

(No Model.)

2 Sheets—Sheet 1.

T. E. KEAVY.

BUTTON LOCATING AND SHOE FLY CUTTING MACHINE.

No. 356,716.

Patented Jan. 25, 1887.

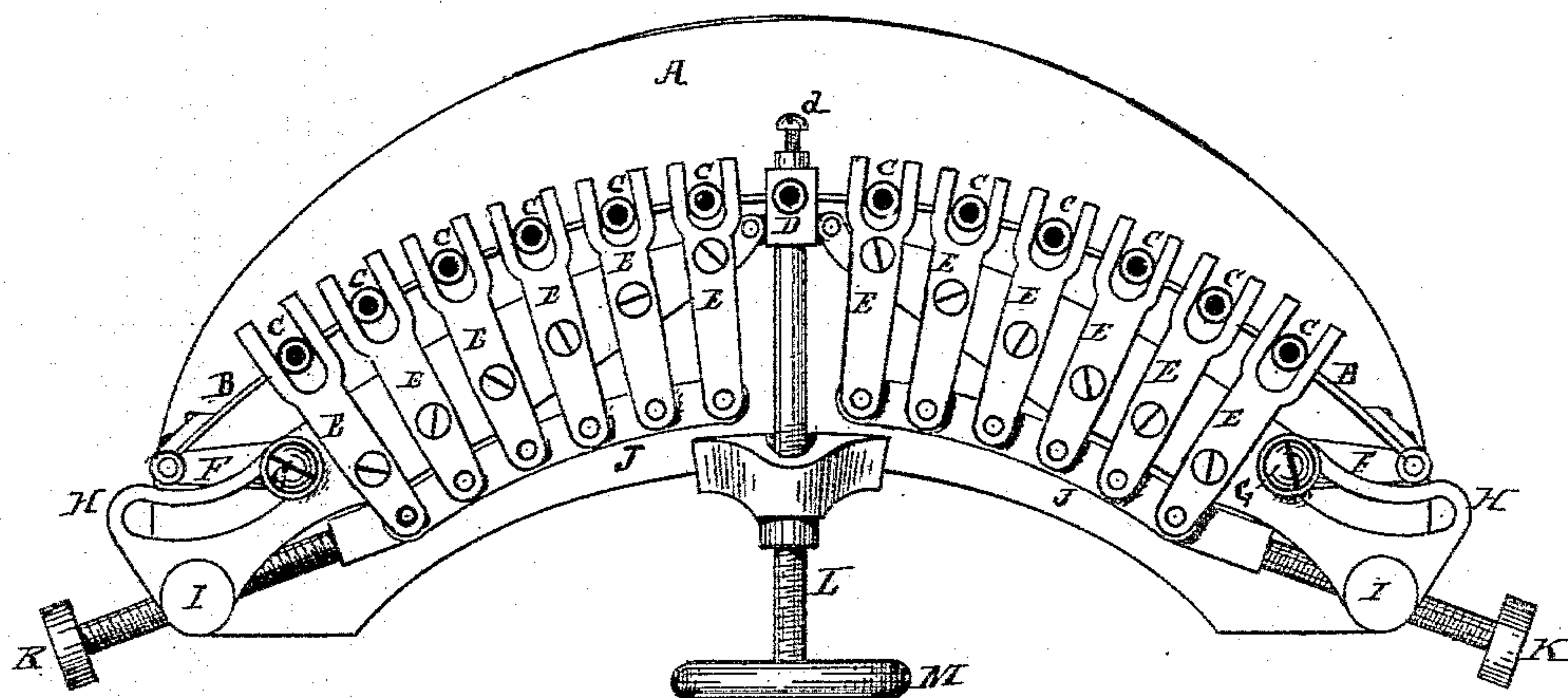


Fig. 1.

