

(No Model.)

4 Sheets—Sheet 1.

C. B. HATFIELD.  
BUTTON FLY SCALLOPING MACHINE.

No. 338,665.

Patented Mar. 23, 1886.

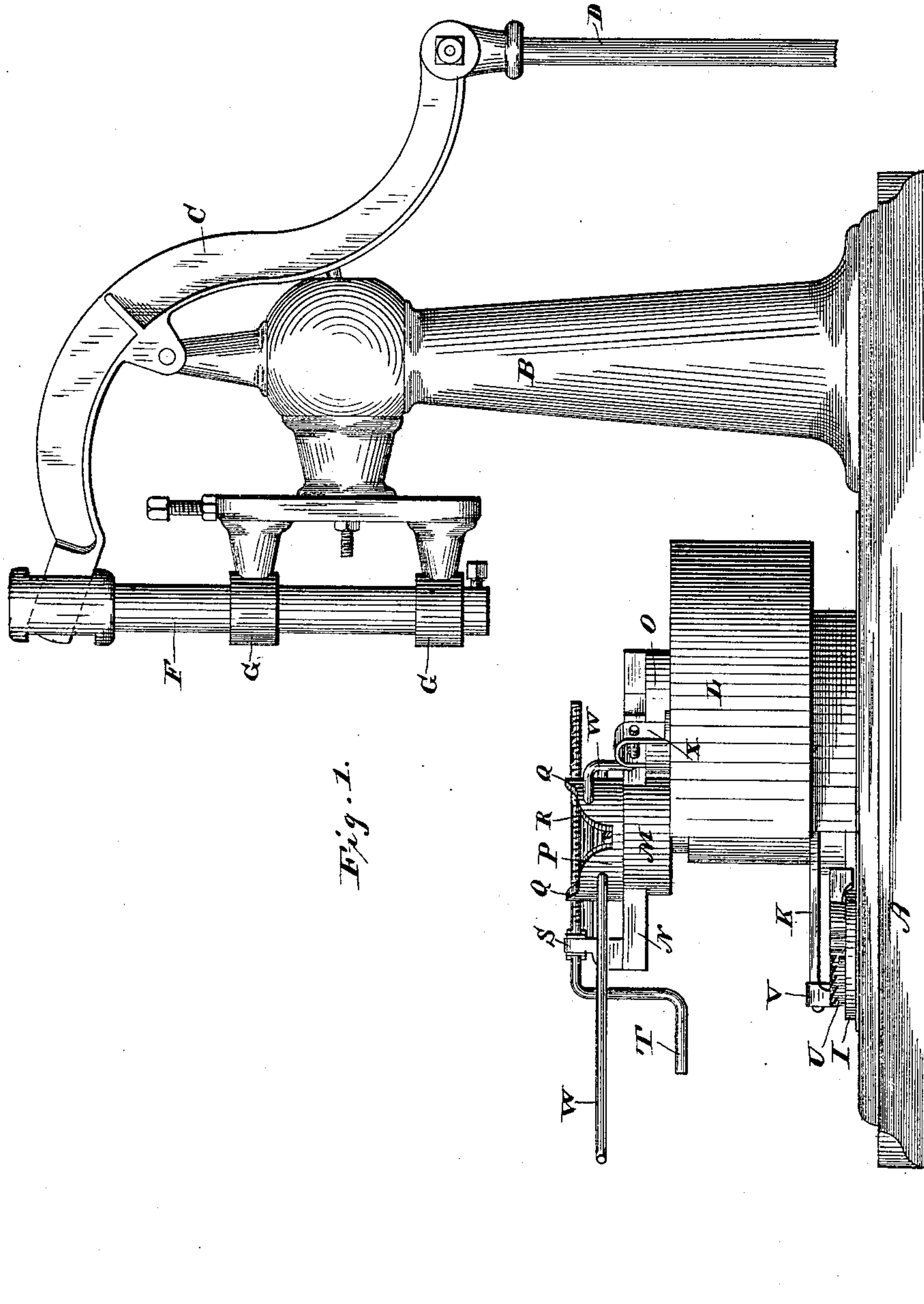


Fig. 1.

Witnesses.

Chas. R. Burr  
Fred T. Church

Inventor.

Charles B. Hatfield  
by Church & Church  
His Attorneys.

