

(No Model.)

3 Sheets—Sheet 1.

H. P. GERHARDT & A. GOULD.

ADDRESSING MACHINE.

No. 430,184.

Patented June 17, 1890.

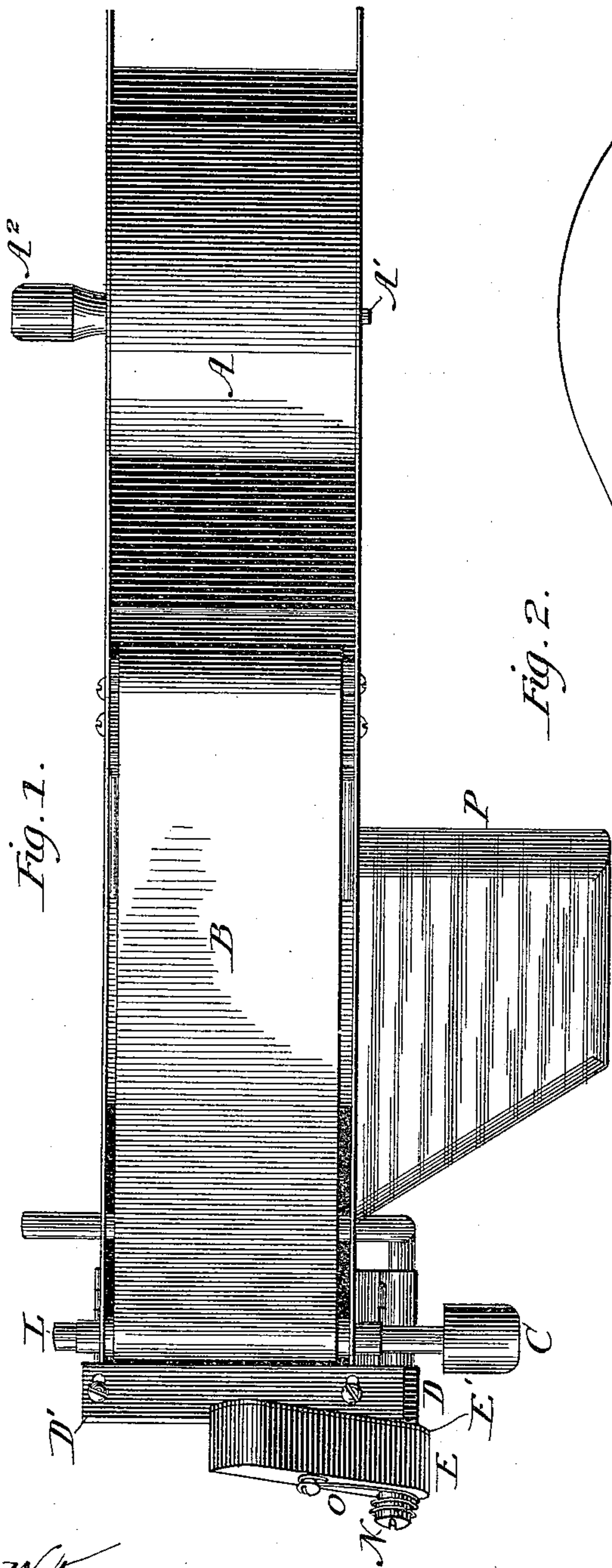


Fig. 1.