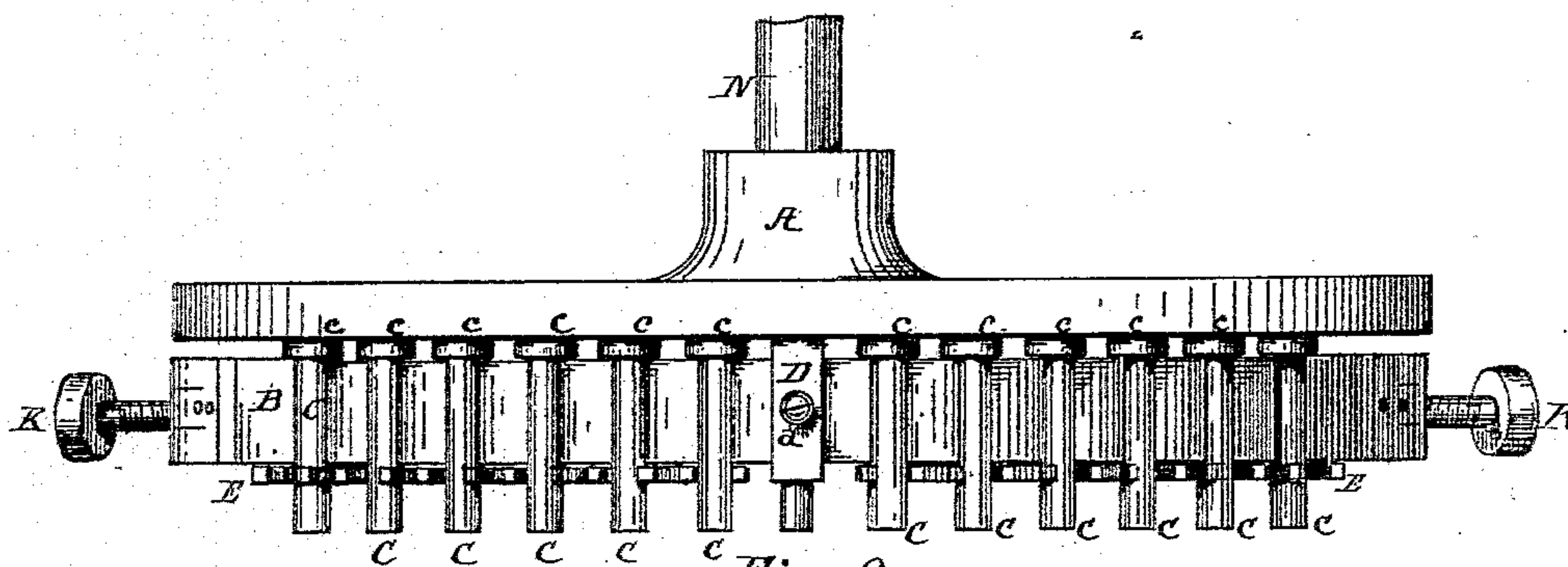


Fig. 2.

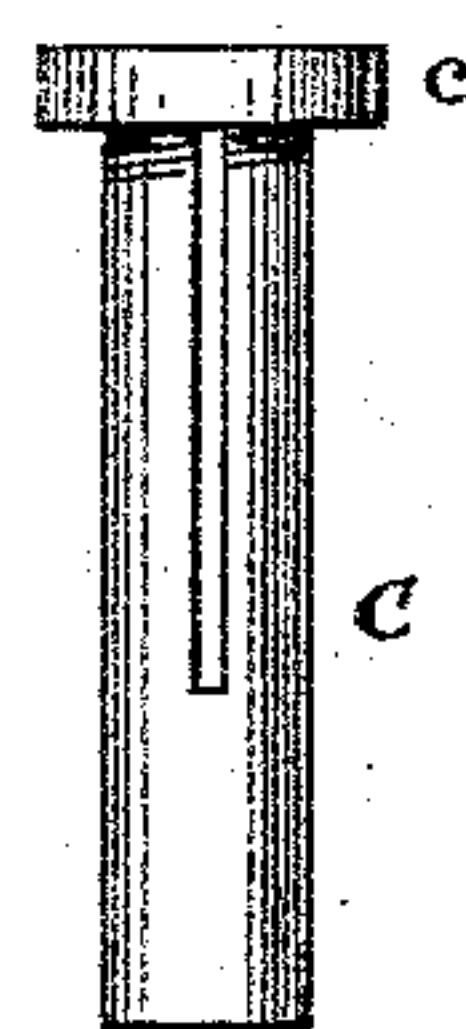


Fig. 3

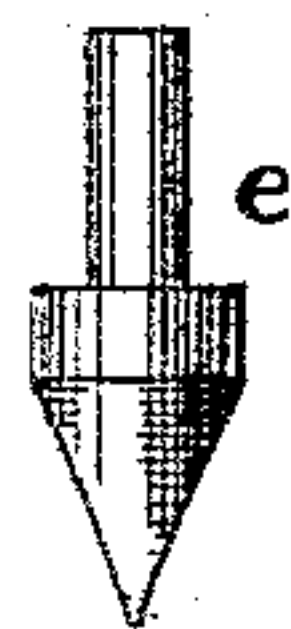


Fig. 4

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F. C. Bryant

Inventor:

Thomas E. Keavy

by C. P. Humphrey

Atty-

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2 Sheets—Sheet 2.

