

(No Model.)

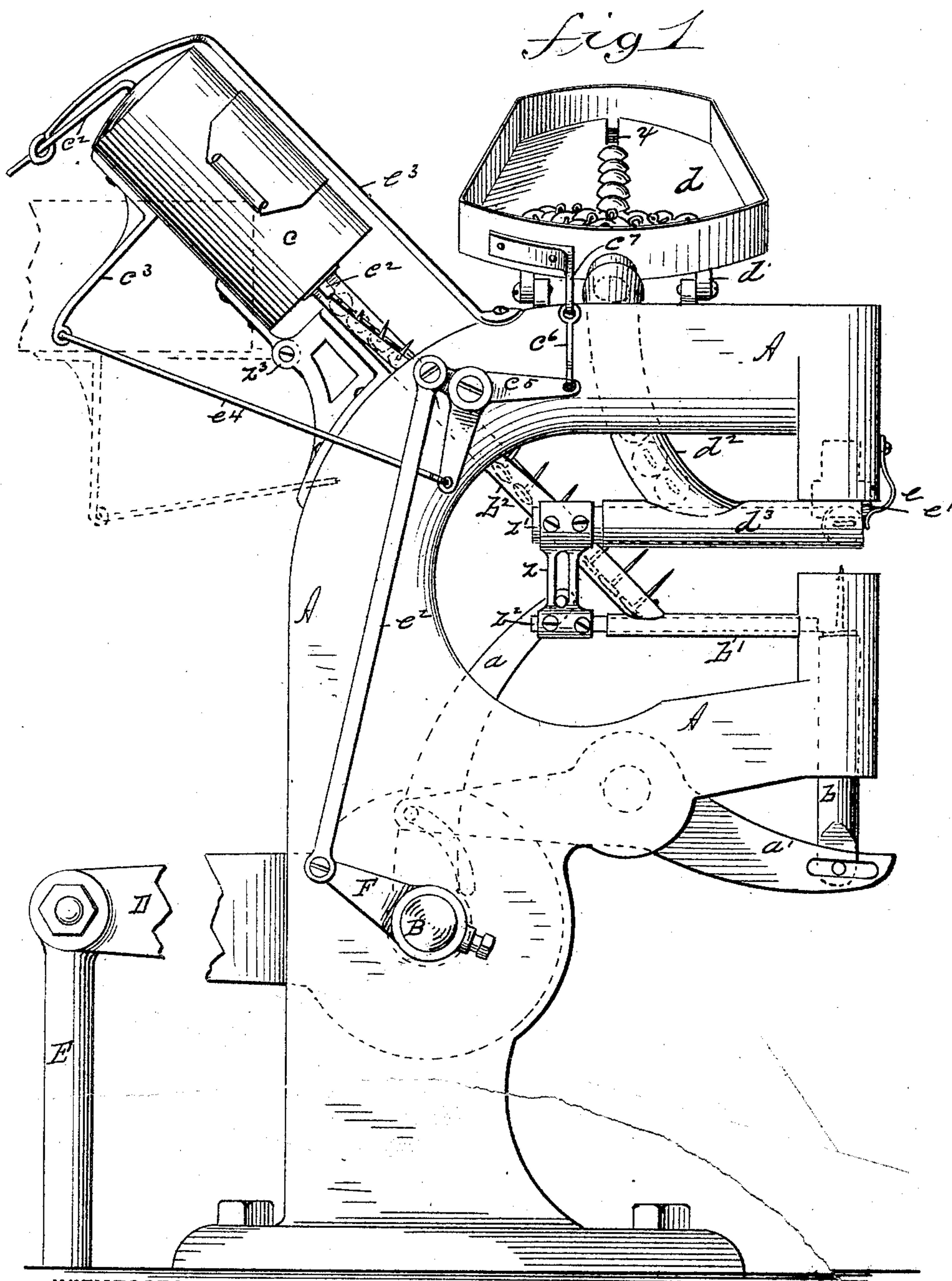
3 Sheets—Sheet 1..