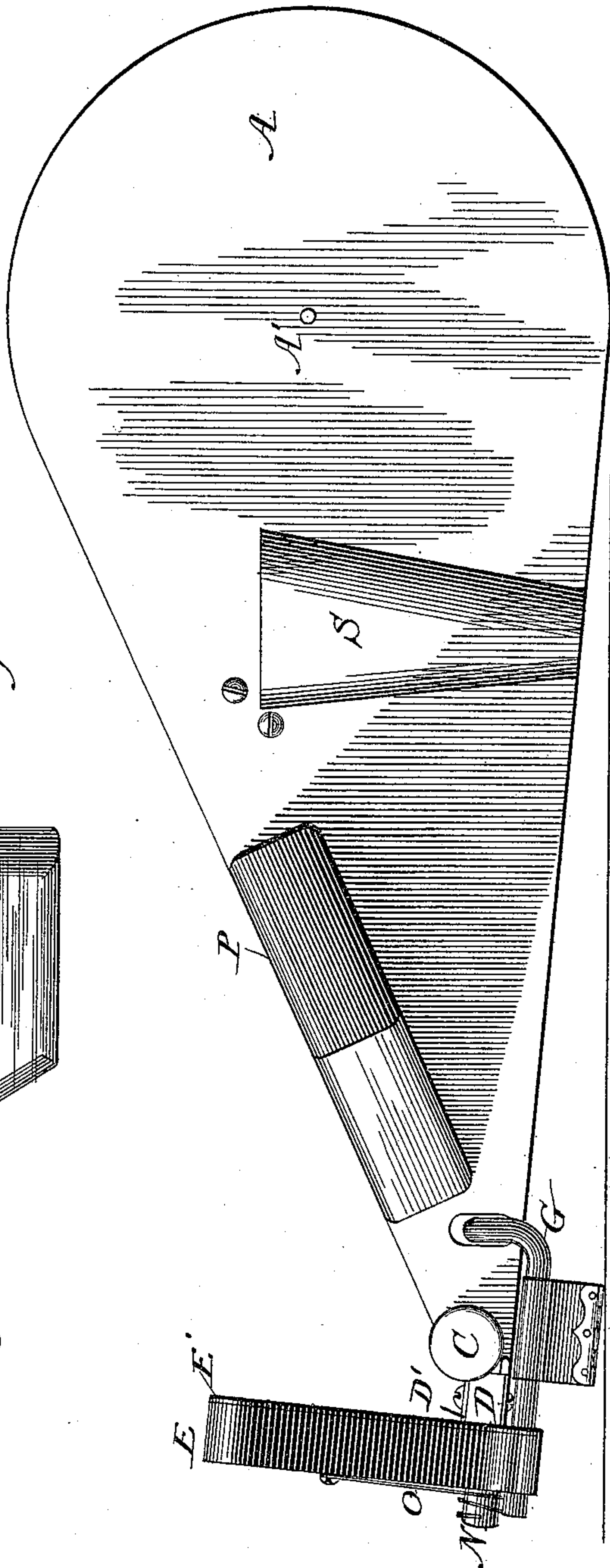


Fig. 2.

Witnesses:
Frank S. Blanchard
Fred Gerlach.

Inventors:
Hans P. Gerhardt.
Alfred Gould
By Jesse Cox
Attorney.

(No Model.)