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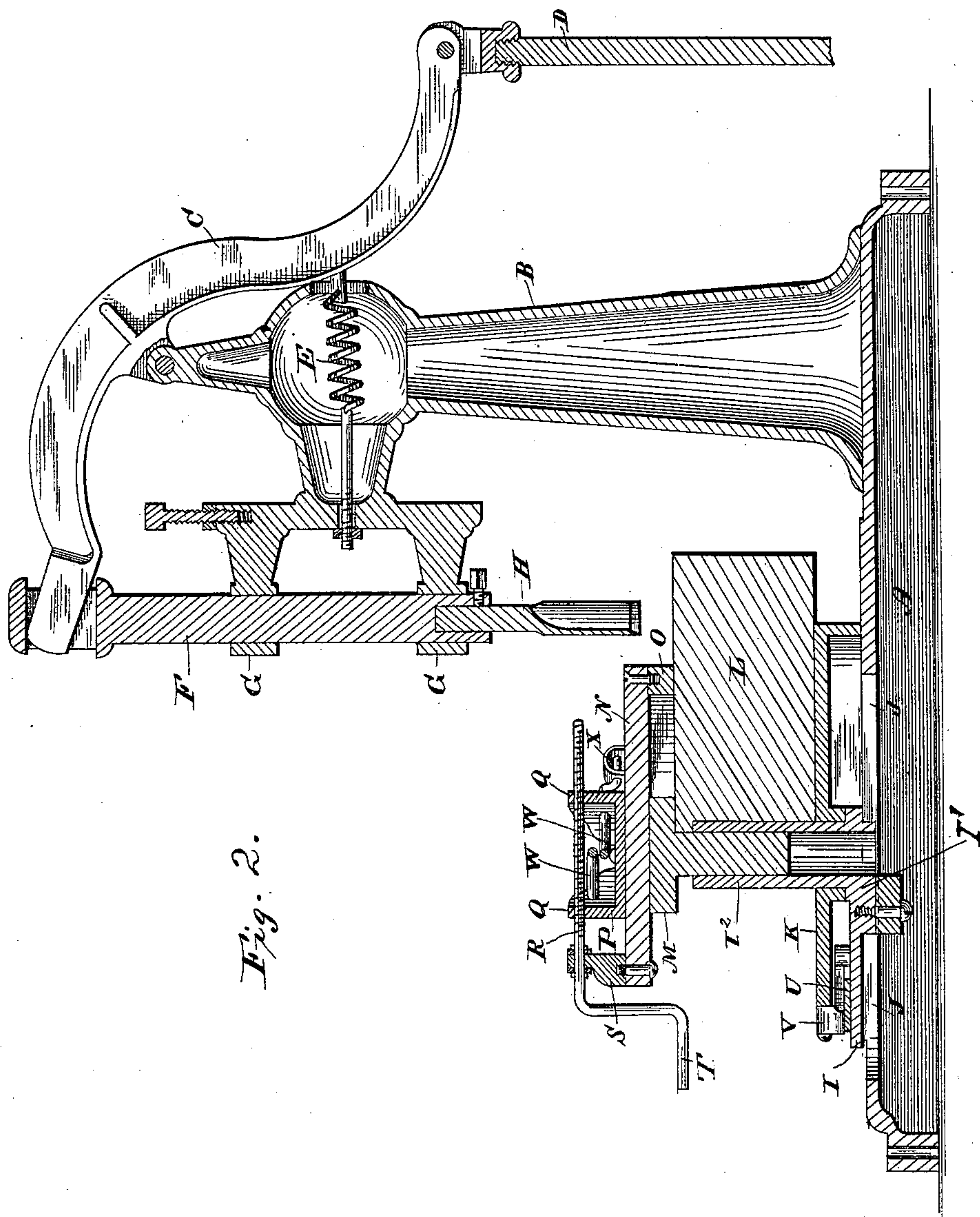


Fig. 2.

Witnesses.

Chas. R. Burr

Fred F. Church

Inventor.

Charles B. Hatfield  
by *Chas. R. Burr & Fred F. Church*  
his Attorneys.



