

(No Model.)

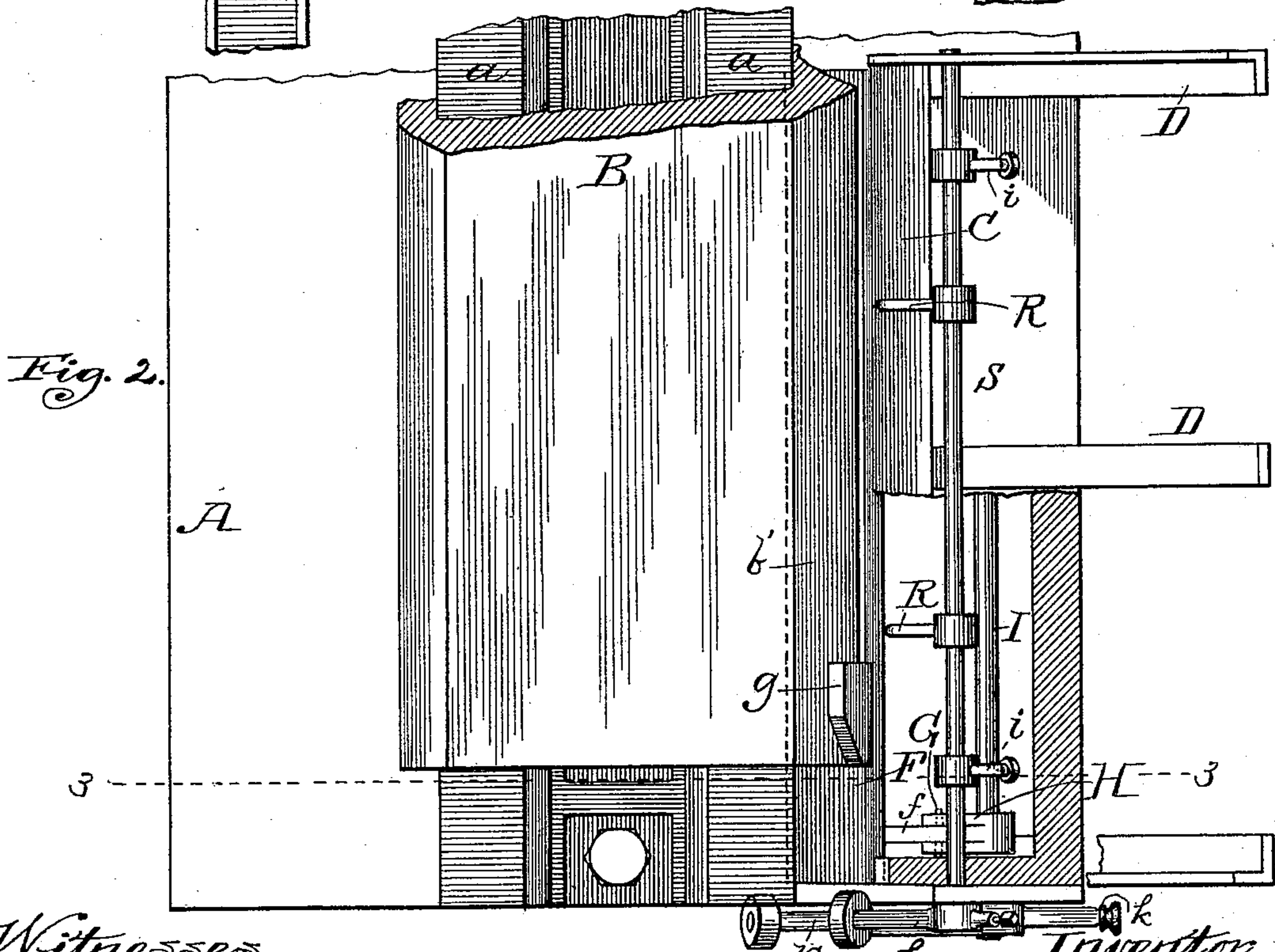