T. E. KEAVY.

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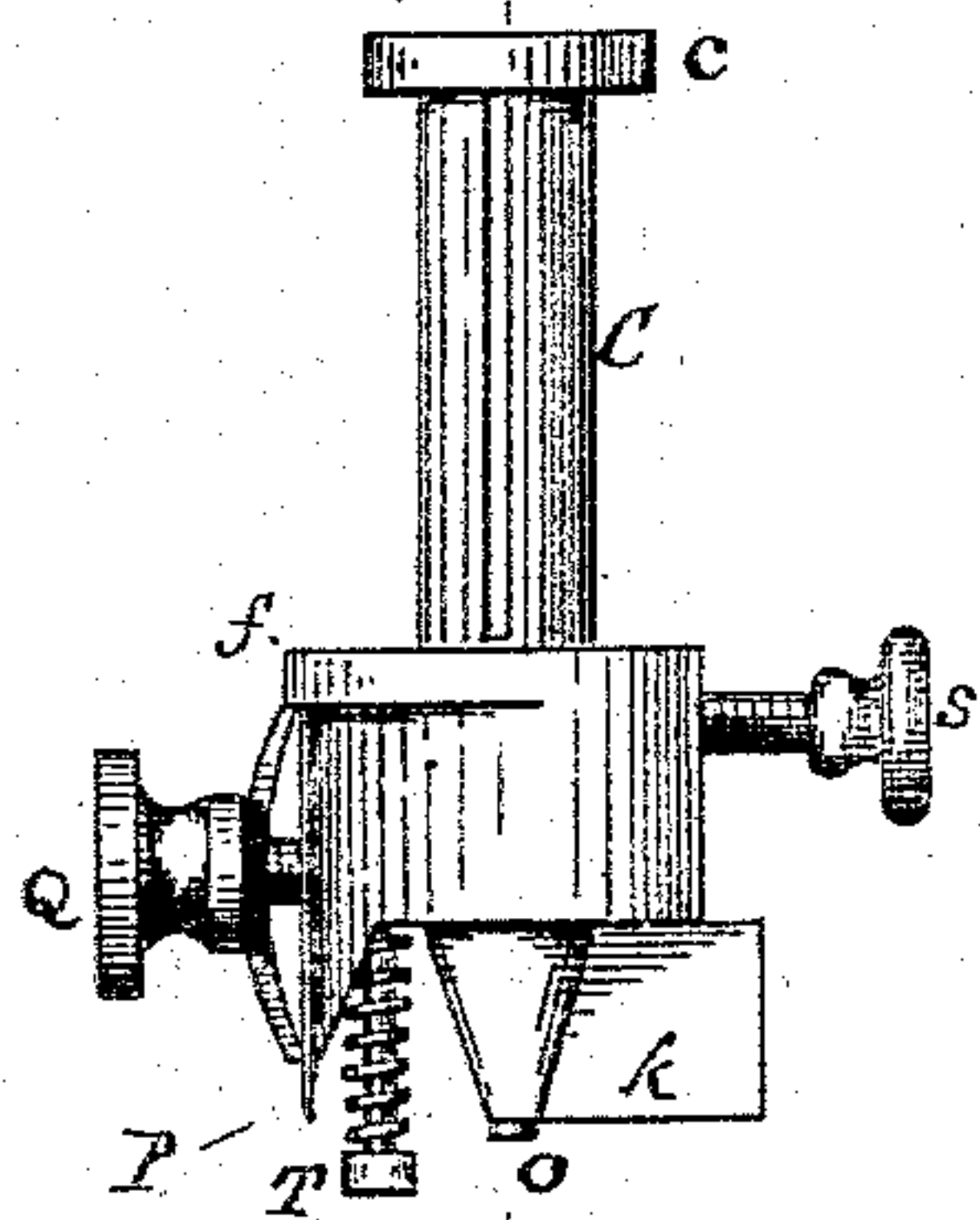


Fig. 5.