C. J. BROSNAN.

# MACHINE FOR ATTACHING BUTTONS.

No. 327,917.

Patented Oct. 6, 1885.



WITNESSES:

J. D. Garfield  
Wm H Chapin

INVENTOR

*Cornelius J. Brennan*

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(No Model.)

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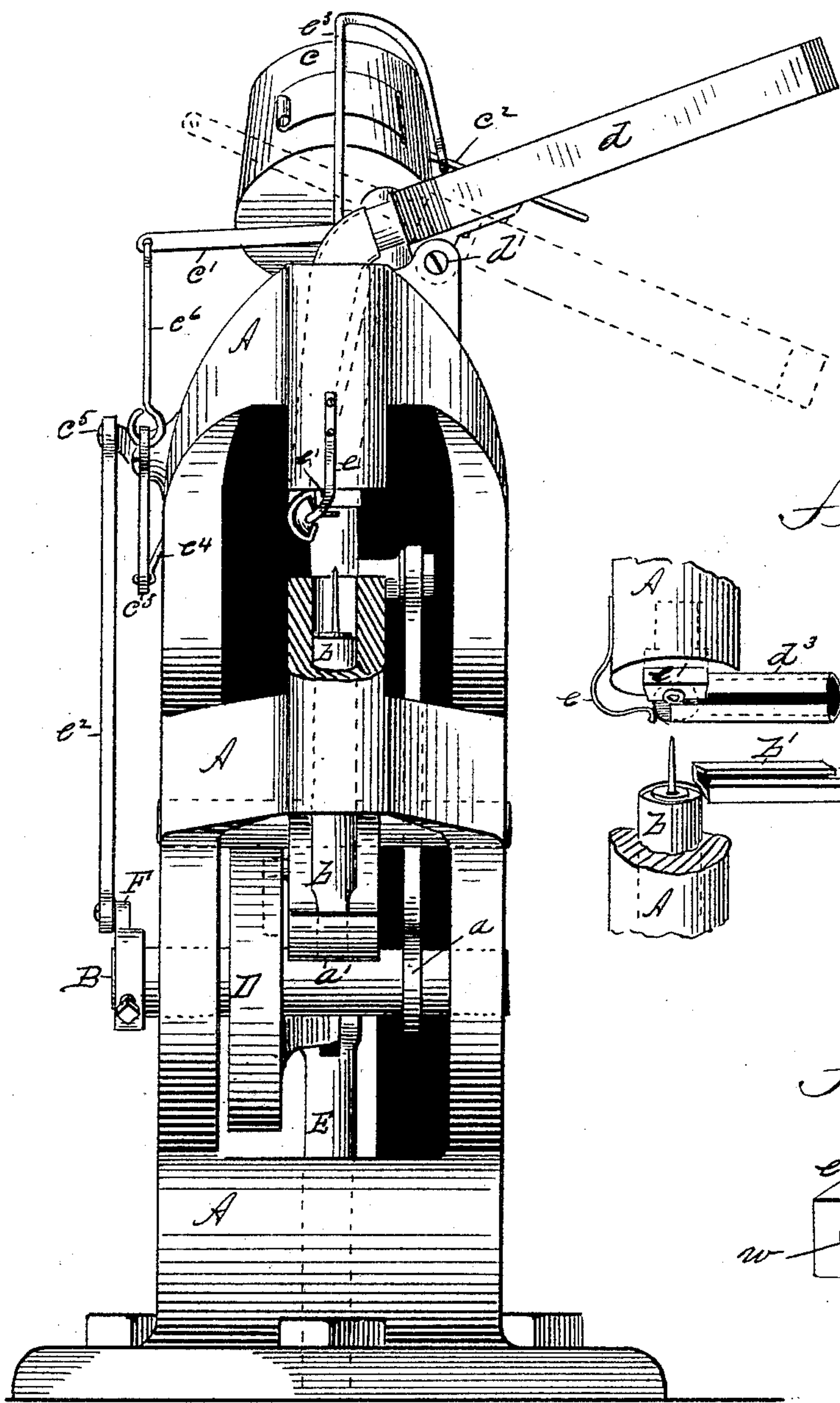
C. J. BROSNAN.