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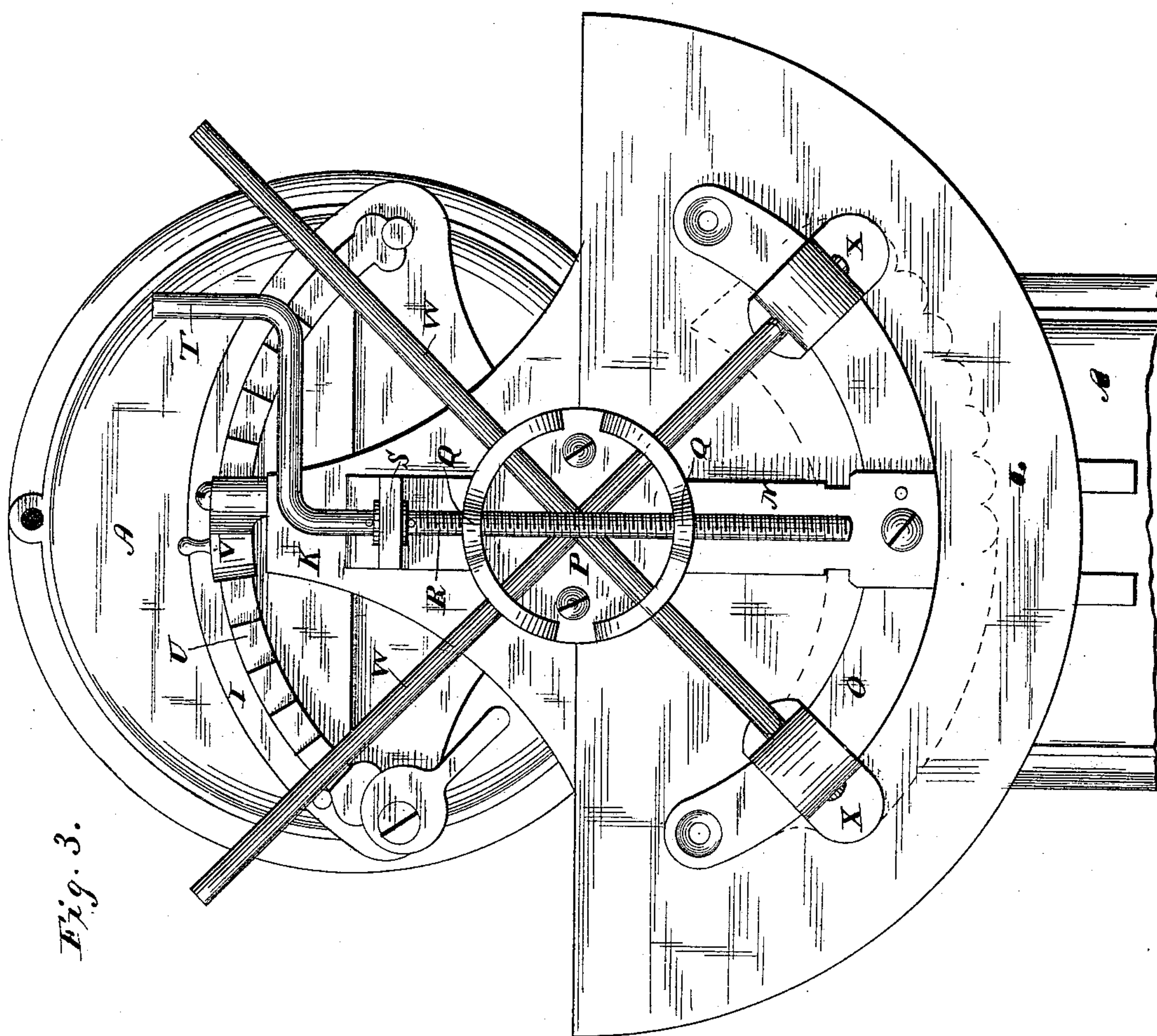


Fig. 3.

Witnesses.

Chas. R. Burr

Fred J. Church

Inventor.

Charles B. Hatfield  
By Church & Church  
his Attorneys.

