

No. 738,062.

PATENTED SEPT. 1, 1903.

A. PHELPS.  
MEDALLION OR BUTTON MAKING MACHINE.

APPLICATION FILED NOV. 12, 1900.

NO MODEL.

4 SHEETS—SHEET 1.

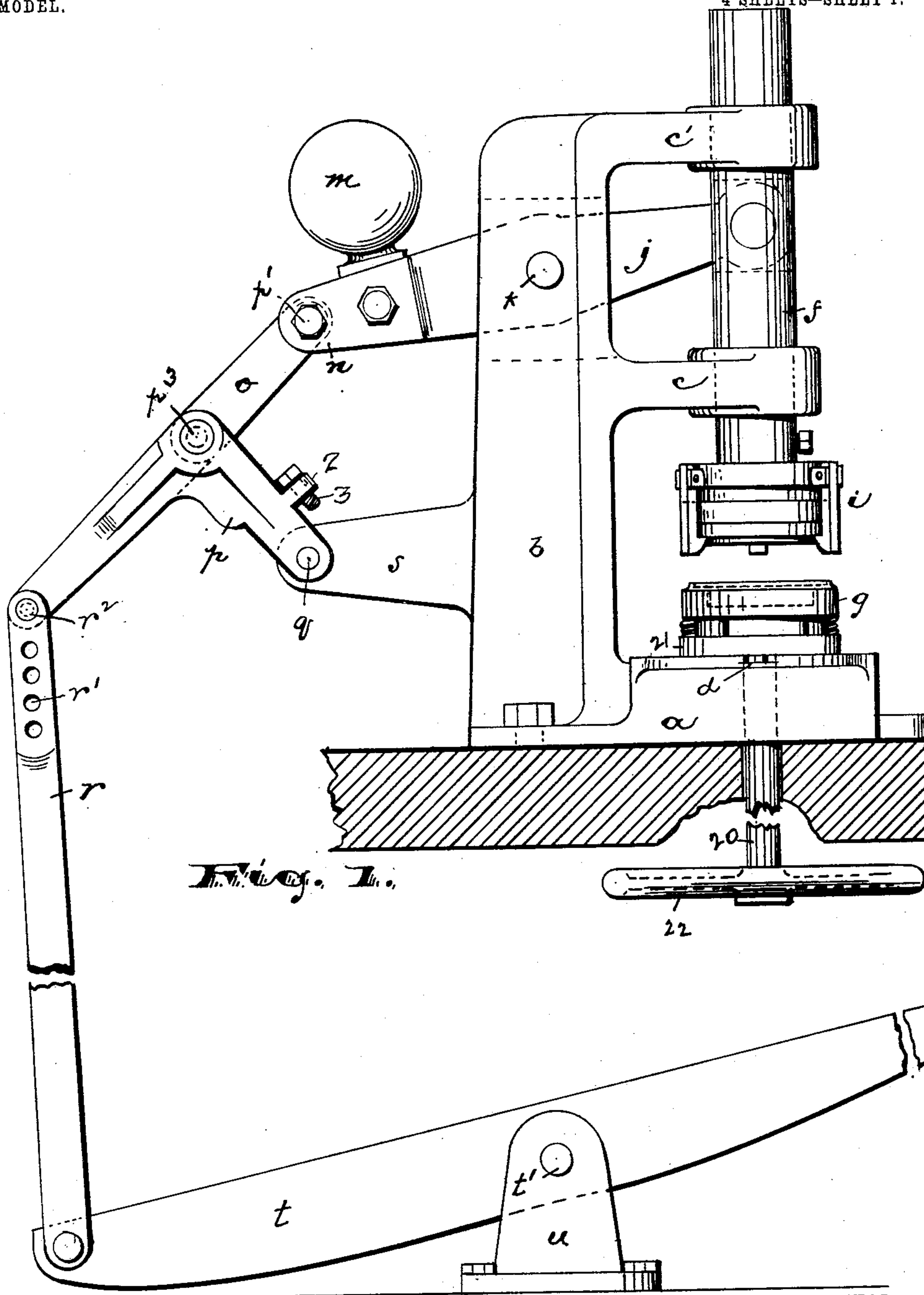


Fig. 1.