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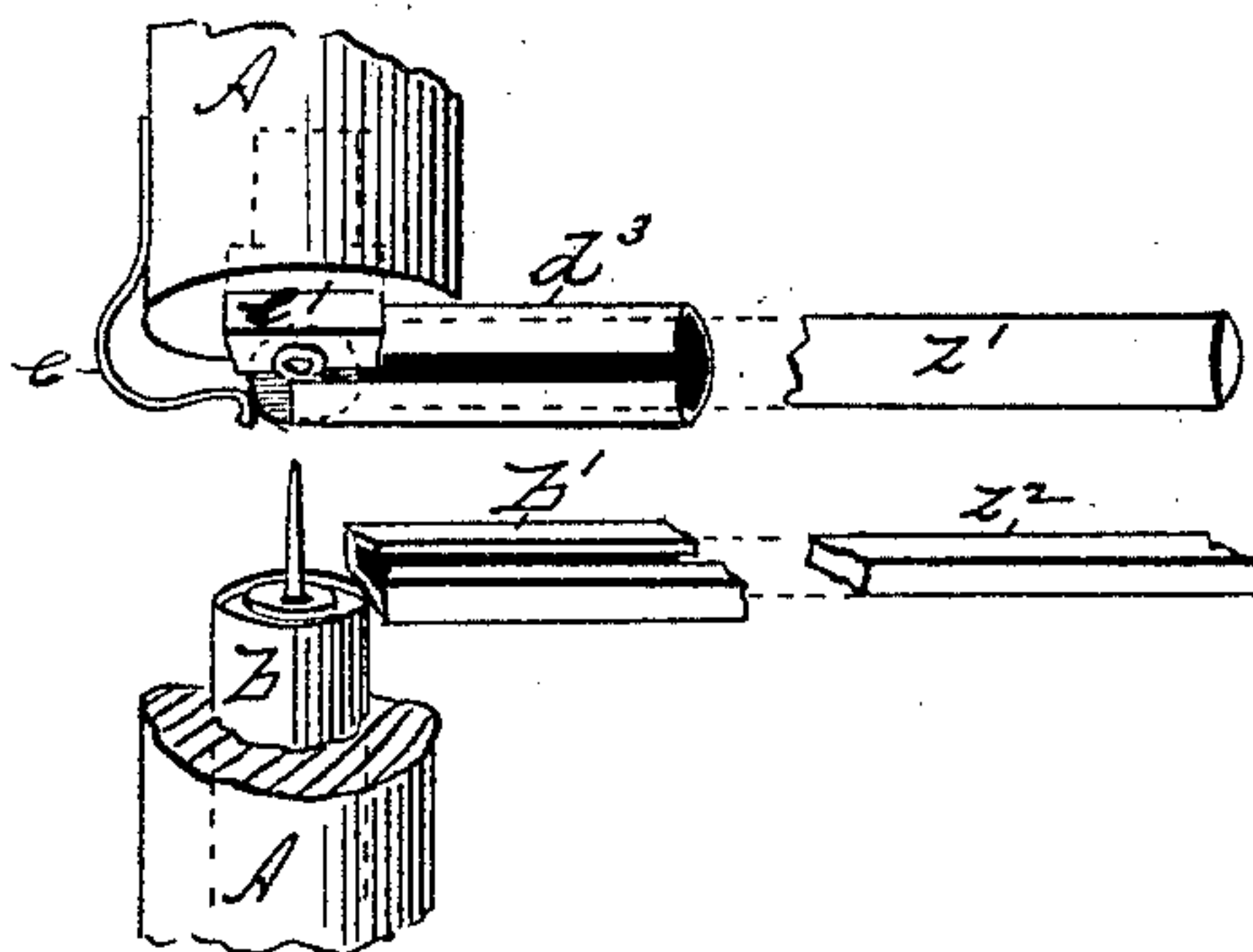
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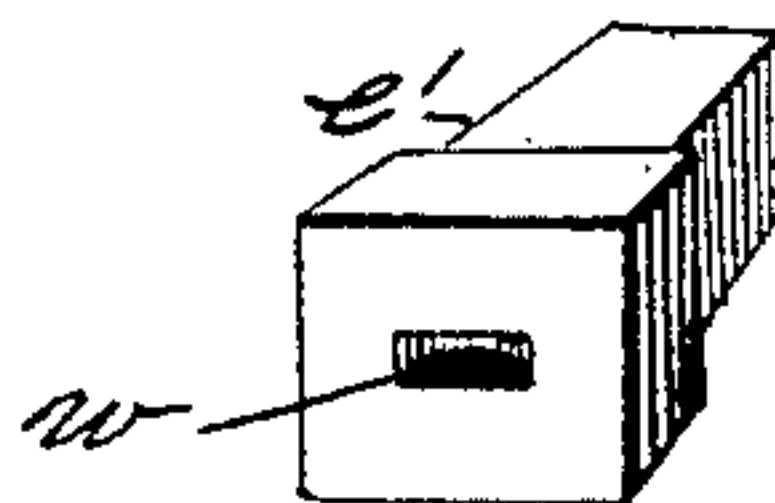
*fig 2*