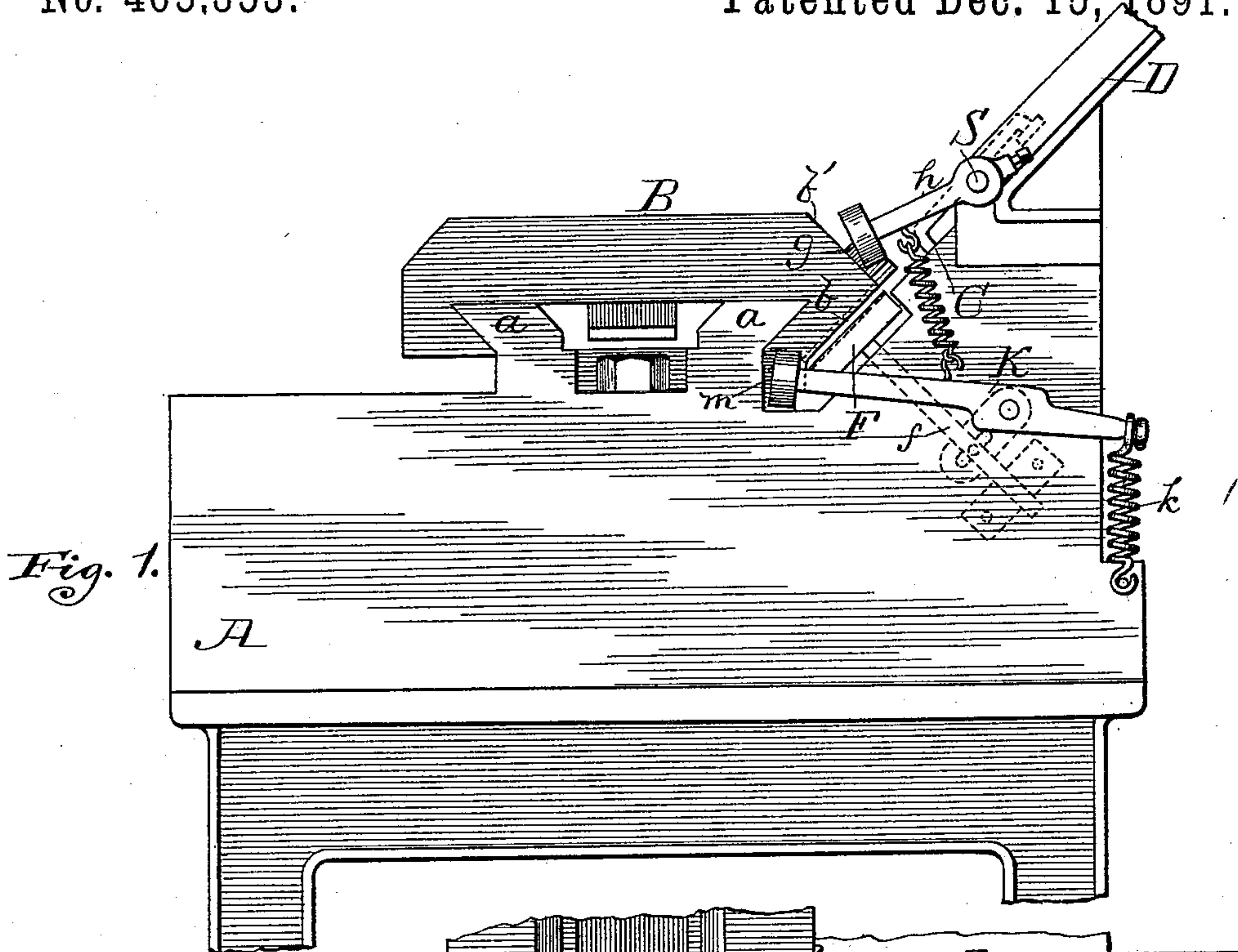
2 Sheets—Sheet 1.