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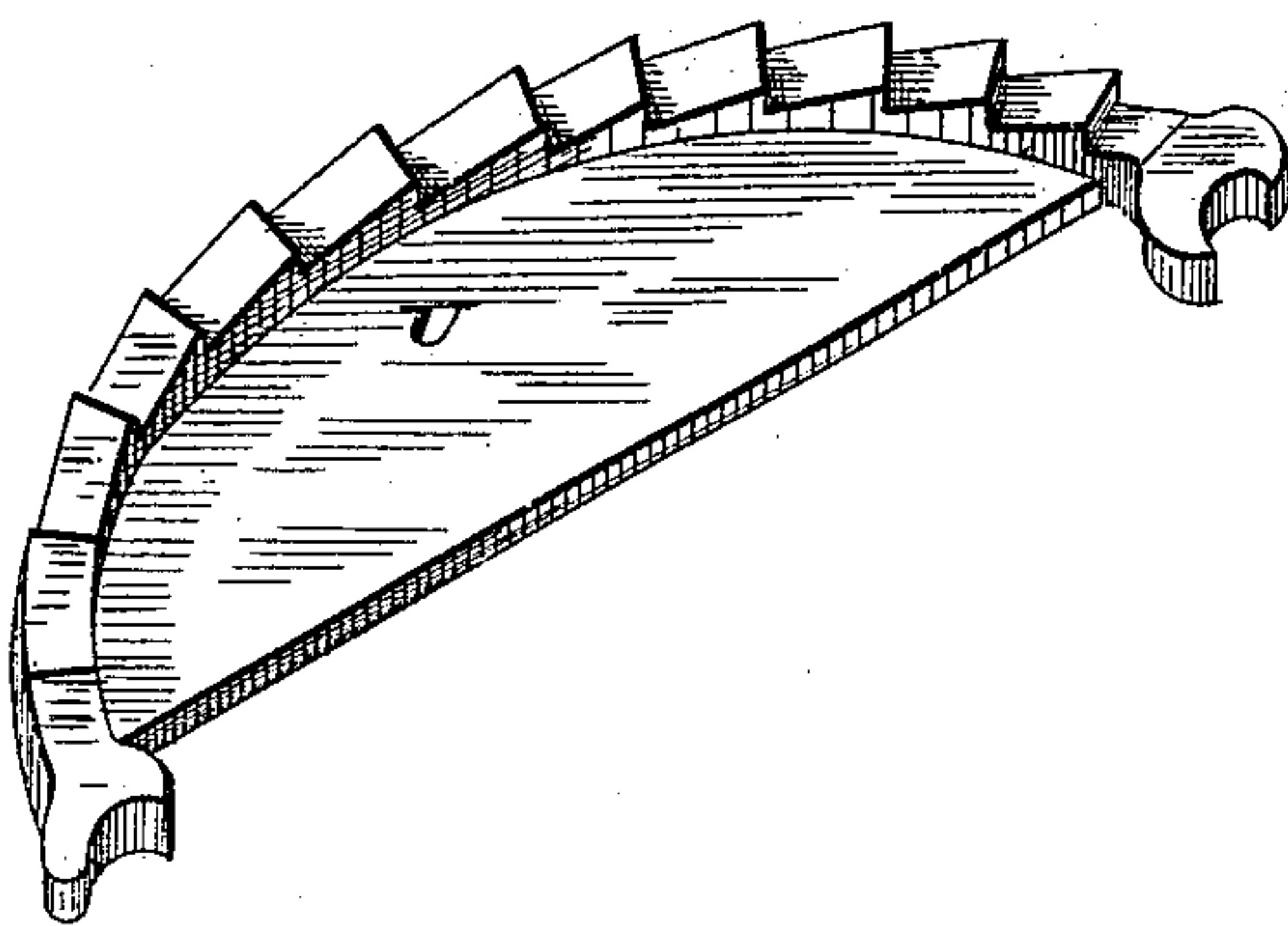
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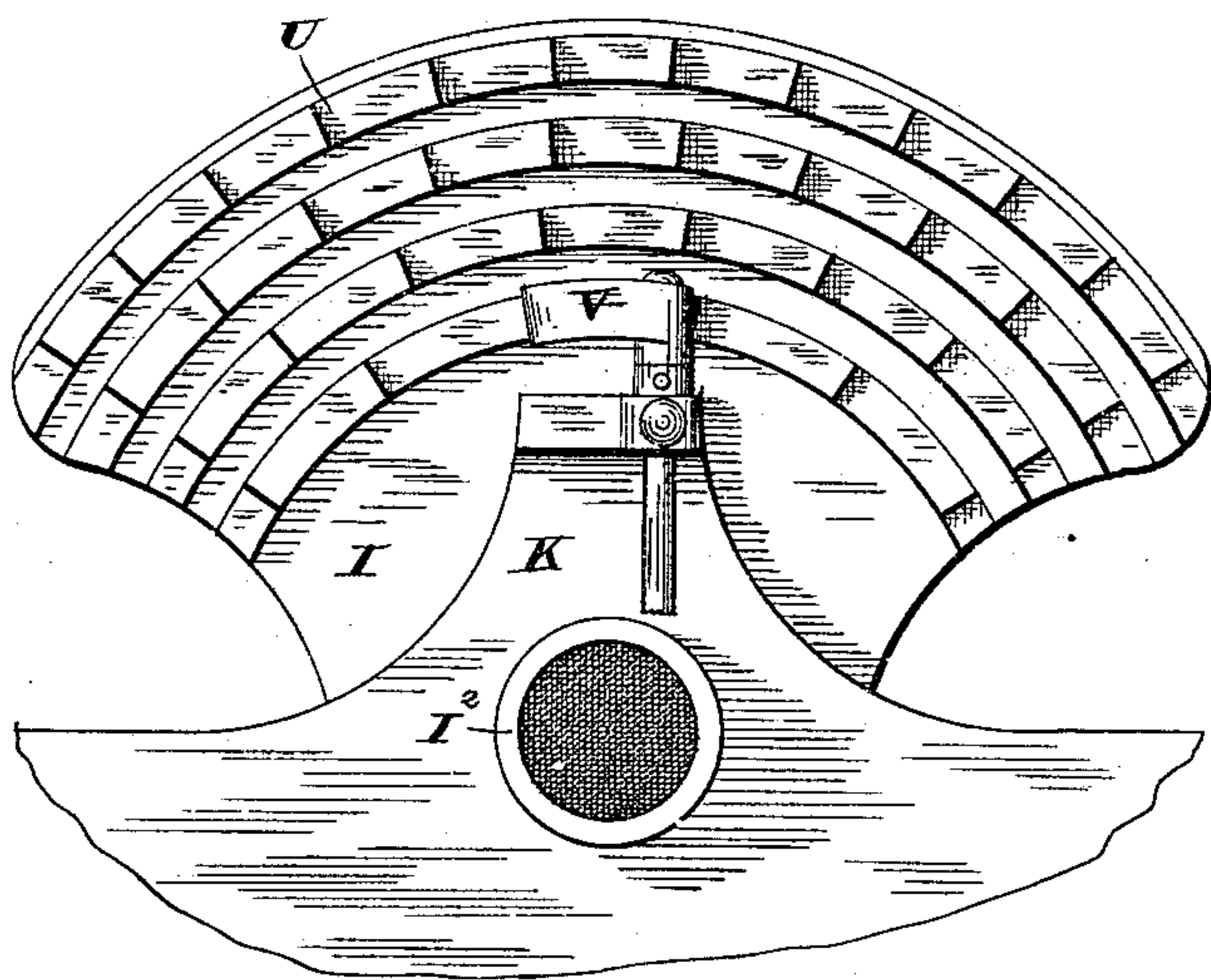
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*Fig. 4.*