*fig 3*



*fig 4*



WITNESSES:

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INVENTOR

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(No Model.)

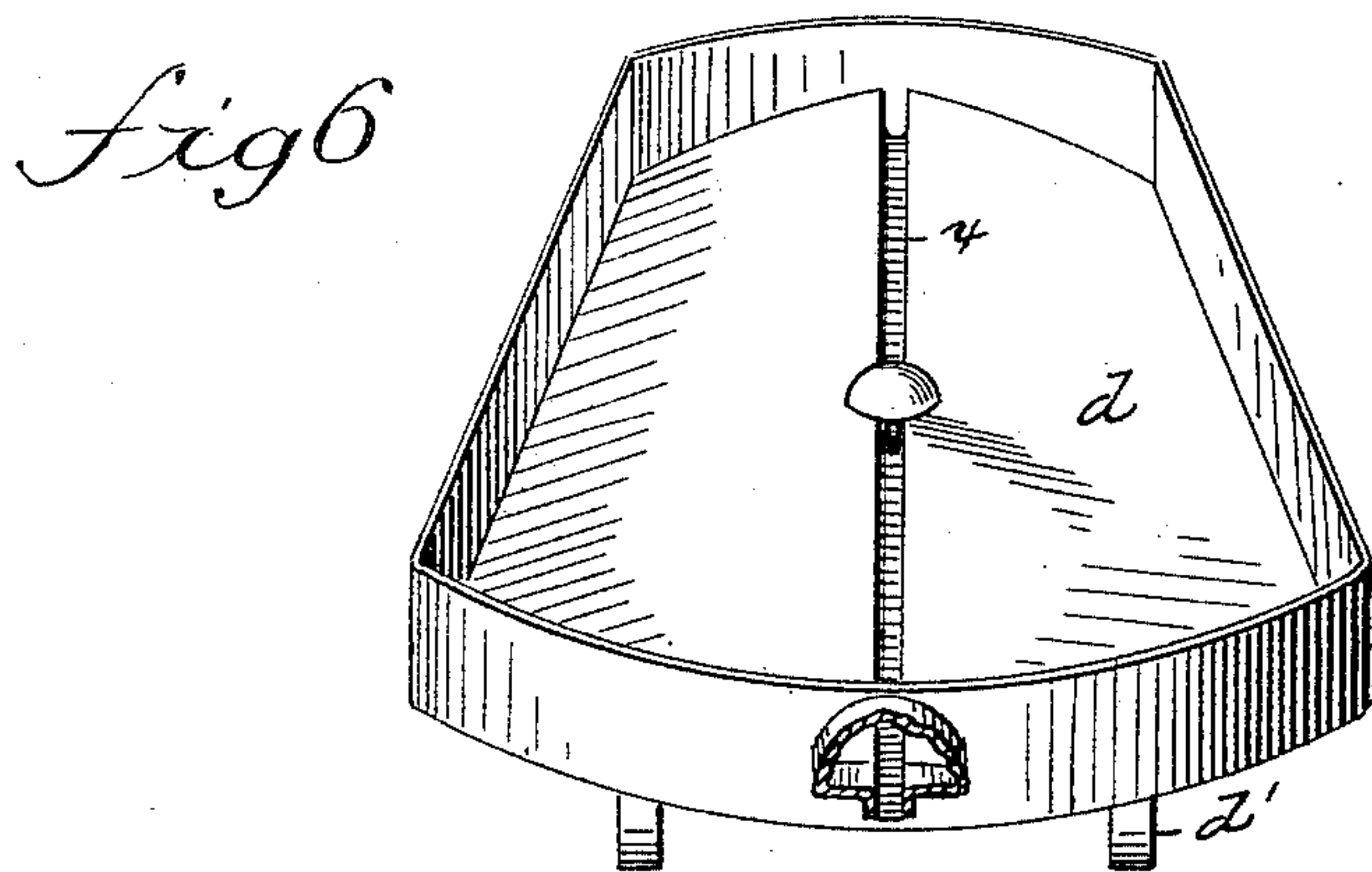
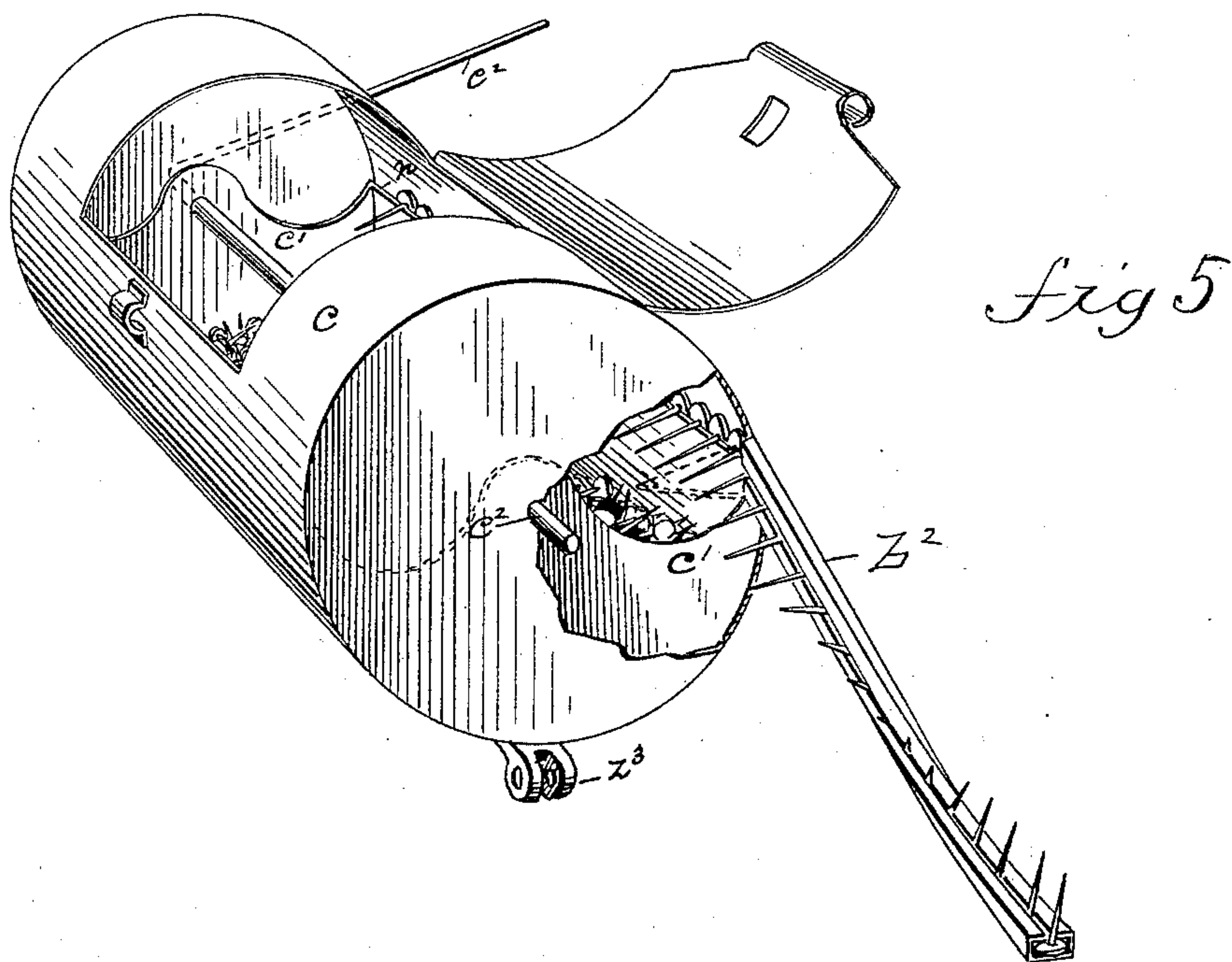
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MACHINE FOR ATTACHING BUTTONS.

