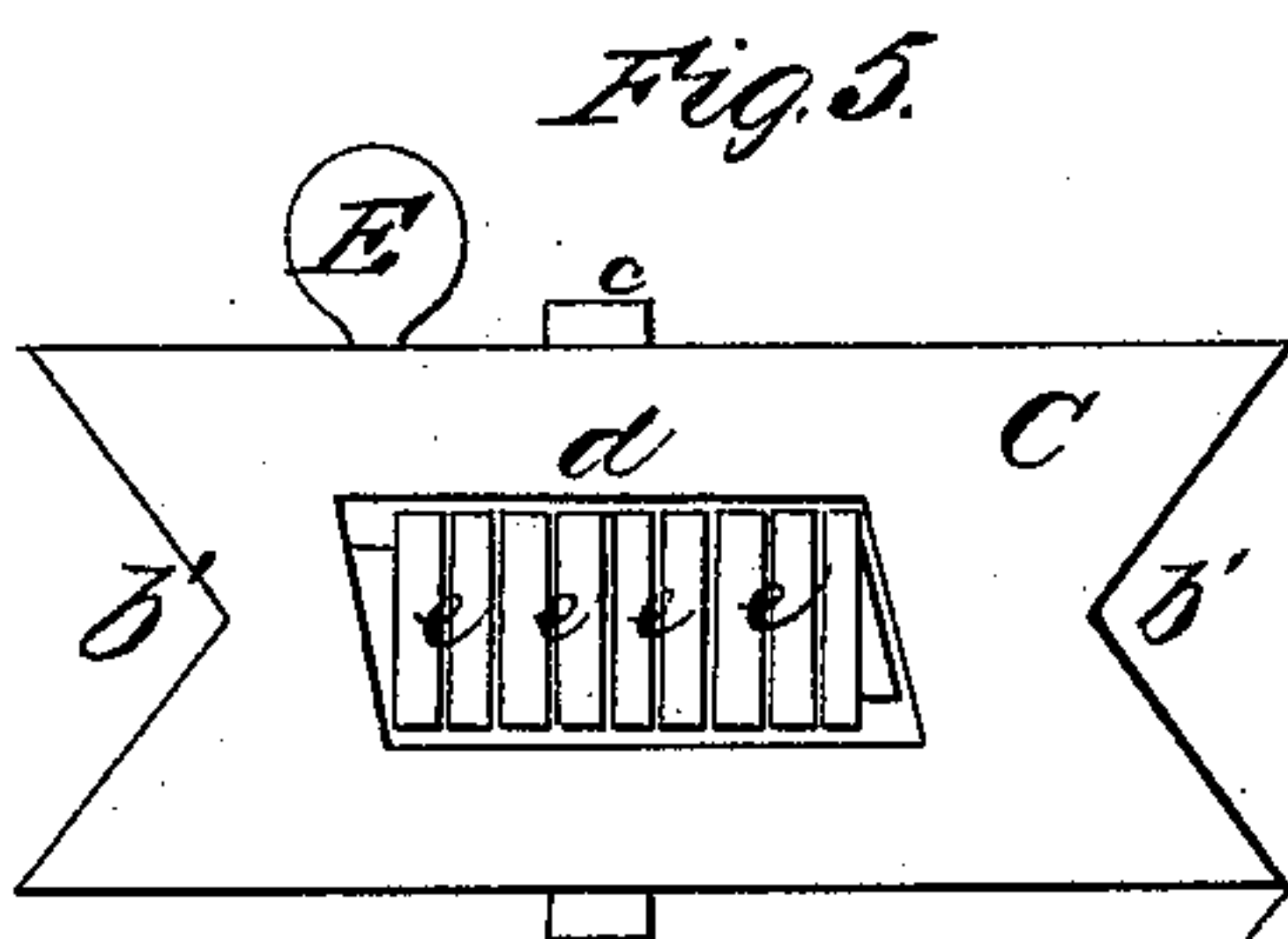