J. R. CUMMINGS.

MACHINE FOR TRIMMING, SHAVING, AND GROOVING STEREOTYPE PLATES.

No. 465,353.

Patented Dec. 15, 1891.



Witnesses,
S. J. Mann,
R. J. Jacker.

Inventor,
John Raymond Cummings
By, Frank W. Thompson,
Att'y.

(No Model.)

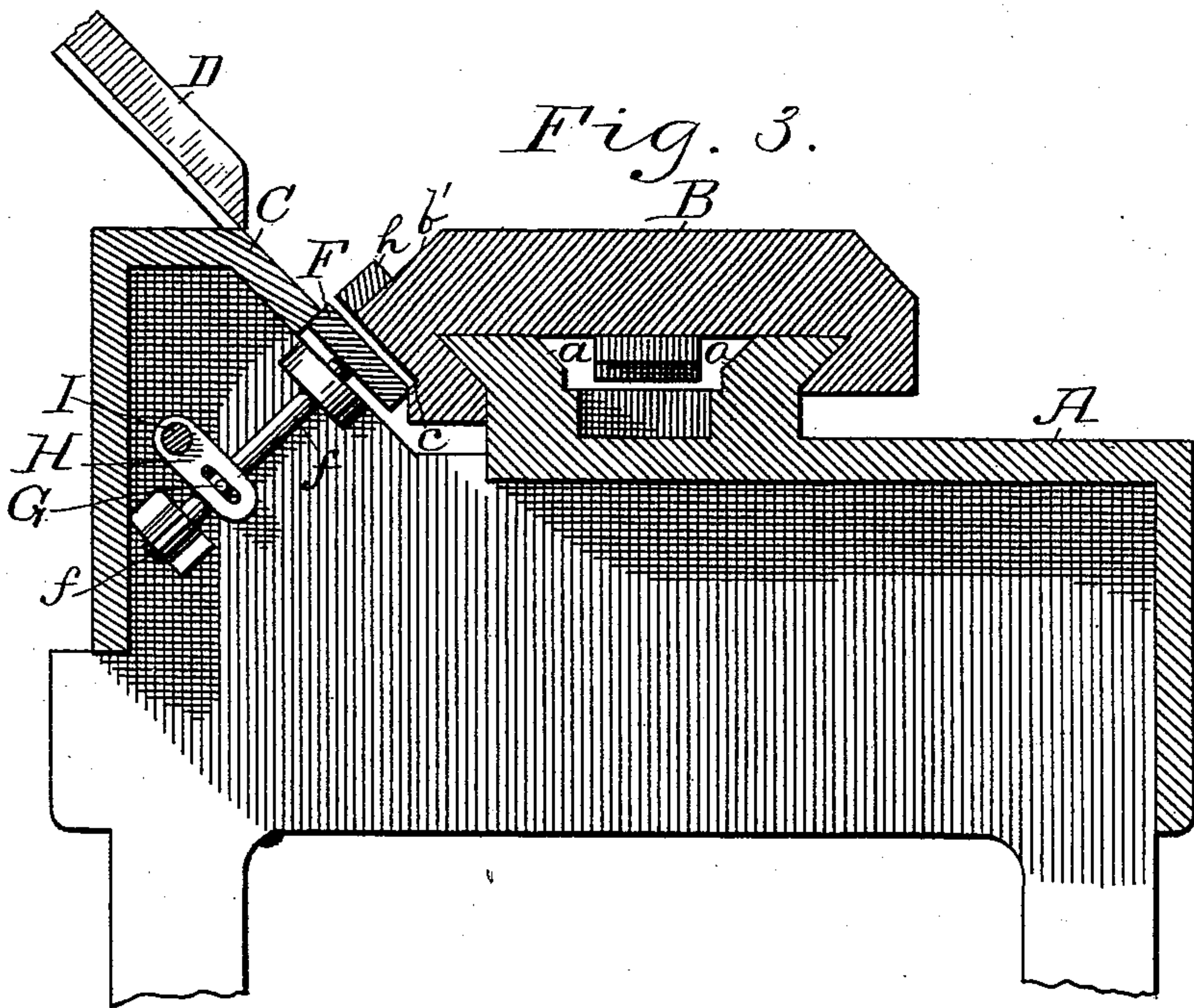
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MACHINE FOR TRIMMING, SHAVING, AND GROOVING STEREOTYPE PLATES.

No. 465,353.

Patented Dec. 15, 1891.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN RAYMOND CUMMINGS, OF CHICAGO, ILLINOIS.