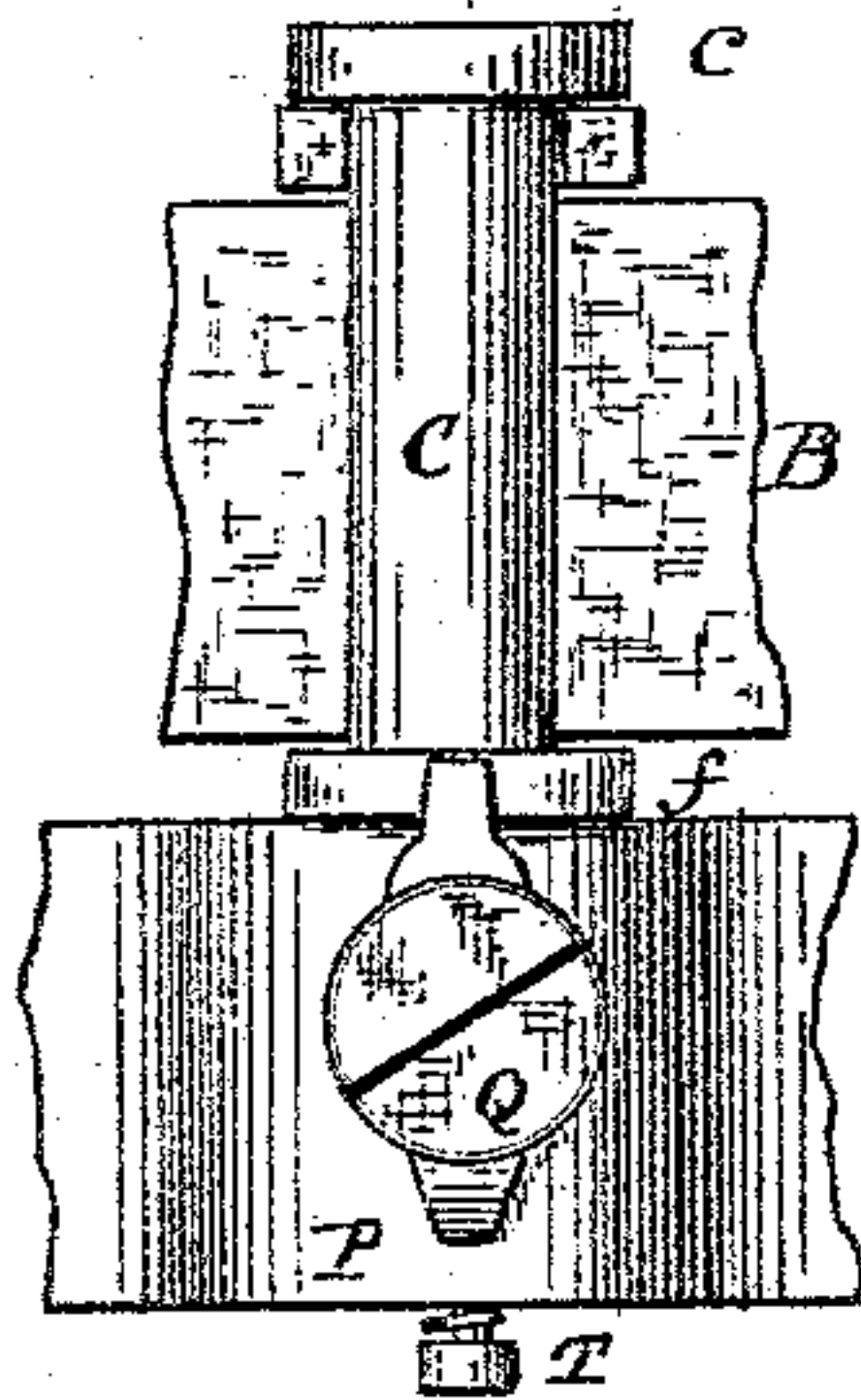


Fig. 6.