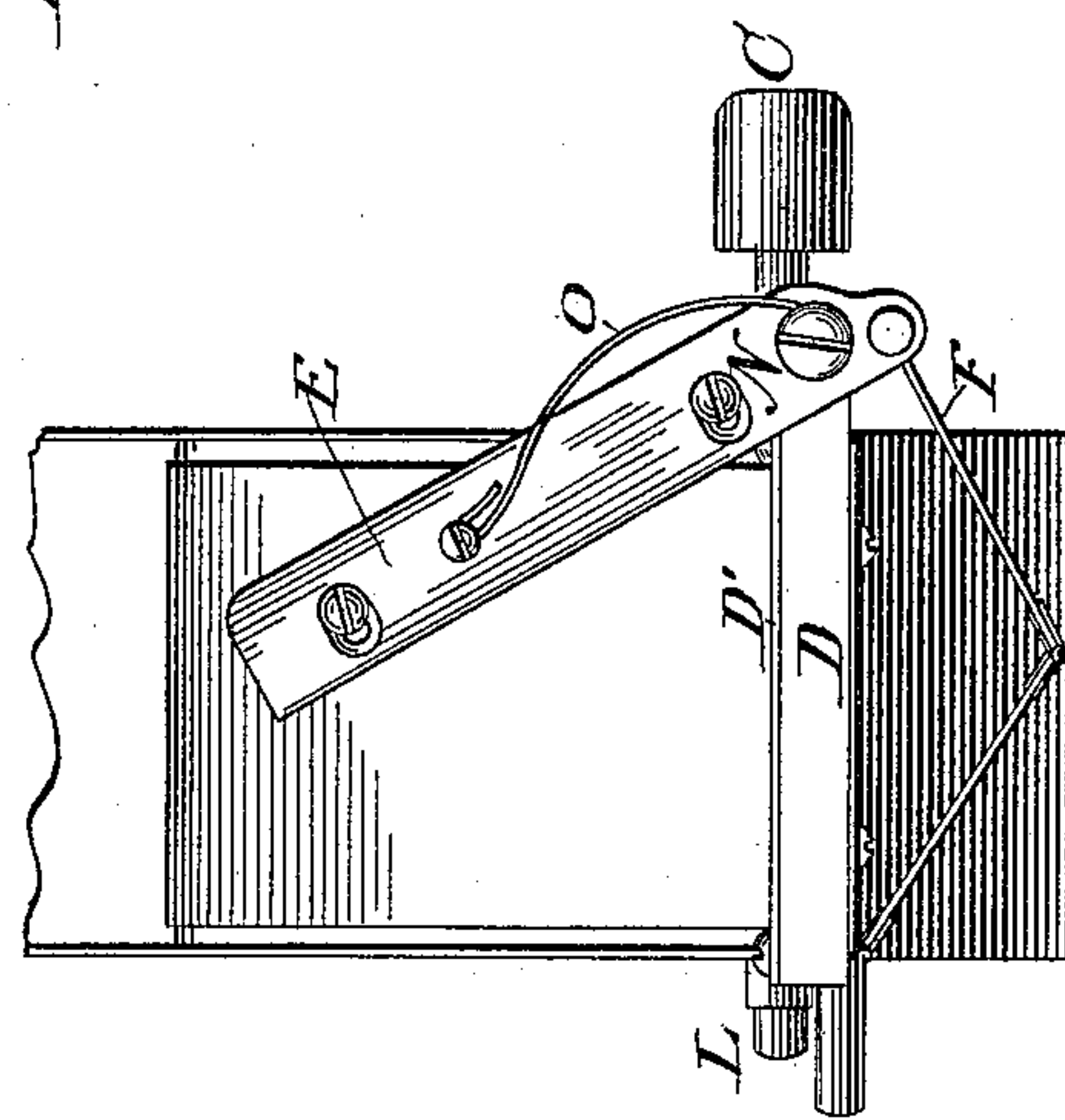
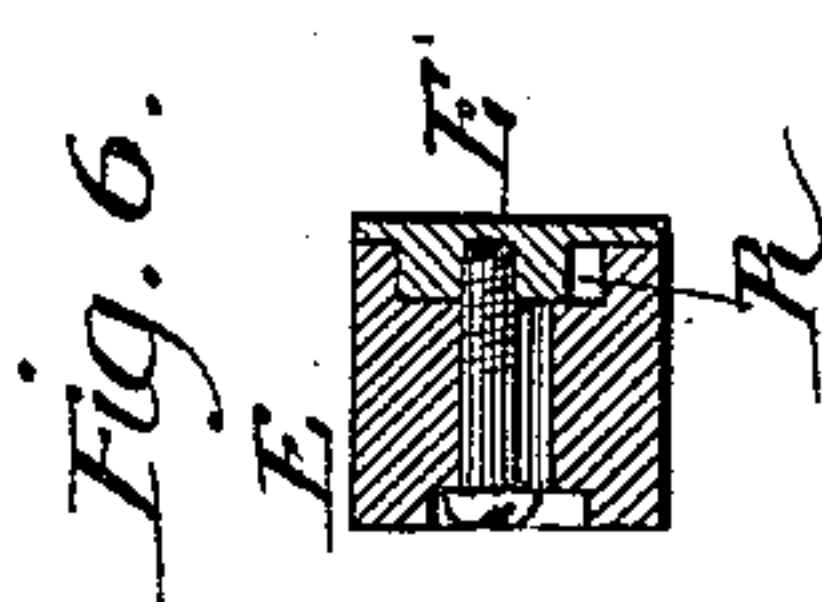