No. 327,917.

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WITNESSES:

*J. D. Langford*  
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INVENTOR

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# UNITED STATES PATENT OFFICE.

CORNELIUS J. BROSAN, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF  
TWO-THIRDS TO W. E. WRIGHT AND H. A. GIBBS, OF SAME PLACE.

## MACHINE FOR ATTACHING BUTTONS.

SPECIFICATION forming part of Letters Patent No. 327,917, dated October 6, 1885.

Application filed March 9, 1885. Serial No. 158,143. (No model.)

*To all whom it may concern:*

Be it known that I, CORNELIUS J. BROSAN, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Machines for Attaching Buttons, of which the following is a specification.

This invention relates to improvements in machines for attaching buttons, the object being to provide an improved machine for operating automatically to convey shank-buttons and fastenings from separate reservoirs or receptacles to a point on the machine where they are operated upon to attach the button to leather, cloth, or other fabric by a metallic fastener.

In the drawings forming part of this specification, Figure 1 is a side elevation, and Fig. 2 an end elevation, the latter partly in section, of a button-attaching machine embodying my invention. Figs. 3 and 4 illustrate detail parts. Fig. 5 is a perspective view of the metallic fastening-reservoir with one end partly broken away, and showing a section of the chute with the fastening therein. Fig. 6 is a perspective view of the button reservoir.

In the drawings, A is the frame of the machine, solidly constructed of iron, in which is hung in suitable bearings the transverse rock-shaft B, said shaft having an arm, D, fixed thereon, extending rearwardly, to the end of which is attached a treadle-rod, E, which is connected with a suitable treadle under the machine, whereby shaft B is given a reciprocating rotary motion.