MACHINE FOR TRIMMING, SHAVING, AND GROOVING STEREOTYPE-PLATES.

SPECIFICATION forming part of Letters Patent No. 465,353, dated December 15, 1891.

Application filed May 23, 1891. Serial No. 393,839. (No model.)

To all whom it may concern:

Be it known that I, JOHN RAYMOND CUMMINGS, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Machines for Trimming, Shaving, and Grooving Stereotype-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to certain improvements in a machine for trimming, beveling, and shaving stereotype-plates for which I made application for Letters Patent of the United States on or about February 24, 1891, Serial No. 382,386.

The object of my invention is to hold the stereotype-plate securely in its seat in the "carrier" of the said machine while the same is being carried to and operated upon by the saws and knives of the said machine, substantially as hereinafter fully described, and as illustrated in the drawings, in which—

Figure 1 is an end elevation of the said machine having my improvements applied thereto. Fig. 2 is a plan view of the end of the said machine in which my improvements are located, showing a portion of the bed and feed-racks of said machine, so as to disclose a portion of my improvements; and Fig. 3 is a vertical section taken through the machine on the dotted line 3 3, Fig. 2, looking toward the end thereof.

In the drawings, A represents a table-frame supporting my improved machine.

B represents a carrier which reciprocates longitudinally on suitable tracks *a a*, and C represents the inclined bed of the said machine, which slants from the adjacent longitudinal side of the same toward the base of the tracks at a suitable angle. The side of the carrier next the inclined bed is provided with an upper and lower bevel *b* and *b'*, respectively, and the plane of its under bevel is about parallel with that of the said bed, and is removed therefrom a distance corresponding to a little less than the thickness of the stereotype-plate operated upon by the machine. In the under beveled surface *b* of the side of the carrier is a seat *c*, made by cutting away or depressing the under beveled surface from the projecting angle caused by the

double-beveling of the side thereof, and, commencing from a point near the end of the carrier, as shown in Fig. 2, is of a length corresponding to a little more than that of a column of stereotype newspaper-matter to be deposited therein, and is of a width throughout its length corresponding to about the width of the column of said stereotype-matter.

The stereotype-plates (which will hereinafter for the purposes of explanation be considered as of a width, length, and thickness corresponding to that of a column of newspaper-matter) are permitted to slide one at a time from suitable racks D laterally down the inclined bed into the seat *c* of the carrier by means of mechanism constructed and operated substantially as described in the aforesaid application. This mechanism consists of a longitudinal rock-shaft S, suitably journaled, which has an arm *h* projecting laterally from the end that is impinged against and forced upward, so as to turn said shaft by means of a cam-block *g*, secured to the contiguous side of the carrier, as shown in the drawings. Shaft S at suitable points along its length is provided with the L-shaped arm R R, which extends toward the carrier a suitable distance and then bends toward and touches the bed. When these arms are lifted from off the bed because of the said shaft being turned, they permit the stereotype-plate which rested against them to slide down the bed into the seat in the carrier, and immediately after, when the said shaft resumes its normal position, they move toward and touch the bed and stop and hold the next following stereotype-plate in the same manner they did its predecessor. It is necessary, however, to hold said next following plate and prevent its following the first, while the said first-mentioned one is in the act of moving toward and into the seat of the carrier. This I do by means of the rubber-tipped arms *i i*, which project from shaft S in a direction opposite to arms R, and whose extremities are bent toward the bed or the bars constituting the feed-rack. When arms R are lifted so as to release the lowermost plate, the rubber-tipped extremities of arms *i* will at the same time move toward and bear down upon and hold the next lower plate stationary until the said arms R return to their normal position.

Shaft S is restored to its normal position, together with the arms R and the rubber-tipped arm *i*, by means of the coil-spring pulling down on arms *h*, as shown.