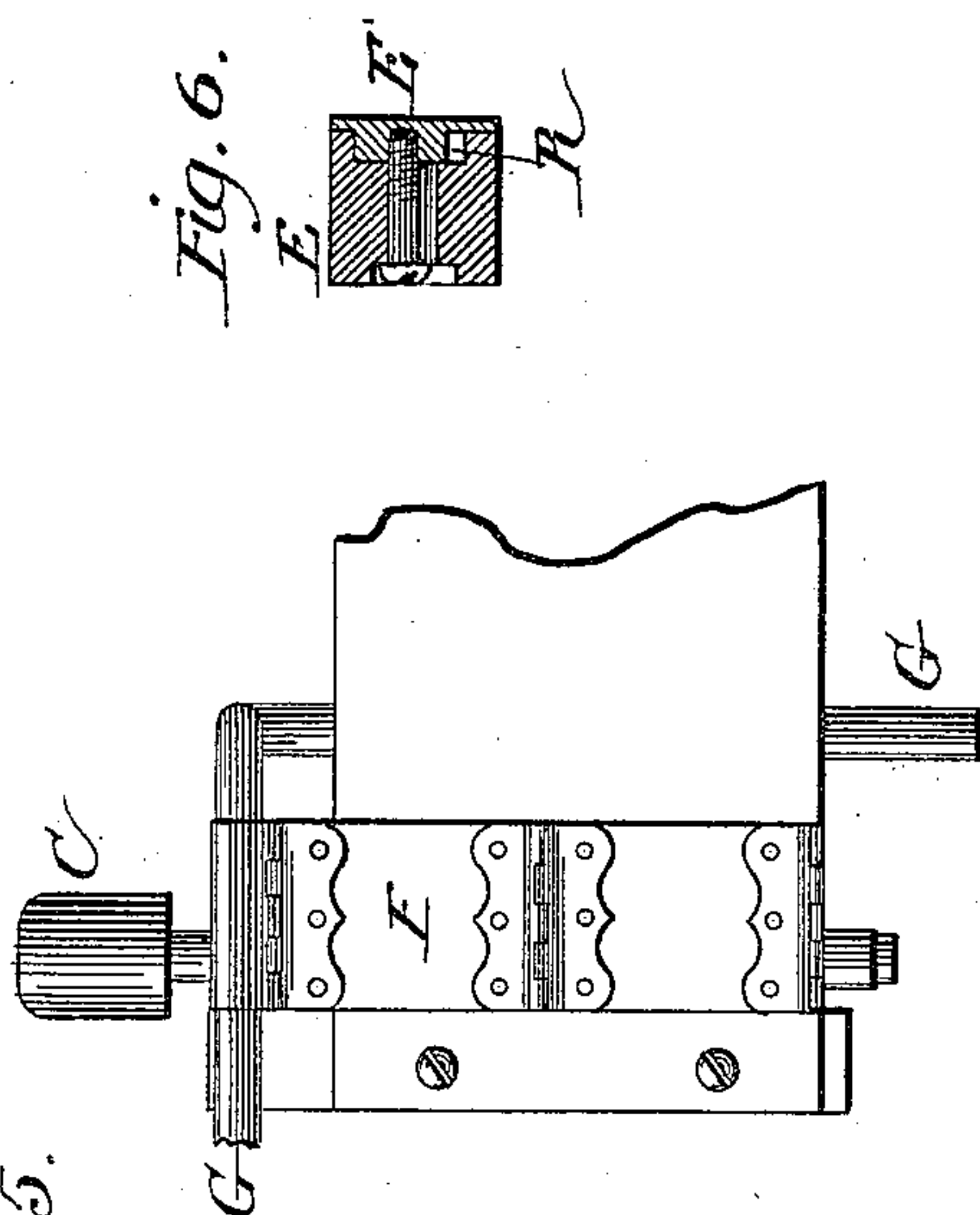
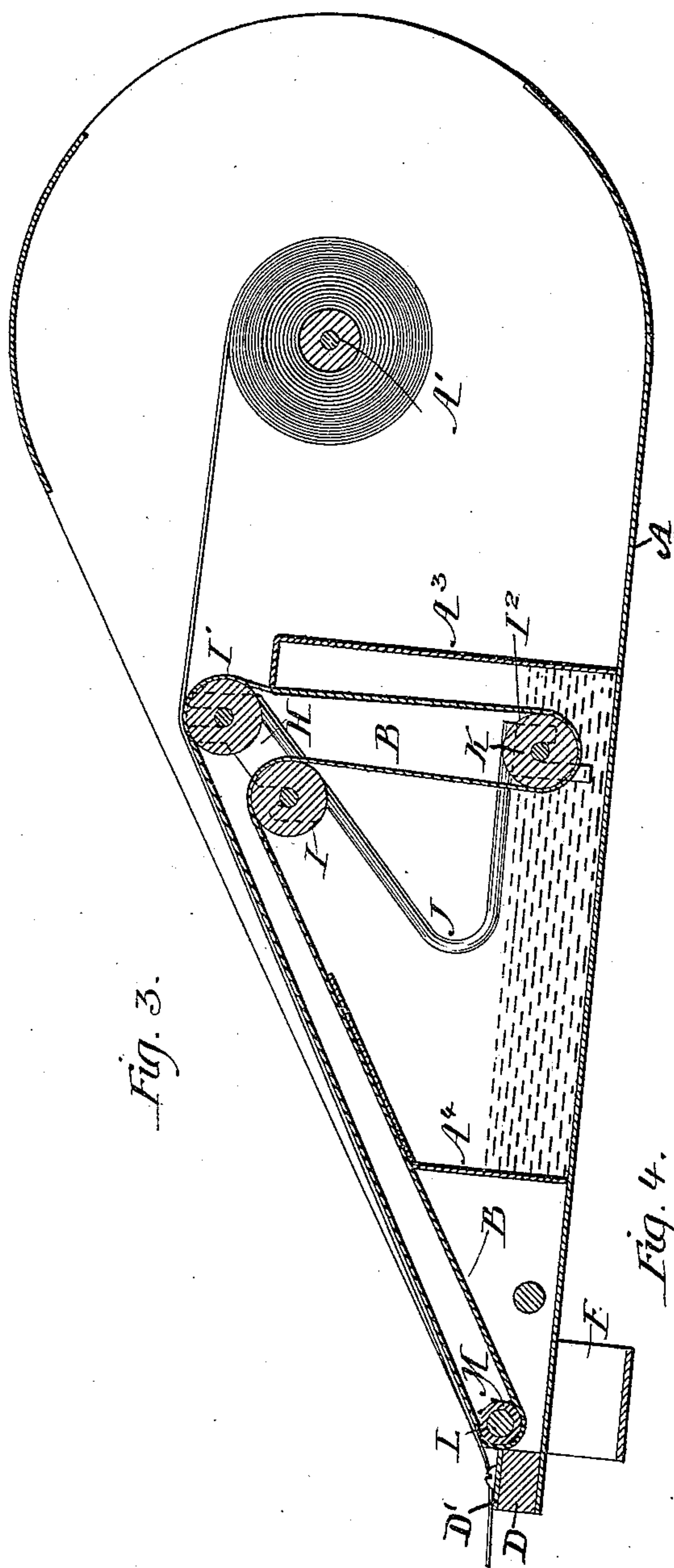
3 Sheets—Sheet 2.