A fastening driving-plunger, *b*, is located in the front side of the machine, directly under an anvil, *e'*, fixed in frame A, said anvil having in its face a curved recess, *w*, as shown in Fig. 4. The plunger *b* is given a vertically-reciprocating motion by the lever *a'*, which is pivoted in the frame, whose front end is connected with the plunger, as shown in Fig. 1, and whose rear end is connected with the side of the circular hub of lever D by a pin, which engages in a curved cam-slot in the said side of the hub, as shown in Figs. 1 and 2, in dotted lines in the former and partly in full and partly in dotted lines in the latter.

The upper rear side of that part of the frame in which the plunger *b* moves has attached thereto a fastening-conduit, *b'*, (shown in detail in Fig. 3,) having a slot in its upper side and extending rearward, as shown, and that part of the frame A directly above the end of conduit *b'* and in rear of plunger *b* is cut away, to allow an unobstructed passage for the fastening from said conduit to a position directly over or upon the end of the plunger *b*, as shown in Figs. 1 and 2.

A button-conduit, *d'*, is attached by one end to the frame A to one side of the anvil *e'*, as shown in Fig. 3, and extends rearward over and in a line with the conduit *b'*. The conduit *d'* has a slot in its side, through which the shank of the button projects, and when the latter is moved along, as hereinafter described, the shank is brought to a position under the face of anvil *e'*, the socket *w* in the latter being directly opposite the opening through the shank. A stop, *e*, attached to frame A, arrests the button at the proper position.

Two plungers, *z'* *z''*, have a reciprocating motion, respectively, in the conduits *d'* and *b'*, their rear ends being united by a slotted yoke, *z*, with which the swinging arm *a* engages, as shown in Fig. 1, said arm being attached to shaft B.

The metallic button-fasteners herein shown are in the form of disk-headed tacks, and they are deposited in the cylindrically-shaped reservoir *c*, on which is arranged any convenient door for shutting its contents therein. A shaft, *c'*, passes through the reservoir, and on said shaft, within the latter, is hung a semi-cylindrical agitator, *c'*, as shown in Fig. 5, which is of such dimensions as to leave a space, between its edge *n* and the inner side of the reservoir *c*, wide enough to permit the edges of the fasteners to drop therein in the position shown. The said fasteners lie within the agitator, as shown, and the latter is given a reciprocating rotary motion, by means hereinafter described, whereby the fasteners are carried to its edge and made to hang thereon, as shown. The said shaft *c'* extends beyond the rear end of the reservoir *c*, and its end is there bent at right angles to its



main part and engaged with a loop or eye on the end of an arm,  $a^3$ , which is fixed on frame A.

The reservoir  $c$  has a hinge-connection with frame A at  $z^3$ , whereby it is permitted to be swung downward to the position shown by dotted lines in Fig. 1, and back again, to cause the fasteners which become lodged on the edge of the agitator, as aforesaid, to be thrown to one end of the reservoir and discharged therefrom.

An elbow-lever,  $c^5$ , is pivoted on the side of frame A, and is given an oscillating motion by its connection with arm F on shaft B, through rod  $e^2$ , and one arm of the said lever is connected with an arm,  $c^3$ , on reservoir  $c$  by the rod  $e^4$ , and hence when shaft B is rocked the reservoir is given the said oscillating motion, and as a result of the latter, when the outer end of the reservoir swings downward the agitator  $c'$  is given a rocking motion, because of the engagement of the end of shaft  $c^2$  with the end of the fixed arm  $e^3$ .

An opening is made in the end of reservoir  $c$ , opposite the end of the agitator  $c'$ , on which the fastenings hang, which opening is large enough to let the latter pass through it sidewise, when the reservoir is thrown upward, the fastenings then sliding by gravitation along the edge of the agitator, and through said opening into the end of the slotted chute  $b^2$ , which is supported on the frame, so that its upper end comes against the end of the reservoir in proper position to receive the fastenings, as shown in Figs. 1 and 5. The chute  $b^2$  is given a spiral turn, as shown, and reaches to the upper side of the conduit  $b'$ , with which it communicates, so that the fastenings sliding down the chute enter said conduit, when permitted to do so, as hereinafter set forth.

