the machine, provided with longitudinal ways *a*, on which slides the longitudinally-movable frame B. This frame obtains its movement from a shaft, C, which may be rotated either by hand or by power, but represented in the present instance as provided with a hand-wheel, C', so that it may be rotated by the workman. A pivoted pawl, *b*, on the machine-frame normally engages a ratchet, *c*, on the shaft C, and is connected to a treadle, *d*, by depressing which the pawl can be disengaged from the ratchet. The object of this pawl-and-ratchet arrangement is to prevent the table-carrying frame B from being forced back by the power of the buffing-wheels in a direction opposite to that in which it is moved by hand, should the workman wish to leave the machine while the work is in progress.

Shaft C is provided with two spur-wheels, *e*, which engage racks *f* on the under side of the frame B, and thus act to move the latter in one direction or the other, according to the direction of rotation of the shaft.

Upon the longitudinally-movable frame is mounted a bed, D, which receives a movement of continuous lateral reciprocation during the longitudinal movement of frame B, by which it is carried. For this purpose the bed has in its four corners, on its under side, sockets *g*, which are entered by wrist-pins *h* on the ends of crank-arms *i*, swiveled at *j* in the frame B.

Extending lengthwise and centrally of the under side of bed D is a groove, *k*, which is entered by a friction-roller mounted on a pin, *l*, set eccentrically in a disk or hub, *m*, fixed on the upper end of a vertical shaft, *n*, which is supported in a proper bearing, *o*, on the machine-frame, and is provided at its lower end with a beveled gear, *1*, that meshes with a like

gear, 2, on a power-driven rotating shaft, 3, obtaining its motion in any suitable way—in this instance by means of a pulley, 4, driven by belting from any convenient source of power. The pin *l* is carried by a slide, *U*, held in a dovetailed diametrical groove on the face of hub *m*, so that it may be adjusted nearer to or farther from the axis, according to the lateral throw desired to be given to the table. It is held in its adjusted position by a set-screw, *l*².

By means of the foregoing instrumentalities the table during lengthwise travel is swung from side to side with sufficient rapidity to prevent the work which is under the action of the buffing-rolls from becoming "streaky."

Above the table are the two rolls E F—the former the polishing-roll and the latter the coloring polishing-roll, set parallel with and in rear of the polishing-roll relatively to the direction of movement of the work to be simultaneously acted on by said rolls. These rolls are preferably made as indicated in my former patent, No. 270,294, January 9, 1883; but they can be constructed in other ways. Above them are the protecting-hood G and the hoppers H I, through which the proper buffing compositions are slowly supplied to the respective rolls.

The shaft J of each roll is mounted in standards K, which are adjustable up and down in guides L on the machine-frame, and are held in desired position by set-screws *p*. Each pair of standards is adjusted by adjusting-screws *r*, held in suitable bearings, so as to be capable of rotary movement only, and having fixed on their lower ends beveled gears 5, which mesh with like gears, 6, on a cross-shaft, 7, provided with a hand-wheel, 8, by turning which the buffing-roll in operative connection therewith may be raised or lowered, as desired. Thus either roll can be thrown out of action, or they can both be brought into action simultaneously, according to the character of the work. The guides L are inclined, as shown, occupying such a position that the buffing-rolls, as they wear away, can be lowered without slackening their driving-belts.

The mode of operation of the machine is sufficiently disclosed in the foregoing description, and does not require explanation further than to add that in the case of operating on brass, for instance, the first roll, E, is supplied with

a comparatively greasy compound, usually known as "rouge composition." The surface of the brass plate, by the action of this device, is polished, or, in other words, is put in condition for the action of the coloring-roll F. It passes out from under roll E smoothed and hot, but having a comparatively dull appearing surface. The second roll, F, which must be kept free from oil, is supplied with a compound of much finer materials than the first, and known as "nickel rouge." The action of this roll upon the heated brass plate is to effect a certain rich change in the surface color and to impart to the work a brilliant luster.

Having described my improvements, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the longitudinally-movable and laterally-reciprocating work-carrying table, of the polishing-roll and the coloring polishing-roll, placed in rear of the first-named roll, so as to operate on the brass or other work after the latter has passed the polishing-roll, substantially as and for the purposes hereinbefore set forth.

2. The combination of the longitudinally-movable and laterally-reciprocating work-carrying table and the polishing and coloring polishing rolls, each mounted independently of the other in bearings movable toward and away from the face of the table, so that either or both of said rolls may be thrown into or out of action, substantially as and for the purposes hereinbefore set forth.

3. The longitudinally-movable table-supporting frame and the table mounted on oscillating crank-arms swiveled to said frame, in combination with the power-driven rotating shaft provided with an adjustable crank-pin or roller, extending into a longitudinal groove on the under side of the table, whereby the latter, during the lengthwise movement of supporting-frame, has imparted to it a continuous movement of lateral reciprocation, as shown and described.

In testimony whereof I have hereunto set my hand this 21st day of November, 1882.

SIGMUND FEUST.

Witnesses:

FREDERICK VOIT,
CH. BECKER.