*Fig. 5.*



Witnesses.  
Chas. R. Burr.  
Fred S. Church

Inventor.  
Charles B. Hatfield  
by Church & Church  
his Attorneys.



# UNITED STATES PATENT OFFICE.

CHARLES B. HATFIELD, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO JOHN C. HEUGHES, HENRY LOEWER, AND ANSON S. McNAB, ALL OF SAME PLACE.

## BUTTON-FLY-SCALLOPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 338,665, dated March 23, 1886.

Application filed July 30, 1885. Serial No. 173,091. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES B. HATFIELD, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Button-Fly-Scalloping Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

Heretofore it has been found necessary in machines of this class to employ a pattern or templet to serve as a guide for the cutting implement by which the scallops on the button-flies have been produced, and each size of button-fly has required a different pattern.

It is the object of my invention to dispense entirely with these patterns and to provide a machine by means of which button-flies of any size can be scalloped with any desired number of scallops at regular distances apart, and this result I accomplish by a machine constructed substantially as I will now proceed to describe.

In the accompanying drawings, Figure 1 represents a side elevation of my improved machine; Fig. 2, a longitudinal vertical section of the same; Fig. 3, a top plan view of the work-support, the indicators, and the gage. Fig. 4 is a view of one of the gage-plates. Fig. 5 illustrates a construction in which, in lieu of interchangeable gage-plates, an adjustable gage is employed.

Similar letters of reference in the several figures indicate the same parts.