The button-reservoir  $d$  is hinged to frame A at  $d'$ , and has a bottom inclining from a central groove,  $x$ , therein downward toward the sides, as shown, said reservoir being given an oscillating motion by its connection with the lever  $c^5$  through the rod  $e^6$ , the latter being connected to the end of an arm,  $c^7$ , on the reservoir. Said motion of the reservoir is indicated by dotted lines in Fig. 2.

A spout on the end of the reservoir, opposite the end of the groove  $x$ , communicates with the open end of a button-chute,  $d^2$ , when the reservoir is in the position shown in Fig. 1, said chute communicating with the conduit  $d^3$ , so that as the reservoir  $d$  is agitated the buttons therein are rolled from end to end, and certain of them become lodged with their shanks in the groove  $x$ , as shown, and are thrown from thence into the chute  $d^2$ , and from the latter they pass into the conduit  $d^3$ , when permitted to do so. The plungers  $z'$   $z^2$  both draw back together, their ends being

moved far enough to the rear of the ends of the chutes  $d^2$  and  $b^2$  to let a button and a fastening drop before them into the conduits  $d^3$  and  $b'$ , when the plungers move forward, sliding under the ends of said chutes and preventing any more buttons or fastenings from escaping from them, and carry a button and a fastening to the positions shown in Figs. 1 and 3. The article upon which the button is to be fastened is then placed between the point of the fastening and the button, the treadle is operated to rock shaft B, thereby forcing plunger  $b$  upward, and the point of the fastener is passed through the eye of the button-shank and driven against the curved base of the recess  $w$  in the anvil  $e'$ , whereby the point of the fastening is bent in hook-form over and around the shank, fastening the button to the article.

What I claim as my invention is—

1. In a button-attaching machine, the reservoirs  $c$  and  $d$ , each having an oscillating motion in the direction of their length, the agitator  $c'$ , having a rocking motion within the reservoir  $c$ , the conduits  $d^3$  and  $b'$ , the chutes  $b^2$  and  $d^2$ , connecting the said reservoirs with said conduits, the plungers  $z'$   $z^2$ , united by the yoke  $z$ , the plunger  $b$ , the anvil  $e'$ , and means, substantially as described, for operating said reservoirs, agitator, and plungers, combined and operating as set forth.

2. In combination with the plunger  $b$ , anvil  $e'$ , having the recess  $w$  therein, the conduits  $d^3$   $b'$ , the stop  $e$ , the plungers  $z'$   $z^2$ , united by the yoke  $z$ , button-fastening reservoir, and button-reservoir, substantially as described, and chutes connecting the latter with said conduits, the agitator  $c'$ , having shaft  $c^2$ , and means, substantially as described, for operating said plungers, reservoirs, and agitator, all substantially as set forth.

3. The reservoir  $c$ , the agitator  $c'$ , the shaft  $c^2$ , the chute  $b^2$ , and the conduit  $b'$ , combined and operating substantially as set forth.

4. The reservoir  $d$ , having the center groove,  $x$ , and its bottom inclining from the latter downward to the sides of the reservoir, the chute  $d^2$ , and conduit  $d^3$ , and a plunger working in said conduit, combined and operating substantially as set forth.

5. In combination, the anvil  $e'$ , having the recess  $w$  therein, the plunger  $b$ , lever  $a'$ , the arm D, and the rock-shaft B, substantially as set forth.

6. The reservoirs  $c$  and  $d$ , hinged to frame A, the agitator  $c'$ , shaft  $c^2$ , arm  $c^3$ , elbow-lever  $c^5$ , rods  $c^6$ ,  $e^4$ , and  $e^2$ , arm F, and shaft B, combined and operating substantially as set forth.

CORNELIUS J. BROSNAN.

Witnesses:

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WM. H. CHAPIN.