WITNESSES:

*Henry King*

*Russell M. Everett*

INVENTOR:

*Augustus Phelps,*

BY

*Douglas & Co.*  
ATTORNEYS

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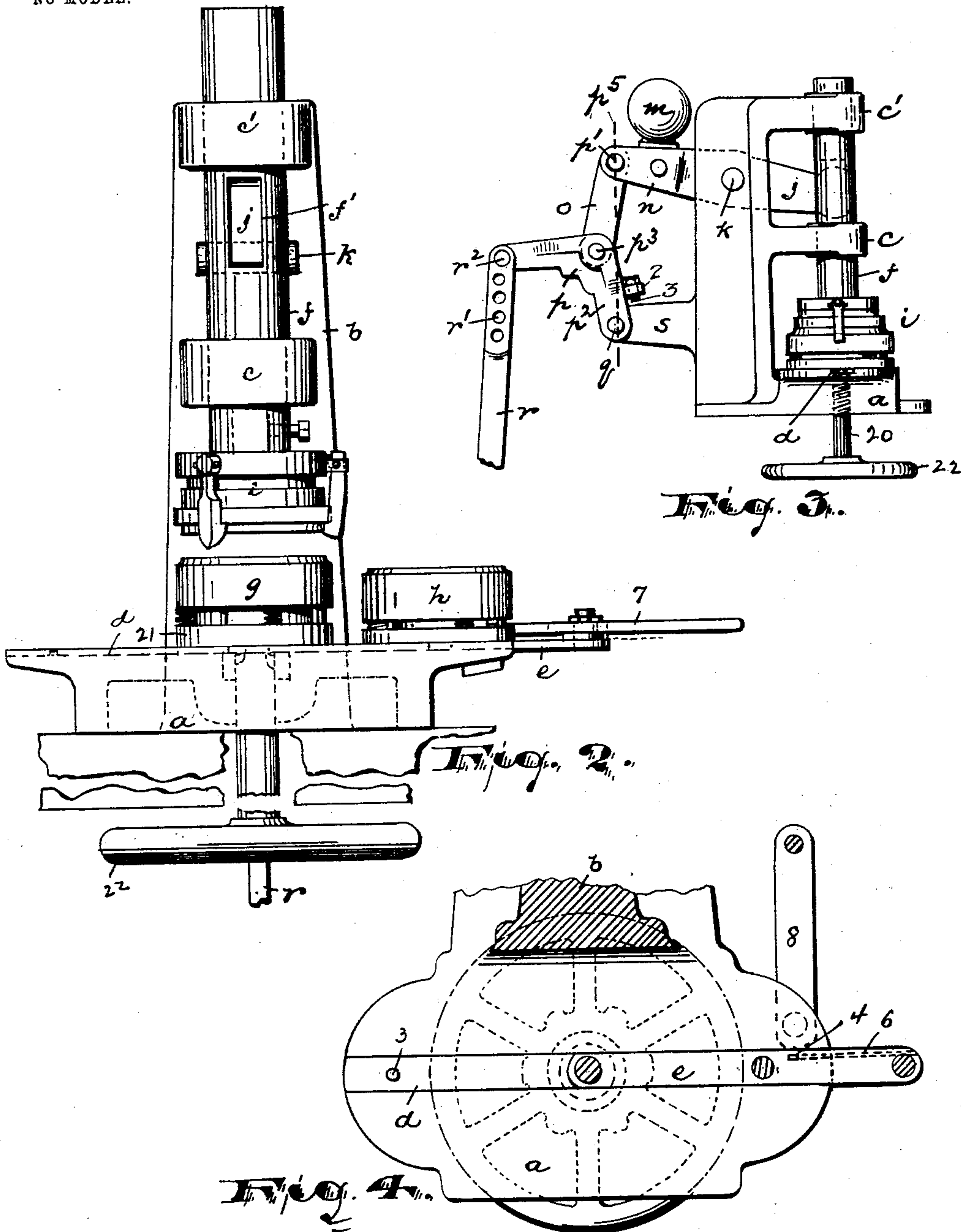
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4-SHEETS-SHEET 2.