The letter A represents the base of the machine, having a standard, B, to which is pivoted a lever, C, that is adapted to be vibrated in one direction by means of a treadle through a connecting-rod, D, and to be vibrated in the opposite direction by means of an adjustable spring, E. The upper end of the lever C is connected to a plunger, F, which is guided in fixed guides G G on the standard, and is formed at its lower end to receive and retain the shank of the cutting-chisel H, as shown in Fig. 2.

Upon the base A of the machine is mounted a plate, I, having a depending boss or projec-

tion, I', which works within an elongated slot, J, in the base, and serves to guide the plate I in its back and forth movements toward and from the standard B, but prevents any rotary or sidewise motion of said plate, and having also an upwardly-projecting hollow post, I<sup>2</sup>.

Mounted upon the plate I, and turning freely upon the hollow post I<sup>2</sup>, is a horizontal plate, K, which is adapted to support on its forward portion a block, L, of wood or other suitable material, constituting the support for the work and the surface for the chisel to cut against.

M is a head or stock provided with a depending cylindrical shank, which fits the bore of the post I<sup>2</sup>, so as to be capable of rotating therein, and having a horizontal slot or guideway in its upper portion, in which works a slide, N, which carries on its outer end a segmental presser-bar, O, for holding the work down upon the block L.

Bolted or otherwise secured to the head M is a cap, P, having vertical flanges Q Q, through screw-threaded orifices, in which passes a horizontal screw-shaft, R, supported in a block, S, upon the rear end of the slide N, so as to be capable of free rotation therein, and having a turning wheel or crank, T, at its rear end, as shown. By rotating this screw-shaft R the slide and presser-bar O are adjusted in or out above the work-support, so as to clamp the work at the appropriate place.

Detachably secured to the non-rotating plate I, at the rear portion thereof, is a segmental rack-bar, U, having as many teeth or stops formed upon it as there are to be cut scallops in the button-fly; and upon the rear portion of the horizontal rotatable plate K is mounted a pawl, V, which is adapted to engage successively with the teeth of said rack-bar. When the plate K is swung around and its pawl V is dropped into engagement with the first tooth of the rack-bar, it is obvious that upon the rotation of the said plate with its work-support L and the presser-bar O resting thereon to the right, so that the pawl will engage with the several teeth of the rack-bar one at a time, and rest momentarily at each tooth, the work-supports will be moved past the cutting-chisel intermittently and will make as many stops under the chisel, for permitting the operation of



the latter, as there are teeth in the rack-bar, and that therefore the rack-bar will constitute a gage for determining the number of scallops to be formed by the chisel upon the work, as well as a means for properly spacing said scallops. It is also obvious that if either of the extremes of the portion of the fly to be scalloped is known the operator, by clamping the fly upon the work-support by means of the presser-bar O, and bringing one of said extremes directly beneath the chisel, with the pawl in engagement with the first tooth of the rack-bar, he can cause the chisel to descend and cut the first scallop, and then by rotating the work-support until the pawl has engaged with the second tooth of the rack-bar he can cause the chisel to descend again and cut the second scallop, proceeding in like manner until the pawl has engaged the last tooth of the rack-bar, at which time the other extreme of the portion of the work to be scalloped will have been reached, since the advance of the work is uniform and the spacing of the scallops is invariable; but in order to insure accuracy in such a mode of procedure the operator must, after placing the work upon the work-support, first bring down the chisel preliminarily, in order to be certain that it will hit the proper point for commencing, for should the scalloping be commenced at the wrong place the last scallop of the series would of course also be improperly positioned. To avoid, therefore, the necessity of thus preliminarily testing the correctness of the position of the work with respect to the chisel by bringing the chisel down to it, I preferably employ separate indicators, which are placed one at each extreme portion of the button-fly desired to be scalloped, and serve to determine accurately the proper position of the work with respect to the chisel before the former is brought under the latter. These indicators consist, preferably, of two rods, W W, passing through guide-openings in the flanges of the cap P, and each connected at its outer end to an indicator or pointer, X, which embraces the presser-bar O, and extends slightly beyond the same, as shown in Fig. 3. The rods W, it will be observed, are located on lines radiating from the center of motion of the work-support, and they are of the same number of degrees apart as would be radial lines drawn from the said center of motion of the work-support through the extremes of the toothed portion of the rack-bar or gage; consequently the indicators X at the ends of the rods W, whether said rods are forced inward or outward by the adjustment of the presser-bar O, will always indicate the extremes of movement of the work as controlled by the rack-bar or gage, and by having a care that these two indicators are placed at the extremes of the portion of the work to be scalloped and bringing the work under the chisel with the pawl in the first tooth of the rack or gage the scalloping may be proceeded with with the assurance that both the first and last scallops will