H. P. GERHARDT & A. GOULD.

ADDRESSING MACHINE.

No. 430,184.

Patented June 17, 1890.



Witnesses:
Frank Blanchard
Fred Serlach

Inventors:
Hans P. Gerhardt.
Alfred Gould
By Jesse Root
Attorney.

UNITED STATES PATENT OFFICE.

HANS P. GERHARDT AND ALFRED GOULD, OF CHICAGO, ILLINOIS.

ADDRESSING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 430,184, dated June 17, 1890.

Application filed April 19, 1889. Serial No. 307,721. (No model.)

To all whom it may concern:

Be it known that we, HANS P. GERHARDT and ALFRED GOULD, citizens of the United States, residing at the city of Chicago, county of Cook, and State of Illinois, have jointly invented a new and useful Addressing-Machine, of which the following is a specification.

Our invention relates to improvements in addressing-machines, in which steel knives operate as shears, in conjunction with a wire spring, a hinged or toggle lever, lever-rod, and rollers set in slotted supports in a shell or case, and an endless belt; and the objects of our improvements are, first, to provide an improved mechanism for operating the movable severing-knife; second, to provide means for holding and stretching the paste-distributing belt, and, third, to provide improved knives, which are readily detachable for sharpening and adjustable to compensate for wear in grinding. We attain these objects by the mechanism in the accompanying drawings, in which—

Figure 1 is a top view of our improved addressing-machine. Fig. 2 is a side elevation thereof, showing the outer blade and block raised by the wire spring. Fig. 3 is a sectional side view thereof. Fig. 4 is a front view of the rubber blocks bearing the shear-blades, and showing slotted openings in the outer block to receive the screws to fasten the outer knife to the block; also, the hinged or toggle lever and the wire spring for raising the outer knife, and a perspective of the bottom of the case. Fig. 5 represents a view, from the bottom, of the three-hinged lever, the lever-rod, and the mode of fastening the inner block to the instrument. Fig. 6 shows the method of attaching the outer knife to its block. Fig. 7 is a top view of the forward part of the case with the endless belt B removed, showing a spiral spring surrounding the lever-rod G, being an alternate device for raising the outer knife or block. Fig. 8 shows a spiral spring interposed between the inner part of the outer block E and the outer point of attachment of the hinged lever on the lever-rod, for the purpose of holding the outer knife to its work.