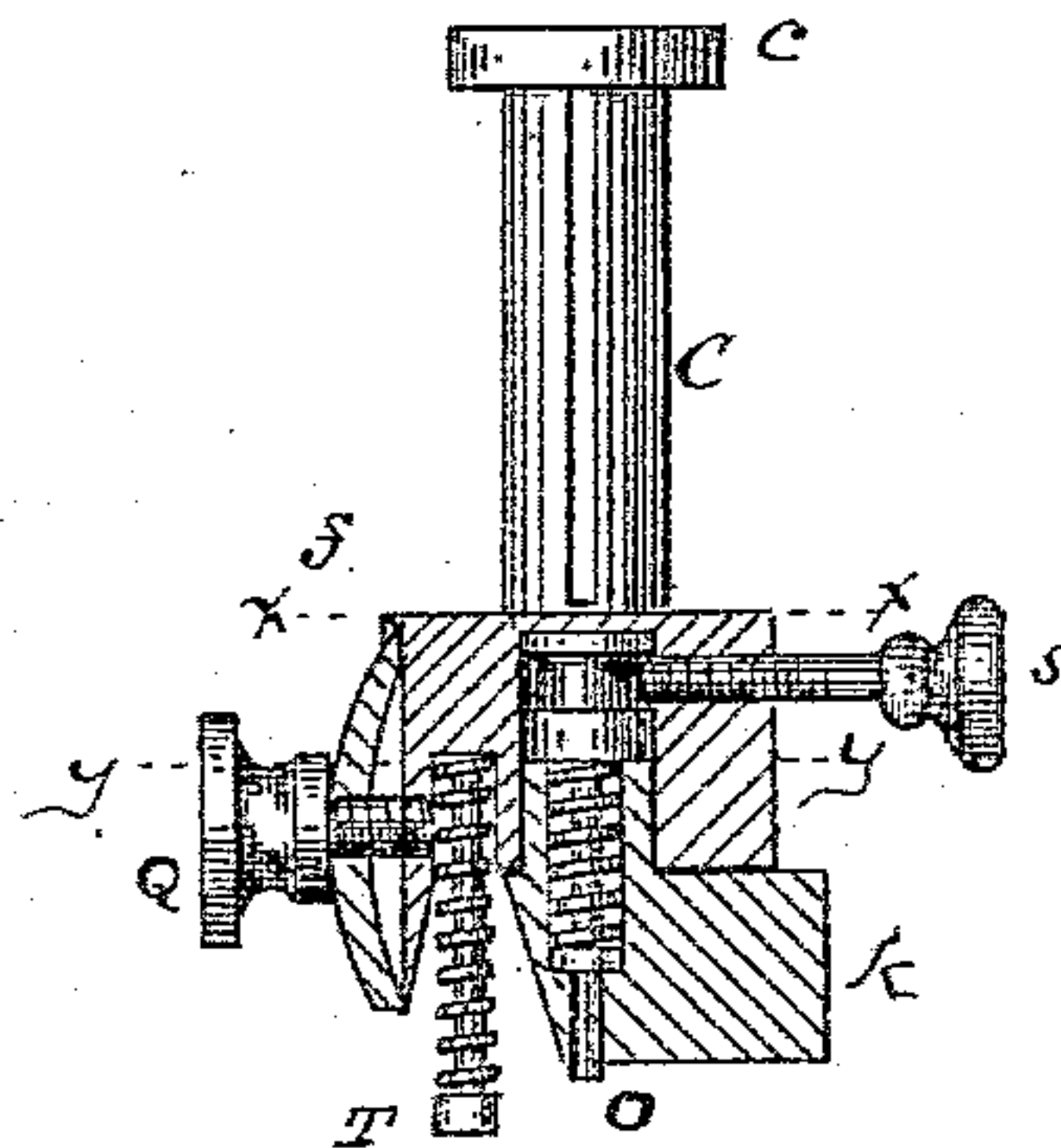


Fig. 7.