WITNESSES:

Henry C. Crag

Russell M. Everett.

INVENTOR:

Augustus Phelps,

BY

Drake & Co.

ATTORNEY

No. 738,062.

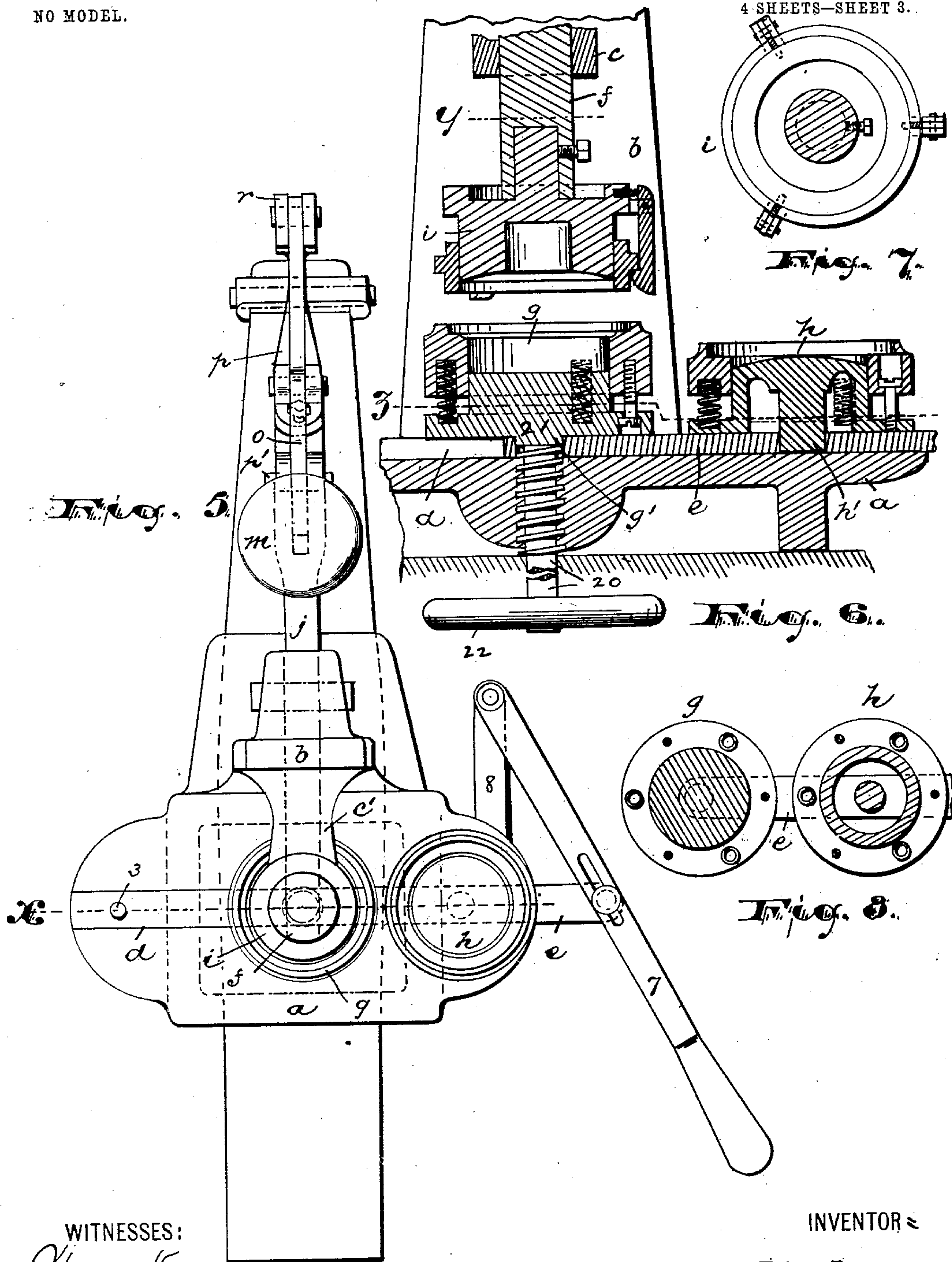
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Russell M. Everett

INVENTOR:

Augustus Phelps.