Similar letters refer to similar parts throughout the several views.

A represents the shell or case of an address-

ing-machine made in the usual form with the parallel sides, semicircular at its rear part and converging toward the knife. The said case is closed at the bottom, but open at the rear part to enable the operator to reel a mailing list or strip upon the spindle A', which bears a knob A² on the outside of the case.

The case is preferably from two to three inches in width and about eleven inches in length. At the semicircular end of the case the sides are also connected at the top by a short strip, as shown in Fig. 1. The rest of the upper part of the case is open. Within the case is a receptacle for paste formed by the partitions A³ and A⁴. The partition A⁴ is bent, as shown in Fig. 3, at such an angle as to confine the paste within this receptacle and to prevent it from flowing out when the machine is tilted forward.

To each side of the case on the inside is attached a bracket H, having two slots for the reception of the pivots of the upper rollers I and I'. To these brackets on each side of the machine are attached springs J, which carry the brackets K, slotted toward the bottom of the machine to bear the pivots of the lower roller I². The lower bracket or bearing K is not attached to the sides of the machine, but is free to be moved by the pressure of the spring J. The rollers are made of rubber or other light suitable material, and are about half an inch in diameter, with metal pivots fitting into the slots in the brackets. In former machines the lower roller instead of being thus held by a spring to give the proper tension to the belt was made for that purpose of heavy metal, with its pivots free and running in guides on the sides of the case. By the construction herein shown we are enabled to use a lower roller of light material instead of heavy metal. At the extreme forward end of the case is the spindle L, which has a bearing in each side of the machine, and is operated by the knob C. This spindle bears the roller M, made of metal, and extending all across the inside of the case. Said roller bears upon it sharp teeth to engage the endless belt B. The endless belt is made of rubber cloth or other suitable material, and passes over the toothed roller M and the rollers I, I', and I², as shown in

the drawings, Fig. 3. The bearings for the lower roller, being unattached to the sides of the machine except by the spring J, will operate by means of this spring to give proper tension to the endless belt and the roller M, with its projecting teeth, will engage the belt and revolve it when operated. The partition A³ should also be bent at the top and have small teeth bearing lightly against the belt for the purpose of distributing the paste evenly over the surface of the belt. At the extreme forward part of the case is attached to the bottom thereof, preferably by screws, the rubber block D, bearing the slotted knife D', which is a thin blade of steel extending flush with or a little beyond the outer edge of the rubber. The outer knife E' is a thin blade of steel and attached to the inner face of the outer block E, which is also made of hard rubber. The knife E' extends flush with or a little below the lower part of the outer block, and is divided at the shoulder-screw N to permit the removal of the blade. The outer block is pivoted to one end of the inner block by means of the shoulder-screw N. In the head of this shoulder-screw is a hole to receive the end of the coiled wire spring O.

The coiled wire spring O passes through the hole in the head of the shoulder-screw N, and is coiled once or twice around the head of said shoulder-screw and attached at its opposite end to a small screw in the outer block. This spring serves to lift the outer knife and block.

F is a toggle-lever having three hinges, one of which is attached to the case at its forward end opposite to the knob C. The second is in the middle of the lever, and the third is attached to the lever-rod G, as shown in Figs. 2 and 5.

G is a lever-rod operated by the hinged lever F and pivoted to the outer block E at its extreme end, outside the shoulder-screw N, for the purpose of operating the outer block and knife to make the cut. Said lever-rod G is bent at right angles to itself and a little upward, so as to pass through holes in the case, whereby it is supported. One of these holes nearest the knob C is slotted, so as to permit the proper play of the lever-rod.

P is a block attached to the same side of the case as the knob C and serves as a handle to be grasped by the operator.

A funnel S may be attached to the side of the machine leading to an aperture in the case for the purpose of pouring the paste into its receptacle.