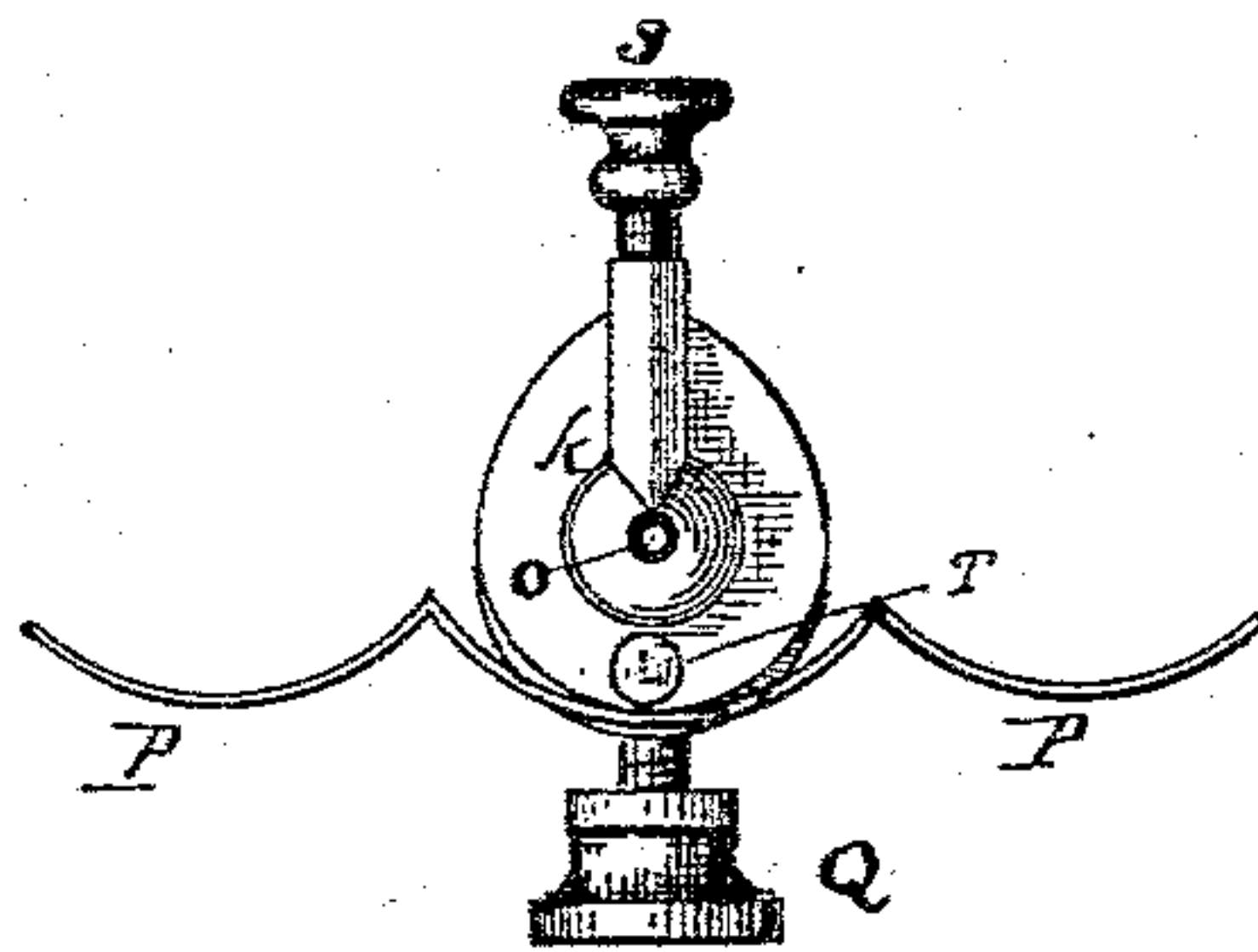


Fig. 8.

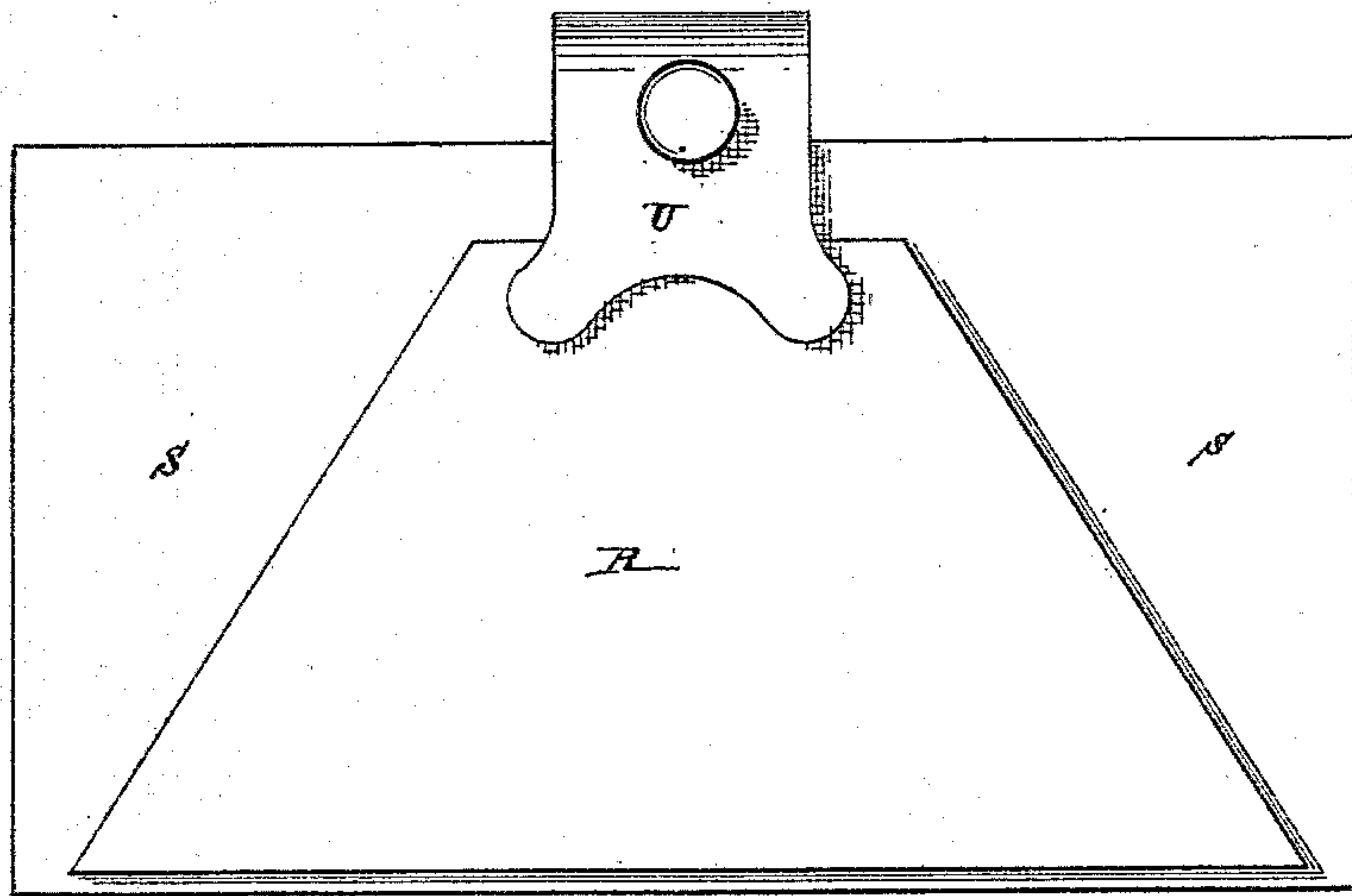


Fig. 9.