BY

Drake & Co.  
ATTORNEYS.



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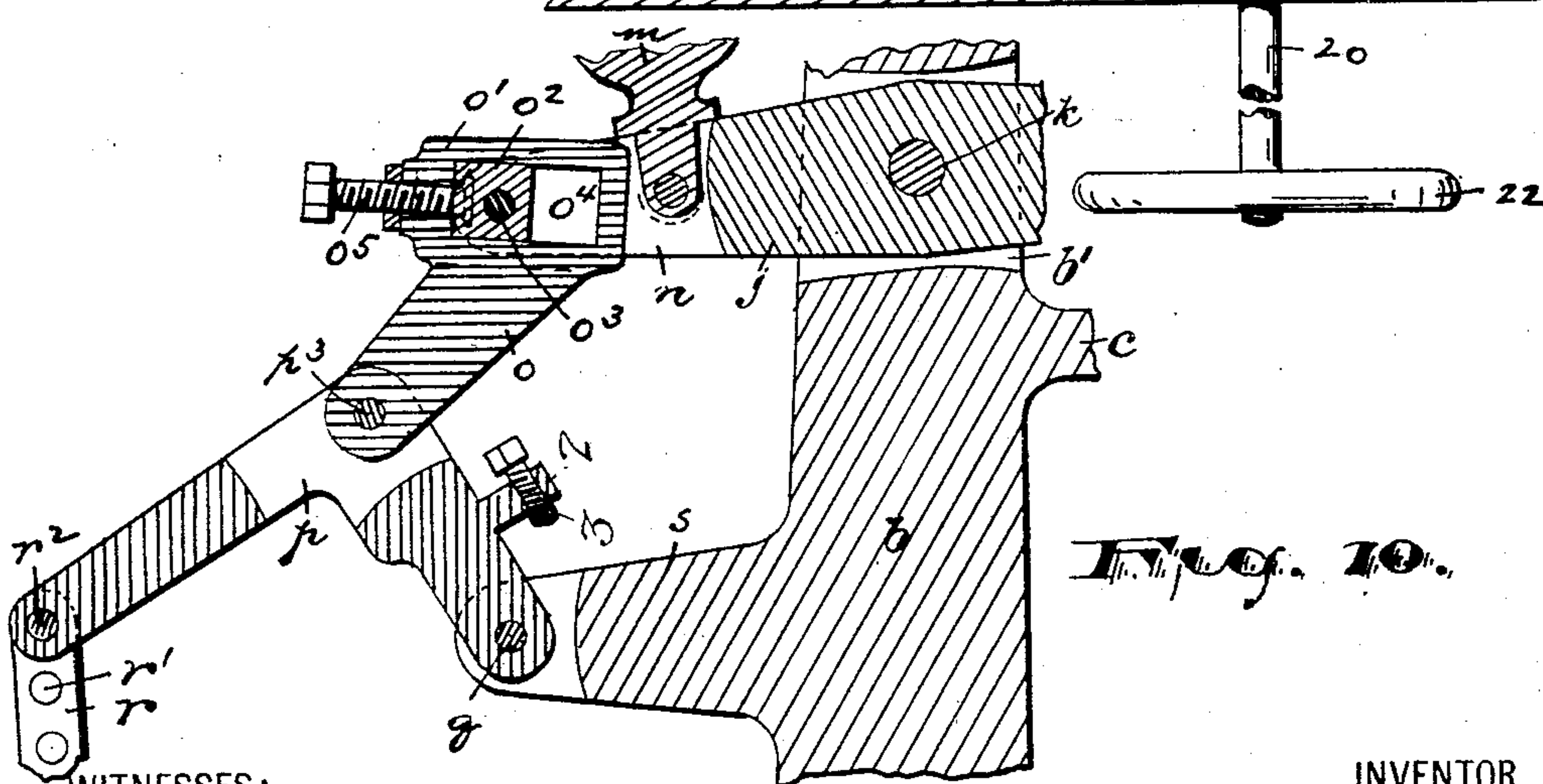