be properly positioned and all the intermediate scallops will be properly spaced. The same rack-bar, U, may be employed in the scalloping of button-flies of different lengths. Where short button-flies are to be operated upon, the presser-bar is adjusted inward, thereby causing the rods W to be forced inward and their indicators X to slide along the presser-bar toward each other correspondingly, this motion continuing until the indicators come opposite the points on the button-flies which constitute the extremes of the portion to be scalloped. On the contrary, when longer button-flies are to be operated upon, the presser-bar is adjusted out, thereby causing the indicators to be moved farther from each other until the desired point upon the button-fly is reached. It will therefore be seen that whether the button-flies be long or short the indicators can be adapted to them, and the chisel in acting upon them will cut just as many scallops as there are teeth in the rack-bar or gage, irrespective of their length. Inasmuch as the edge of the button-flies to be scalloped is not exactly concentric with the circle struck from the center of motion of the work-support, it follows that in order to secure uniformity in the scallops the work-support must be capable of a slight motion toward and from the chisel. The longitudinal slot J in the base A makes provision for this by permitting the plate I and all the parts carried by it to be moved backward or forward by the operator as the work proceeds and the necessity of the case demands.

When it is desired to vary the number of the scallops made upon the work, a rack-plate or gage having a greater or less number of teeth may be employed, as will be readily understood. Instead, however, of providing a series of these interchangeable rack-bars or gages, I may, as shown in Fig. 5, provide the rear portion of the plate I with several series of teeth, arranged in concentric arcs, and with the teeth of the several series varying in number, and employ in connection with an adjustable gage thus formed a pawl mounted upon the rear portion of the horizontal plate or table K, rendered adjustable in or out, so as to be set for co-operation with either of the series of teeth.

It will of course be understood that it is intended with my machine to scallop a number of superposed button-flies at each operation, the presser-bar being raised up from the cutting-block or work-support and caused to rest upon the pile of button-flies and operating to hold them while being acted upon by the cutting-chisel.

I claim as my invention—

1. In a button-fly-scalloping machine, the combination, with a cutting-chisel, of a rotatable support for the work adjustable laterally toward and from the chisel by mechanism substantially such as described, and a gage for regulating the number of times the support is to be arrested in its rotary motion and the



consequent number of scallops which is to be formed in the work, substantially as described.

2. In a button-fly-scalloping machine, the combination, with the cutting-chisel, of a rotatable support for the work and a series of different gages for regulating the number of times the said support is to be arrested in its rotary motion and the consequent number of scallops which are to be formed in the work, substantially as described.

3. In a button-fly-scalloping machine, the combination of a rotatable support for the work, a gage for regulating the number of times the support is to be arrested in its rotary movement and the consequent number of scallops that are to be formed in the work, and indicators located on lines radiating from the center of motion of the work-support and of the same number of degrees apart as are the extremities of the regulating-gage, whereby by placing the extremities of the portion to be scalloped beneath the indicators the proper disposition of the scallops is insured, substantially as described.

4. In a button-fly-scalloping machine, the combination of a rotatable support for the work, a gage for regulating the number of times the support is to be arrested, indicators adjustable on lines radiating from the center of motion of the work-support and of the same

number of degrees apart as are the extremities of the regulating-gage, and means, substantially as described, for securing said indicators in adjusted position, whereby button-flies of different lengths are enabled to be scalloped with their scallops properly disposed, substantially as described.

5. In a button-fly-scalloping machine such as described, the combination, with the scalloping-chisel and its operating mechanism, of a rotatable support for the work, a gage for regulating the number of times the support is to be arrested in its rotary motion, and indicators located on lines radiating from the center of motion of the work-support and of the same number of degrees apart as are the extremities of the regulating-gage, substantially as described.

6. In a button-fly-scalloping machine, the combination of a rotatable support for the work, the gage for regulating the number of times the work-support is arrested in its rotation, the radially-adjustable indicators, and the adjustable presser-bar operating to effect the simultaneous adjustment of the indicators in or out, substantially as described.

CHARLES B. HATFIELD.

Witnesses:

ANSON S. McNAB,  
JOHN C. HEUGHES.