5 It is desirable after the stereotype-plate has dropped into its seat in the carrier and as it is being carried thereby to the cutting and shaving devices that some means be employed to hold it securely in said seat. In the machine forming the subject-matter of the afore-
10 said application I use a bow-shaped spring for pressing laterally against the outer edge of the stereotype and a spring-plate which covers over the opening in the bed, up through
15 which the cutting-segment of the saws project. These devices, located, as they are, just contiguous to the saws and knives, hold the stereotype firmly just at that point; but the remainder of its length is so loosely held that
20 its steadiness is uncertain and sometimes affects the parts thereof passing said saws and knives to such an extent that the action of the latter on the stereotype-plate is unsatisfactory. I avoid this possibility by means of
25 a longitudinal pressure-plate F, which is about the same width and length as the seat *c* in the carrier and is located in the bed C of the machine at the foot of the incline of the part thereof over which the stereotype-plates from
30 the feed-rack slide into the said seat—that is, opposite the seat *c* when the carrier has reached about the limit of its return movement and is in position to receive the stereotype-plate. This plate F has its surface op-
35 posite the seat on a plane parallel with the bevel of the surface of the carrier in which said seat is made, and when the stereotype-plate to be operated upon is in the act of moving into place the said pressure-plate
40 moves bodily away from the carrier slightly below the plane of the bed, and when said stereotype-plate is in place and the carrier moves forward, so as to carry the work past the saws and knives, the pressure-plate auto-
45 matical moves toward and holds the stereotype-plate firmly in its seat while being carried forward to and past the cutting saws and knives. To accomplish this movement of the
50 said pressure-plate, I provide it near each end with a rod *f*, which projects downward therefrom at right angles to the plane of its engaging surface through suitable openings in the bed and guide-bearings *g*, secured in a suitable manner to the frame of the machine. Just
55 above, preferably where these rods pass through said guide-bearings, I provide it with laterally-projecting pins or studs G, which pass through longitudinal slots in the ends of the bifurcated arm H, between which
60 the said rod passes. This arm projects laterally from the longitudinal rock-shaft I. The rear end of this rock-shaft extends to the outside of the end of the frame A and has a lever K secured about its center of length
65 thereto. The end of said lever extending in the direction away from said carrier is pulled

downward by means of a suitable spring *k*, and the end of the arm of the lever extending toward the said carrier is provided with a friction-roller, which comes, when in its
70 normal position, in line with the under surface of the said carrier contiguous to the lower edge of the under bevel of the same, so that when said carrier reaches the limit of its return movement the cam-surface *m* of
75 the end of the said under edge thereof will impinge against and bear down upon the contiguous end of said lever, thus rocking the shaft, so as to cause the pressure-plate to re-
80 ceede from the carrier and permit the stereotype to move in place in the seat thereof. When this carrier moves forward, the spring *k*, acting upon the lever, causes the rock-shaft to turn, so as to push the pressure-plate to-
85 ward the carrier, and thus hold the stereotype in place.

I do not wish to be confined to the exact means employed for operating the pressure-plate, as described, because it is obvious that these may be changed without departing from
90 the gist of my invention, which consists of the pressure-plate and the result which it accomplishes.

What I claim as new is—

1. The combination, in a stereotype-plate
95 trimming, grooving, and shaving machine, with a longitudinal reciprocal carrier having a seat therein for the reception of a stereotype-plate, of a longitudinal pressure-plate located opposite and with its engaging sur-
100 face parallel with the plane of said seat and receding from or moving toward said carrier, according to the movement of said carrier, as set forth.

2. The combination, in a stereotype-plate
105 trimming, grooving, and shaving machine having an inclined bed, with a longitudinal reciprocal carrier having its side edge contiguous to said bed provided with an undercut bevel, so as to provide a surface parallel
110 to the incline of said bed, and provided with a seat in said undercut beveled surface, of a longitudinal pressure-plate located in the said bed opposite and parallel with the plane of said seat and movable bodily toward or
115 from the carrier when the same is in position opposite it, according to the movements of said carrier, as set forth.

3. The combination, in a stereotype-plate
120 trimming, grooving, and shaving machine, with the longitudinal reciprocal carrier having a seat therein, of a longitudinal pressure-plate arranged opposite and parallel with the plane of said seat, rods *f*, arms H, rock-shaft K, and spring-actuated lever *k*, said carrier
125 provided with a cam-surface *m*, which depresses the adjacent end of said lever when it comes in contact therewith.

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