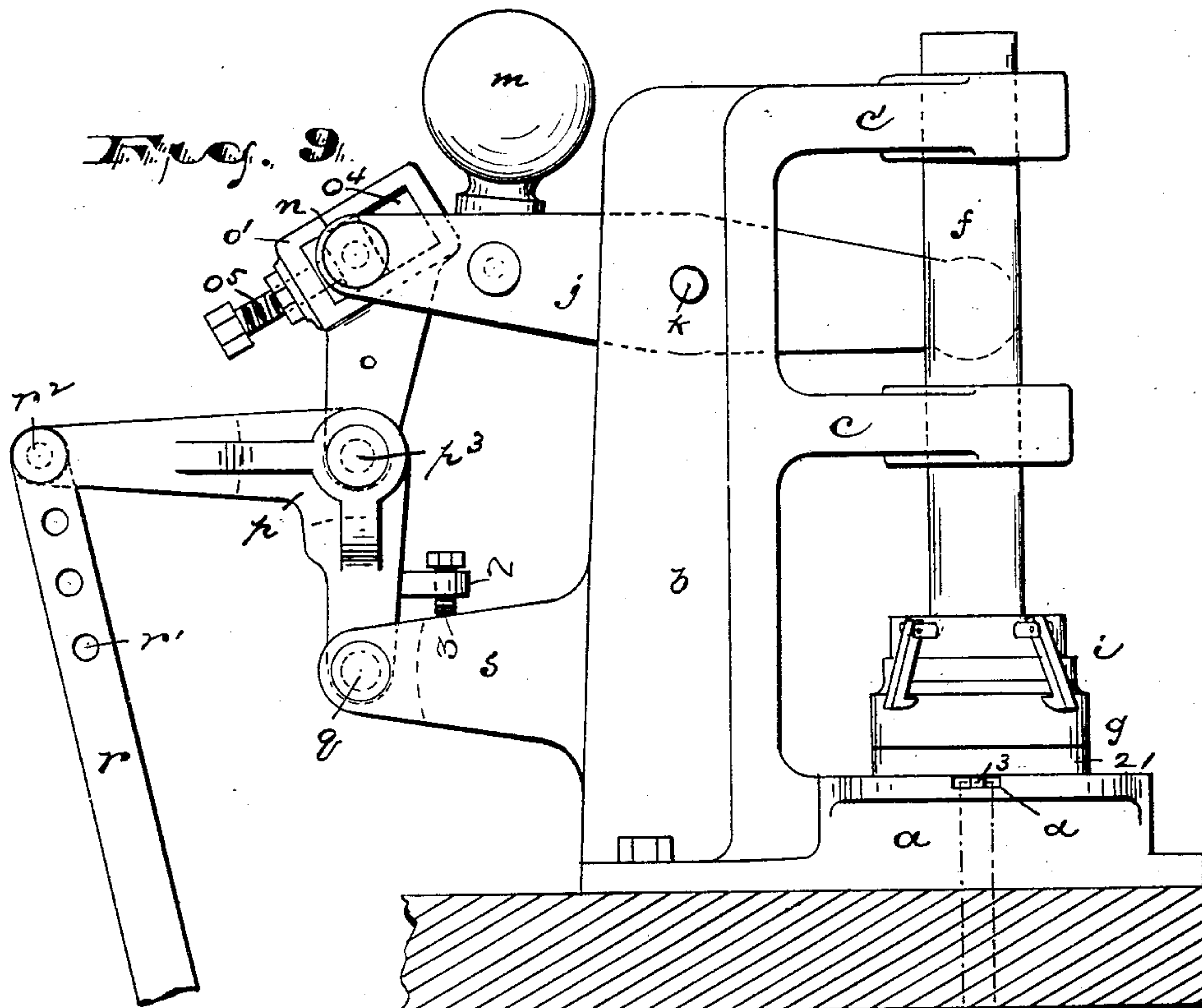
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4 SHEETS—SHEET 4.