Witnesses:

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J. C. Bryan

Inventor:

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by C. Humphrey

UNITED STATES PATENT OFFICE.

THOMAS E. KEAVY, OF KENT, ASSIGNOR TO THE AKRON LOCATING MACHINE COMPANY, OF AKRON, OHIO.

BUTTON-LOCATING AND SHOE-FLY-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 356,716, dated January 25, 1887.

Application filed February 23, 1886. Serial No. 192,791. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. KEAVY, a citizen of the United States, and a resident of Kent, in the county of Portage and State of Ohio, have invented a new and useful Improvement in Button-Locating and Fly-Cutting Machines, of which the following is a specification.

My invention has relation to improvements in that class of button-locating machines in which a number of points bearing the relative positions desired for the buttons are arranged to be simultaneously forced upon the material to be marked.

It also has relation to improvements in devices of the character aforesaid, wherein knives, being substituted for the marking-points, cut by a single operation shoe-flies and button-holes therein; and it is an improvement upon the button-locating machine for which I was granted a United States Patent, No. 326,567, on the 22d day of September, 1885.

The object of my invention is to provide devices whereby the results hereinbefore referred to may be more readily and perfectly accomplished, and to facilitate the adjustment of said machines to different sizes and kinds of shoe-quarters.

My invention consists in the devices illustrated in the accompanying drawings, as hereinafter described and specifically claimed.

In the accompanying drawings, Figure 1 is a bottom plan of the head, spring, and adjustable posts, with devices for adjusting the spring and posts; Fig. 2, a front elevation of Fig. 1; Fig. 3, a side elevation, enlarged, of one of the movable posts; Fig. 4, an elevation of a marking-point adapted to be inserted in the post; Fig. 5, a side elevation of a post for cutting and punching, with knives attached; Fig. 6, a front elevation of the same; Fig. 7, the same as Fig. 5, the lower part of the post shown in central section from the line $x x$, and the button-hole cutter in similar section from the line $y y$; Fig. 8, a bottom plan of Fig. 6, and Fig. 9 a plan of the adjustable cutting-table.

The operative parts of said machine are connected with a head, A, the face of which ad-

jacent to the spring and posts, hereinafter referred to, is plane, and which head is adapted to be connected to a press shaft, a portion of which, N, is shown. Attached to this head by means of arms F, pivoted on posts G, is a band-spring, B, which is forced from its normal line by the screw L, meshing in a screw-threaded lug in the head A, and turned by the hand-wheel M.

Thus far this machine is substantially the same as my patented machine hereinbefore referred to.

A number of posts, C, preferably cylindrical, and provided at their lower ends with devices for holding marking-instruments e , as shown in Fig. 4, or cutting-tools, as shown in Figs. 5, 6, and 7, are mounted on said spring by means of longitudinal cuts from their upper ends, adapted to fit said spring, said upper ends above said spring being closed by nuts c . By this construction and arrangement each post can be at any time removed by unscrewing the nut c without disturbing the other parts of the machine. The central post, D, is fastened to the spring B by a set-screw, d , and affords a surface to receive the pressure of the screw L.

The posts C on either side of the central post, D, are at all times equidistant from each other, and are retained in their respective positions on the spring B, or moved to new positions to adapt them to different curves, by a series of levers, E, having forked or slotted outer ends inclosing said posts. These levers are pivoted on two plates, H, which are hinged on opposite sides of the central post, D, their outer ends having segmental slots mounted on the posts G. The inner ends of the levers E on each plate H are united by a yoke, J, which is in turn connected with a thumb-screw, K, meshing in a nut, I, journaled in the plate H.

When the spring B is forced outward by the screw L into a curve of smaller radius, carrying the inner ends of the plates H, their outer ends, sliding by means of the curved slots on the posts G, maintain the levers E and connected parts in substantially the same relative position. The positions of the posts C are adapted to the smaller curves by turning outward the screws K, which swing the levers

and simultaneously slide the posts toward the center.

The pivotal points of the several levers are at different distances from their outer ends, the ones next the center post being nearest, and thence by a regular progression to the outer ones, which are farthest, whence, their inner ends being swung the same distance by the yoke J, the outer posts are moved the greatest distance, and each succeeding post so much less as will constantly maintain them equidistant.