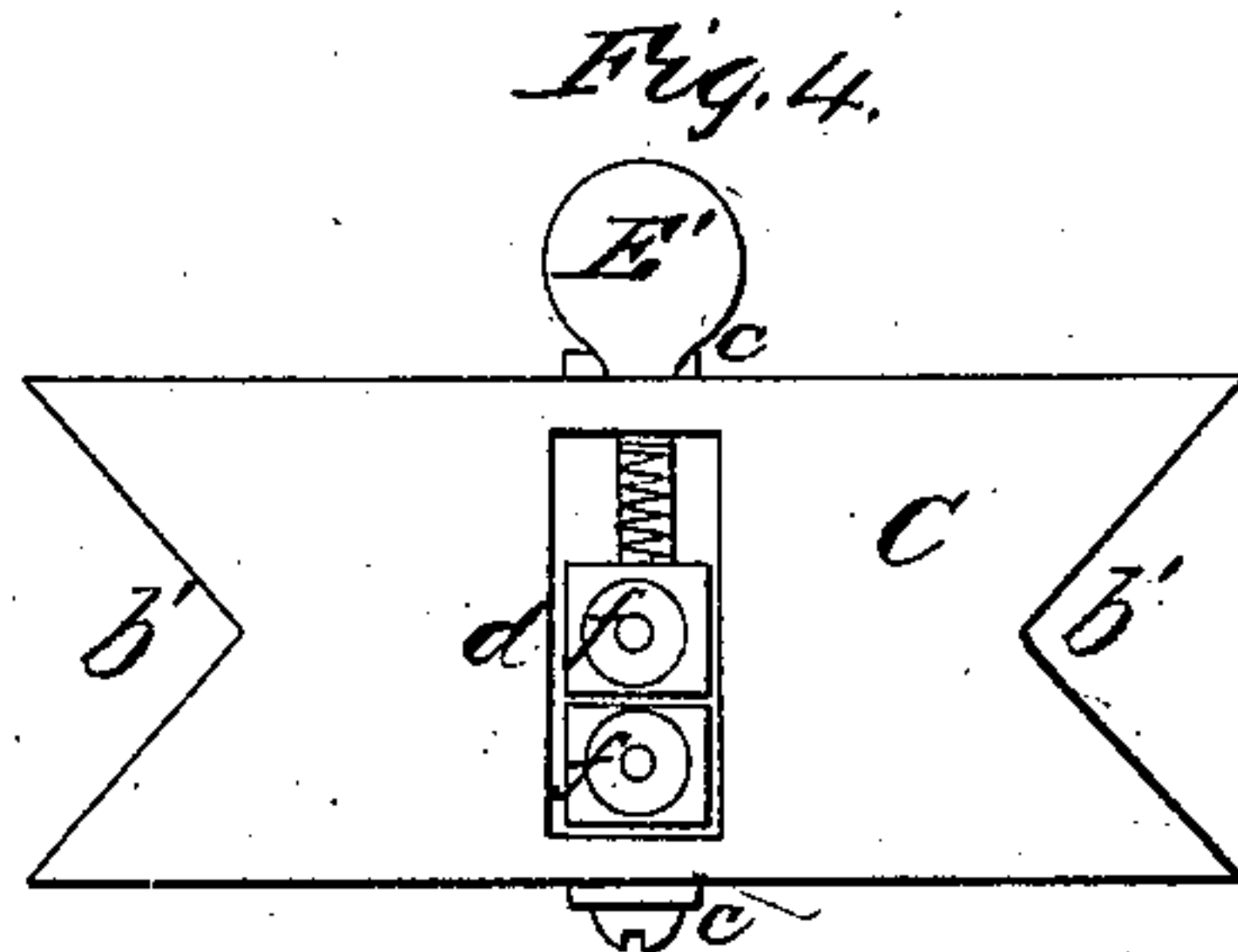
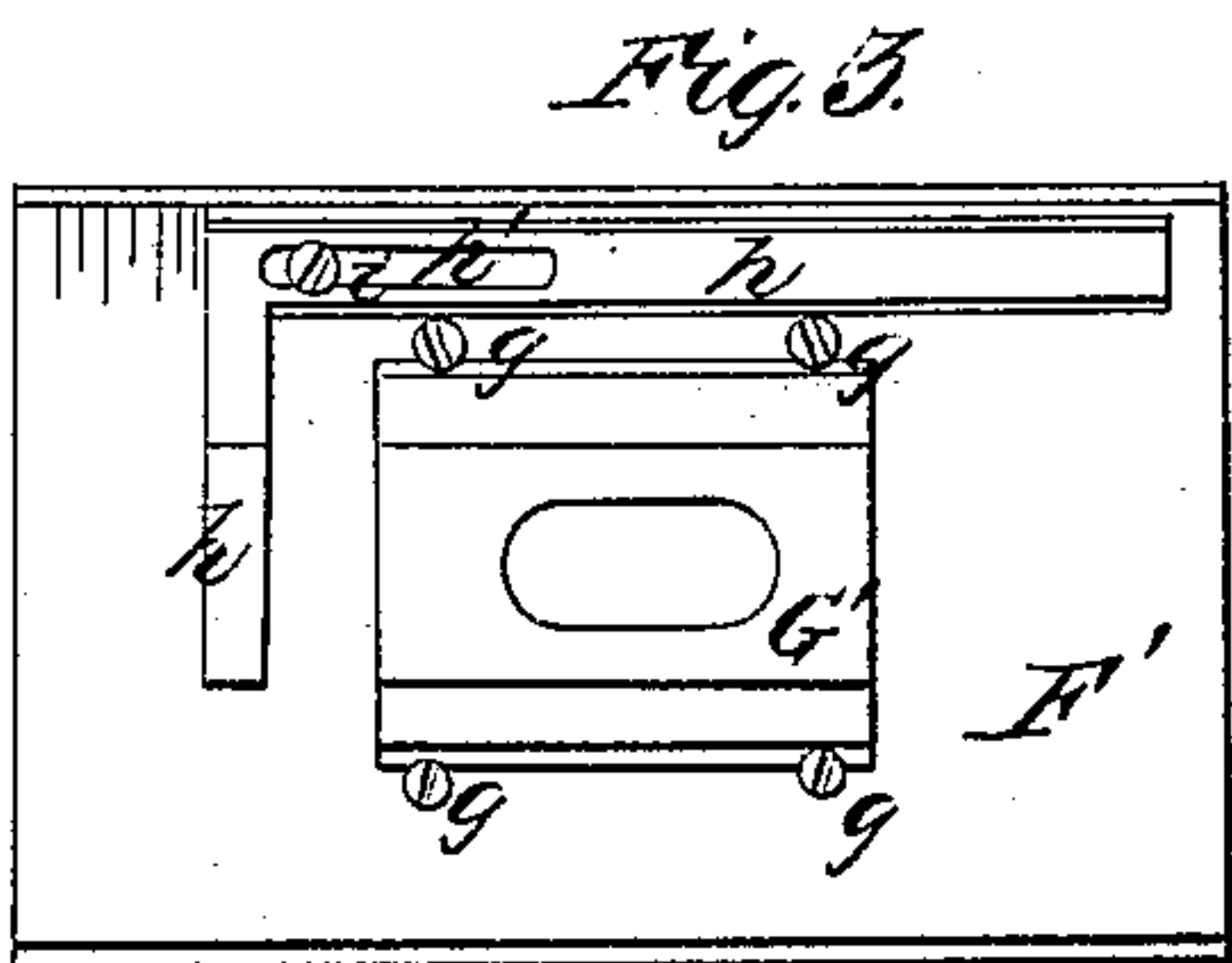