The knife D' is slotted and held in position by round-headed screws. These screws may be loosened and the knife suitably adjusted for the purposes of sharpening or other purposes and the screws again tightened.

The outer knife E' may have a projection on its side next to the block E to receive the threaded ends of the round-headed screws, which pass through the outer block from the

outer side thereof and into such projections which are threaded to receive the same. (See Fig. 6.) The holes through which these screws pass through the outer block are slots, which may have larger openings or counter-bored spaces to receive the screw-heads, so that the knife can be adjusted by loosening the screws and again tightening them after the knife has been adjusted. This construction is shown in Figs. 4 and 6.

Heretofore the cutting-knives of addressing-machines have usually been made of the same piece with the blocks, and being entirely of metal added to the weight of the machine and made the grinding of such knives a difficult and expensive operation. By using thin blades of steel for knives removably and adjustably attached to the blocks, and blocks of hard rubber or other light material, the weight of the machine is much less than it would be if such blocks were wholly of metal and of one piece with the knives, as heretofore, and the sharpening of the knives is thereby greatly facilitated. The knives being thin blades and removably attached to the blocks can easily be adjusted for sharpening or removed and new ones substituted when the old ones are worn out without removing the blocks.

A spiral spring S, Fig. 8, may be interposed between the inner part of the outer block E and the outer point of attachment of the hinged lever on the lever-rod to hold the outer knife to its work.

In operation paste is poured into a receptacle formed by the partitions A³ and A⁴ to such a depth as to thoroughly cover with the paste the outer surface of the endless belt as it passes over the lower roller I². The mailing-strip, properly printed with the printed side up, having been reeled upon the spindle A', the endless belt is revolved toward the knives by means of the roller M, actuated by the knob C. The outer surface of the endless belt being wet with the paste, the end of the mailing-strip being placed thereon adheres thereto and is carried by the belt over the knife D', at the same time being thoroughly wet with paste on its under side. The outer knife E' being raised by the action of the coiled spring O permits a portion of the mailing-strip to be passed under it. The three-hinged lever is then straightened by being pressed upon a solid surface, and the extension of the hinged lever operates the lever-rod G, which operates the outer knife upon the fulcrum formed by the shoulder-screw N, and causes the descent of the outer knife, thus cutting off a portion of the mailing-strip. The under part of the block E presses this portion so cut off against the matter to be mailed, and it is thus pasted upon such matter. The coiled spring then raises the outer knife for another cut. Instead of the coiled wire spring O a spiral spring T, Fig. 7, surrounding the lever-rod G, may be attached to a pin in the lever-rod inside the case with

its free end bearing against the side of the case nearest the knob C for the purpose of raising the outer block.

As the machine must be held for many consecutive hours by the operator, lightness is highly desirable, and by the use of rubber blocks for the knives instead of steel blocks integral with the knives themselves, also by the use of a lower roller of light material held in its place by the springs J, instead of a heavy metal lower roller, as heretofore, we are enabled to make a much lighter machine than any heretofore made.

It is obvious that the toggle-lever F, connecting-rod G, and means for raising the outer knife, as described, may be used to operate knives made as heretofore and unattached to blocks of rubber or other light material.

We do not, therefore, confine ourselves to a construction in which only thin-bladed knives are used attached to such blocks of rubber or similar light material; but,

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In an addressing-machine of the general character described, the combination of the three-hinged or toggle lever F, connecting-rod

G, pivotally attached to the outer knife or block of the machine, and a suitable spring for raising such outer knife, substantially as described.

2. In an addressing-machine, the combination of the case A, the upper rollers I and I', held in suitable bearings, the springs J, carrying at their lower or free ends the brackets K, the lower roller I², having its bearings in said brackets K, the spindle L, the endless belt B, and suitable means for actuating said endless belt, substantially as described.

3. In an addressing-machine, the combination, with the block D, secured to the forward end of the frame thereof, and the thin horizontal blade or knife D', removably and adjustably attached to said block, of the pivoted block E and the thin blade or knife E', removably and adjustably secured to the inside of said block and arranged edgewise vertically to form a shear contact with the stationary blade or knife D', substantially as set forth.

HANS P. GERHARDT.
ALFRED GOULD.

Witnesses:

G. F. LANAGHEN,
G. MCCORMICK.