WITNESSES:

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*Russell M. Everett*

INVENTOR

*Augustus Phelps*

BY

*Drake & Co.*  
ATTORNEYS.



## UNITED STATES PATENT OFFICE.

AUGUSTUS PHELPS, OF NEWARK, NEW JERSEY.

## MEDALLION OR BUTTON MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 738,062, dated September 1, 1903.

Application filed November 12, 1900. Serial No. 36,219. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS PHELPS, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Medallion or Button Making Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to characters of reference marked thereon, which form a part of this specification.

The objects of this invention are to facilitate the operation of manufacturing buttons, badges, and particularly to facilitate the operation of imprinting photographs and manufacturing what are now in the trade called "medallions" therefrom, to produce a more firm and durable button, badge, or medallion, such as will hold together more certainly and surely when subjected to the conditions found in use, to reduce the cost of manufacturing medallions by preventing the loss occasioned by imperfect work heretofore common, and to obtain other advantages and results, some of which will be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved medallion-making machine and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like characters of reference indicate corresponding parts in each of the figures, Figure 1 is a side elevation of my improved machine. Fig. 2 is a front view of the same. Fig. 3 is another side view on a reduced scale, showing the parts in a different position from that shown in Fig. 1. Fig. 4 is a plan in detail of the bed-plate, providing certain slide-ways. Fig. 5 is a plan of the device. Fig. 6 is a sectional detail taken through *x*, Fig. 5. Fig. 7 is a detail section taken at line *y*, Fig. 6. Fig. 8 is a detail section on a reduced scale, taken at line *z*, Fig. 6. Fig. 9 shows in side elevation certain means for adjusting the die-operating levers, and Fig. 10 is a central vertical section of the same.

In said drawings, *a* indicates a horizontal bed-plate adapted to be seated upon a bench, table, or other suitable fixture convenient for use. At the upper side of said plate *a* the same is grooved, as at *d*, in a direction parallel with the front edge of said plate to receive the die-carrying slide *e*, and at the rear of said plate I have integrally formed or cast a standard *b*, having forwardly-projecting arms *c c'*, which provide bearings for the vertical shaft *f*, said bearings holding the said shaft vertically in line with the center of the groove *d* of the bed-plate. At the top of the slide, partly resting on said slide and partly resting on the top of said plate, are parts *g h* of the button-making die, and at the lower end of the shaft *f* is the part *i* of said die, said part *i* being adapted to cooperate with the parts *g h*, as hereinafter more particularly described. The standard *b* at a point between the horizontal planes of the arms *c c'* is horizontally open, as at *b'*, Fig. 10, to permit the passage and movement of a shaft-operating lever *j* and perforated at right angles to the lever-opening to receive a fulcrumal pin or shaft *k*, which holds said lever *j*, so that it will properly oscillate and effect a raising or lowering of the shaft *f*. The said shaft is slotted, as shown at *f'* in Fig. 2, and into the slot the rounded end of the lever *j* extends, the parts being properly proportioned to effect an easy but positive movement. The rear end of the lever *j* is preferably weighted, the weight *m* counterbalancing the weight of the shaft, so that the latter will be held normally in an elevated position and the cooperating parts *g i* or *h i* will be held apart, as indicated in Figs. 1 and 2. At the rear extremity the said lever is bifurcated, and between its prongs *n n* is arranged a connecting-rod *o*, said parts being pivotally joined by a pin *p'*. Said connecting-rod *o* is in turn pivoted to the angular part of a bell-crank lever *p*, fulcrumed at one end, as at *q*, upon an arm *s* of the standard *b* and at its other end pivotally connected to a connecting-rod *r*, by which last the train of levers is connected to a pedal *t*, fulcrumed, as at *t'*, to the bracket *u* upon the floor, said pedal extending forward to a point convenient to the operator standing before the machine.