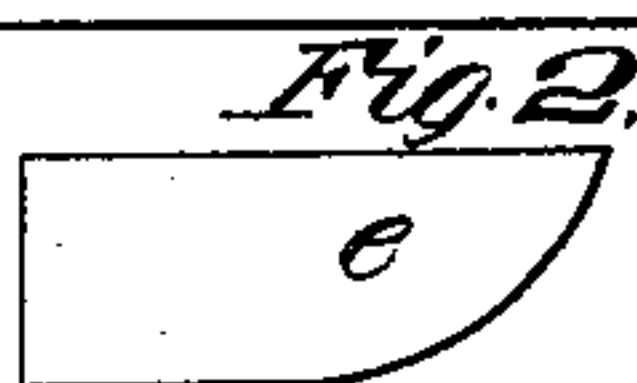
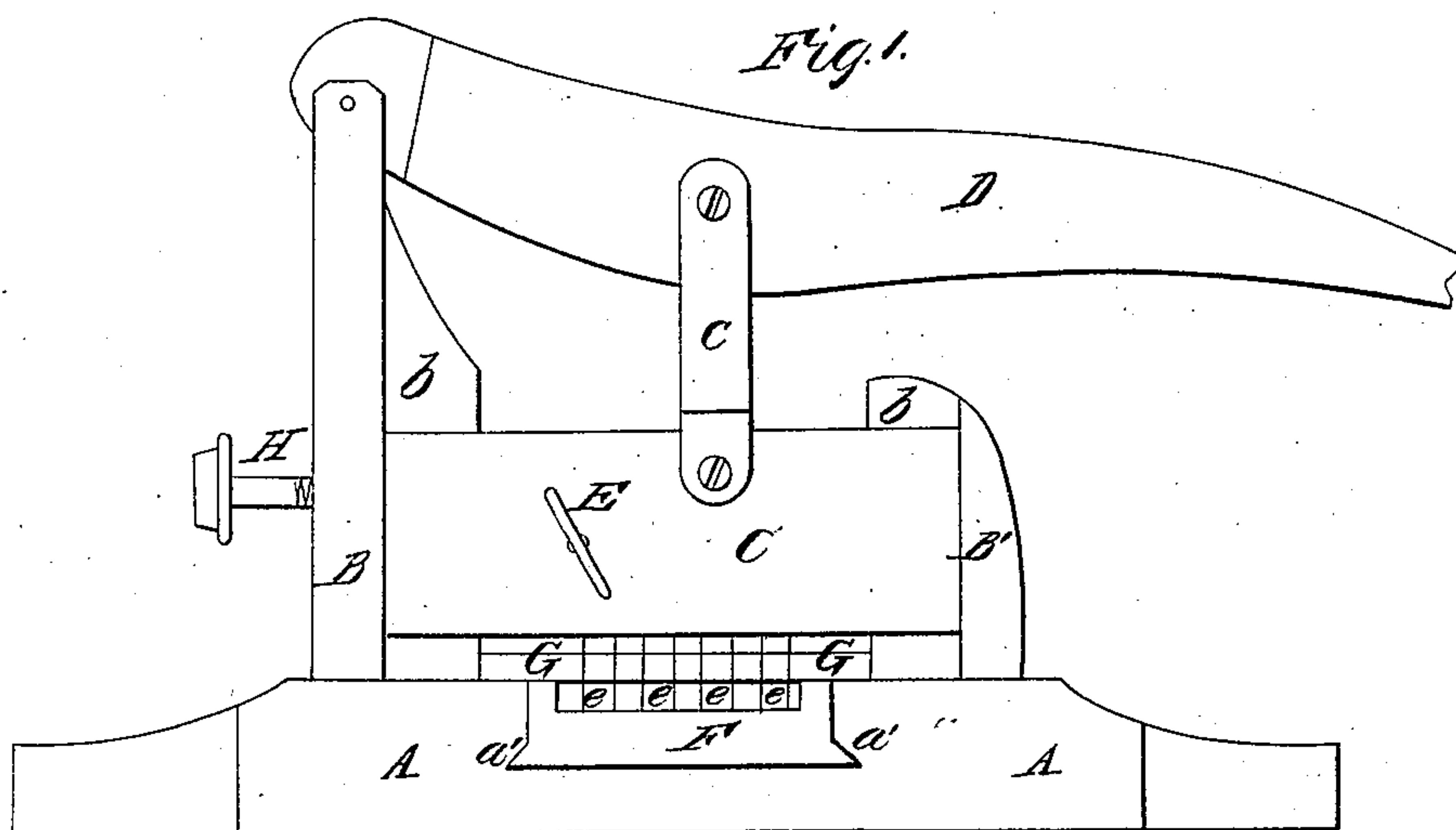