When used as a button-locating machine, the socket-post shown in Fig. 3 is preferably used with the marking-point *e*, Fig. 4. To adapt it for cutting shoe-flies and button-holes therein, the part of the post below the spring B is made larger than the upper part, as shown in Figs. 5, 6, 7, 8, with a semicircular face extended downward in a thin lip to afford a seat for the knife, and a narrow flange, *f*, at its top, which constitutes an abutment for the top of the knife. Centrally within the bottom is a socket, in which rests the button-hole knife *k*, held in place by a screw, *s*. Below its shank, which rests in the socket, this knife *k* has a hollow tapering body, terminating in a sharp hollow punch with a straight rearwardly-projecting blade. Within the hollow of this knife-body is a pin, *o*, which projects slightly beyond the edge of the punch, and is constantly pressed outward by a coiled spring. This pin recedes when the knife is forced through the material, but immediately returns as the head is withdrawn, and pushes the particles of material from the punch.

The fly-knife P consists of a thin band of steel having its lower edges sharpened, bent into a series of short curves, similar to the scalloped fly-edge, and fastened to the face of the post by screws and clamps Q. It is obvious that the scalloped outline of the knife will be omitted when it is used for cutting flies for men's shoes.

In the lower face of the post, between the fly and button-hole knives, is a socket in which is a spring-bolt, T, whose operation is similar to that of the pin *o*, and whose office is to strip the cut flies from the knives as the head is raised. The material to be cut is placed upon a tapering table, R, the widest part of which is at the front, and which rests on a bed, S, held by a clamp, U. The general line of the knives is across this table, and it is adapted to be moved back and forward transverse to said line, so as to place beneath the knives a width equal to the length of the desired fly.

By this device a fly of a certain length is cut, the material extending beyond the sides of the table, being unsupported, is not cut by the additional knives at either end of the spring.

I claim—

1. In a button-locating and fly-cutting machine wherein the locating and cutting instruments are operated by a head arranged to carry them to and from a cutting-table, the combination, with a band-spring connected at

each end with said head and arranged by devices, such substantially as shown, to be bent parallel with the face thereof, of a number of tool-carrying posts mounted on said spring by longitudinal cuts from their upper ends, said ends being closed by nuts, substantially as and for the purpose hereinbefore set forth.

2. In a fly-cutting machine, the combination, with a button-hole knife connected and operating simultaneously with devices which cut the fly, of a spring-punch within said knife which removes the cut particles therefrom, substantially as and for the purpose hereinbefore set forth.

3. In a button-locating and fly-cutting machine, the combination, with a spring connected at each end with a head and arranged by a screw or equivalent device to be bent between its ends, of a number of posts mounted and free to slide on said spring, their lower ends arranged to receive marking and cutting tools, and a series of pivoted levers, one end of each of which incloses one of said posts, their other ends on either side of the central post being yoked together and arranged by devices, such substantially as shown, to be simultaneously moved in the same direction, substantially as shown, and for the purpose specified.

4. In a button-locating and fly-cutting machine wherein the marking and cutting tools are carried by a number of slotted posts mounted on a metallic band provided with devices for binding it into different curves, the combination, with said posts, of a like number of pivoted levers, each connected at one end with one of said posts, their opposite ends being connected in groups by a yoke provided with devices by which it is moved, the levers in each group being pivoted at different distances from their ends, substantially as and for the purpose hereinbefore set forth.

5. In a button-locating and fly-cutting machine, the combination, with a spring connected at each end with a head and arranged by a screw or equivalent to be bent between its ends, of a number of slotted posts mounted on said spring, and a knife consisting of a metallic band extending along and connected with the lower ends of said posts, substantially as hereinbefore shown, and for the purpose specified.

6. In a button-locating and fly-cutting machine having a spring connected at each end with a head arranged by a screw or equivalent to be bent between its ends, the combination, with a series of posts mounted on said spring, each having its lower end arranged to receive button-hole and fly knives, of a series of button-hole knives connected with said posts, and a fly-knife consisting of a metallic band extending along and connected with said posts, substantially as and for the purpose hereinbefore set forth.

7. In a fly-cutting machine in which is a series of posts connected together and arranged to be simultaneously forced toward the material

to be cut, and wherein each of said posts bears button-hole and fly-cutting knives, the combination, in each post, with said knives, of a spring-stripper constructed and arranged substantially as shown, and for the purpose specified.

8. In a button-locating and fly-cutting machine, the combination, with a series of marking or cutting tools arranged to be simultaneously forced upon the material to be marked or cut, of an adjustable tapering table, sub-

stantially as described, which supports said material during the operation of said tools, substantially as and for the purpose hereinbefore set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of February, A. D. 1886.

THOMAS E. KEAVY.

Witnesses:

DELOS COOK,

A. A. TILLOTSON.