That arm of the bell-crank lever which is pivoted to the standard *b* is provided with an adjustable stop 2, adapted to engage the



standard and limit movement of the bell-crank lever to force the dies together. Said stop preferably comprises a screw 3, working in a lug or ear 2 of the bell-crank lever, but  
5 any other equivalent device may be employed.

To enable the train of levers to be operated in connection with die parts of different sizes, I make the lever connections adjustable in any suitable manner. For example, the connecting-rod *r* may be provided with a series of pin-holes *r'*, Figs. 1, 3, and 9, for the pivotal pin *r*<sup>2</sup>, but the means of adjustment I prefer, in that I am enabled to obtain a greater nicety or exactness in pressure of one die part  
10 upon the other, are shown in Figs. 9 and 10, where the connecting-rod *o* is shown with a box *o'*, in which a bearing-block *o*<sup>2</sup>, having the pivotal pin *o*<sup>3</sup>, may be adjusted. Said block *o*<sup>2</sup> slides in the slot *o*<sup>4</sup> of said box and  
20 is operated in adjusting the pivotal connection of the connecting-rod and lever *j* by an adjusting-screw *o*<sup>5</sup>. The box *o'* works between the prongs *n* of the bifurcated lever with the rod *o* and is preferably cast integral with  
25 said rod *o*.

By turning the adjusting-screw the pivotal pin *o*<sup>3</sup> is moved toward or from the fulcrum *k*, so that the vertical movement of the shaft *f* is correspondingly changed and the relation  
30 of the die part *i* to the parts *g h* may be exactly adjusted to secure the proper pressures.

In the manufacture of medallions of the class for which this machine is intended and more particularly in the manufacture of  
35 medallions of a large size—say, for example, from two to six inches in diameter—great pressure is required to force the component parts of said medallions into the desired relation.

The die parts *g h* are provided, preferably, with downward projections *g' h'*, Fig. 6, which removably fit into perforations or sockets in the slide *e*, so that when said slide is caused to move longitudinally in the groove *d* of the  
45 plate *a* said die parts will move simultaneously and together a limited distance, the limitations being such as to enable each of said die parts *g h* to be brought centrally into axial alinement with the vertical shaft *f* and  
50 die part *i*, attached thereto. The stop 3, Fig. 4, serves to limit the movement of the slide *e* in one direction, while the stop 4 limits the movement in the reverse direction, the slide being preferably slotted longitudinally on the  
55 under side, as at 6, (indicated in outline in Fig. 4,) to permit the limited sliding desired.

To operate the slide, I have provided a hand-lever 7, which is pivotally connected to the slide and is linked by the link 8 to the  
60 plate *a* or other suitable fixture, so that the operator pushing or pulling on the handle as he stands before the machine may with great quickness and ease bring one or the other of the die parts into coöperative relation with  
65 the upper die part *i* on the vertically-reciprocating shaft.

The die parts *g, h, and i* are in themselves

of a construction common in the art of button-making, and a specific or detailed description of their constructions is thought to  
70 be unnecessary. It may be said, however, that in the manufacture of the medallions or buttons for badges or other purposes the concavo-convex outer metallic plate which forms the backing for the photograph to be  
75 mounted in the medallion is placed with the said photograph mounted on celluloid, paper, or other suitable support in the die part *h*, the photograph being arranged above the convex side of the plate. The die part *h* is  
80 then forced by the hand-lever beneath the part *i*, when the die part *i* is forced downward by the foot acting on the pedal and train of of levers, &c., causing the photograph to enter up into the die part *i* with the backing-  
85 plate, the said photograph being convexly spread upon the convex surface of the metal plate and its edges turned down at the sides of said plate. The die part *i* is then raised by the weight *m*, the foot being removed from the  
90 pedal to permit such movement, the said die part *i* carrying the metal backing-plate and photograph upward with it. The hand-lever 7 is then pushed sidewise and the die part  
95 *g*, supplied with a collet or back plate such as is common in buttons, is brought axially beneath the die part *i*, the stop 3 limiting the movement of the slide, so that no especial care is necessary to bring the parts in aline-  
100 ment. The parts being in this position, the foot is again applied to the pedal and the die part *i* lowered into operative engagement with the part *g*. The downwardly-projecting edges of the photograph are first turned be-  
105 neath the edge of the front plate and then the said plate and photograph forced over the collet, so that the edges of said photograph are firmly and securely held between  
110 said parts, the front plate at its edges being bent to underlie the collet, so that the button or medallion parts are held permanently together when removed from the die.