J. Yeager,

Harness Machine

N^o 7,259.

Patented Nov. 19, 1867



Witnesses:
Alex. Mahon
A. B. Smith

Inventor:
Josiah Yeager
by his attorney
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United States Patent Office.

JOSIAH YEAGER, OF BERRYSBURG, PENNSYLVANIA.

Letters Patent No. 71,259, dated November 19, 1867.

IMPROVED MACHINE FOR CUTTING AND PUNCHING FLY-NET STRAPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOSIAH YEAGER, of Berrysburg, in the county of Dauphin, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Cutting and Punching Fly-Net Straps, &c.; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a rear elevation of my improved machine.

Figure 2 is a side view of one of the cutters detached.

Figure 3 is a plan view of the punch-bed plate, with the guide-plate and gauge attached, and

Figures 4 and 5 are bottom views of the punch and cutter-bits or stocks, detached.

Similar letters of reference denote corresponding parts in all the figures.

My invention relates to the construction of the cutters, and to the manner of mounting and securing them in the adjustable bit or stock; to the manner of securing the punches, and to the construction of the metallic bed-plate, upon which the punches operate, whereby it is adapted to receive guides for different-sized straps, as hereinafter explained.

To enable others to understand and use my invention, I will describe it with reference to the drawings, in which—

A represents a bed or frame-plate, of any desired size or form to adapt it to the size of machines, and the number of cutters to be mounted thereon, and also to be secured to the bench or table upon which it is to be used. B B' are uprights or standards mounted in the bed-plate A, and provided upon their adjacent faces with the salient angles or ways *b b*, upon which the bit or stock C, correspondingly notched or recessed at its opposite ends, moves or is guided in being raised and depressed. The standard B is made somewhat taller than the standard B', and is slotted at its upper end, to receive one end of a lever, D, which is pivoted to and has its fulcrum in said standards, as shown at *a*, fig. 1. *c c* are links, pivoted at their lower ends to the bit or stock C, on the opposite sides thereof, and at the other or upper ends to the lever D. The bit or stock C is made in form substantially as represented in the bottom views, figs. 4 and 5, the notches or grooves *b' b'*, in the end thereof, being such as to correspond with the form of the ways upon which the bit works. Said bit is mortised or recessed, as shown at *d*, fig. 5, to receive the knives or cutters, and the keys or blocks by means of which the knives are spaced or set at the required distance apart. One or both of the ends of the mortise are formed with an inclined face, to adapt them to receive a wedge or wedge-shaped key, by the lateral adjustment of which in the block, by means of one or more set-screws, E, the knives are adjusted and tightly held, or released for removal, as desired. The knives *e* are made in form represented in fig. 2; that is, with the cutting edge extended, by being rounded or inclined, in such manner that while supported in a vertical bit they will present an inclined edge similar to that presented where the operation of cutting is performed by hand. In fig. 1 the bit and cutters are represented as slightly raised, in order to better show the arrangement of the guide and bed-plate. The bed-plate F, where the cutters are used, should be made of leather or other suitable material, which will receive and protect and steady the points of the cutters, which are necessarily formed of very thin metal. G is a guide-plate, secured to the bed-piece A in front of the cutters, which serves to hold the leather down and properly present it to the cutters. H is a thumb-screw passing through standard B, which, when the bit and cutters are properly adjusted, serves to hold them down to their work. In fig. 4 I have shown the bit as especially adapted to the reception of the punches *f f*, though it will be obvious that the same bit may be adapted to be used with either the knives or punches. In this figure the greater length of the mortise is transversely of the block, and the two punches are held in place therein by means of the set-screw E'. The bed-plate F', fig. 3, adapted for use with the punches, is made of metal, and is provided with means for readily attaching and detaching the perforated or slotted guide G', of which there may be any desired number, adapted to the various widths of strap to be punched. The means of securing said guides to the bed-plate are shown, in this instance, as consisting of four set-screws; but it will be evident that parallel ways, similar to those shown at *a'*, for uniting the bed-plate F and bed-piece A, may be used with a single set-screw, or its equivalent, for holding the strap-guides in place. These bed-plates F F' are readily removed from the frame-plate A, and substituted one for the other, by being inserted into the dove-tail groove *a' a'* in said plate A, or the equivalent thereof, adapted to receive

and retain them. h is an adjustable gauge or angle-iron, slotted at h^1 , and adjusted and held by set-screw i . Said gauge is provided with an arm, h^2 , projecting over the path of the strap as it is drawn through the guide-way underneath the punches, which serves, by its position or adjustment, to indicate to the eye of the attendant the proper distance between the perforations in the strap. Instead of this gauge-plate a series of holes may be made in the bed-plate F' , and an adjustable pin used therein, for the same purpose. It will be readily understood that the number of knives and their distance apart may be readily varied by varying the thickness of the spacing-keys, by the insertion of thin additional keys or slips of metal, as desired. The distance between the punches may be varied in the same manner.

In operation the cutter-bit is held down upon or in close proximity to the frame-plate A by means of the set-screw, as described, the points of the cutters entering and being steadied in the bed-plate F , and the strap inserted underneath the guide-plate G is drawn through and cut in a manner that will be readily understood. In the operation of punching the straps, the bed-plate F with its perforated guides is substituted, and the bit is left free to be moved up and down on its ways or guides, operated by lever D , and the holes are punched therein in pairs in the usual way, and the distance between the pairs regulated in the manner explained.

Having now described the construction and operation of my invention, what I claim, and desire to secure by Letters Patent, is—

1. The construction of the knives or cutters e , with the inclined cutting edge, substantially as described.
2. The adjustment of the cutter-bit or stock, by means of the lever, as described.
3. The manner of securing the knives and spacing-keys, by means of set-screws and wedge, as described.
4. The two punches $f f$, arranged in the bit or stock, and secured therein by the set-screw, as described, for punching the holes in the strap in pairs, as set forth.
5. The metal bed-plate F' , adapted to receive the perforated guides for various-sized straps, substantially as and for the purpose set forth.

JOSIAH YEAGER.

Witnesses:

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