The sliding of the lower die parts to and from operative relation to the upper die parts being accomplished with great conven-  
115 ience and ease and without careful adjustment and the expense of time involved therein, the buttons or medallions are manufactured with great facility and ease and without the expert ability heretofore required. 120

In the manufacture of medallions of large size—say six inches in diameter—a greater power is sometimes required to bend the edges of the front plate to bring the parts into the final relation above described, and  
125 especially is this so when the said front plate is of heavy metal. To effect the desired bending, I supplement the power of the pedal by a screw 20, arranged in threaded bearings in the bed-plate *a* in line with the shaft *f*.  
130 The slide *c* is perforated to permit the up-passage of said screw to the under side of the die-section 21 of the die part *g*. When the die part *i* is lowered to its effective limit of



movement in relation to the die part *g*, the arm  $p^2$  of the lever *p* and the connection *o* will be brought into alinement, the pivotal centers  $p' p^3 q$  being brought into the dead-straight line  $p^5$  to effect a positive resistance against the up movement of the shaft *f* and die part *i* when the screw is forced up in its bearings. Said screw is provided with a large hand-wheel or handle 22, by which a great leverage may be obtained, and thus ample power is obtained to bend and set the edges of the front plate, as will be understood by one skilled in the art.

Having thus described the invention, what I claim as new is—

1. In a medallion or button making machine, the combination with a vertically-movable upper die, of a broad horizontal bed-plate beneath said upper die, alternate dies slidably seated upon said bed-plate and adapted to be brought one at a time into alinement with the upper die, a narrow strip connecting said alternate dies and being let into the said bed-plate to serve as a guide, said strip not materially impairing the bearing of the dies upon the bed-plate, and coöperating stops upon said strip and the bed-plate for determining the position of the dies.

2. In a medallion or button making machine, the combination with one die part *i*, of a bed-plate, a slide working in the face of said plate, a coöperating die part mounted on said slide, said slide and the bed-plate having coinciding perforations below said die part, and a hand-screw working in said perforations to engage the die part.

3. In a medallion or button making machine, the combination of a frame, a die-lever fulcrumed on said frame, a bell-crank lever also fulcrumed on said frame at one arm, a link connecting said die-lever to the angular portion of the bell-crank lever, means for swinging the outer arm of said bell-crank lever, a lug on the inner arm of said bell-crank lever having a threaded bearing, and a stop-screw seated in said bearing and adapted to engage the frame to limit movements of said lever and thus of the die-lever.

4. In a medallion or button making machine, the combination with the frame *b*, of a die-lever *j*, fulcrumed therein and adapted to work in a vertical plane, a bell-crank lever at one extremity upon said frame below the die-lever, and a link connecting said die-lever to the angular bend of the bell-crank lever, said link and die-lever being joined by a pivotal slot-and-pin connection, the pin of which is free to slide in said slot, an adjusting-screw working through the end wall of said slot at that side of the pin from which it receives strain from the bell-crank, a weight acting upon the die-lever to cause the said pin to follow the screw when said strain is relaxed, and die members carried one upon said lever *j*, and the other upon said frame.

In testimony that I claim the foregoing I have hereunto set my hand this 3d day of October, 1900.

AUGUSTUS PHELPS.

Witnesses:

CHARLES H. PELL,  
C. B. PITNEY.