

F. O. WOODLAND.
WIPER FOR LABELING MACHINES.
APPLICATION FILED JUNE 18, 1908.

919,991.

Patented Apr. 27, 1909.

3 SHEETS—SHEET 1.

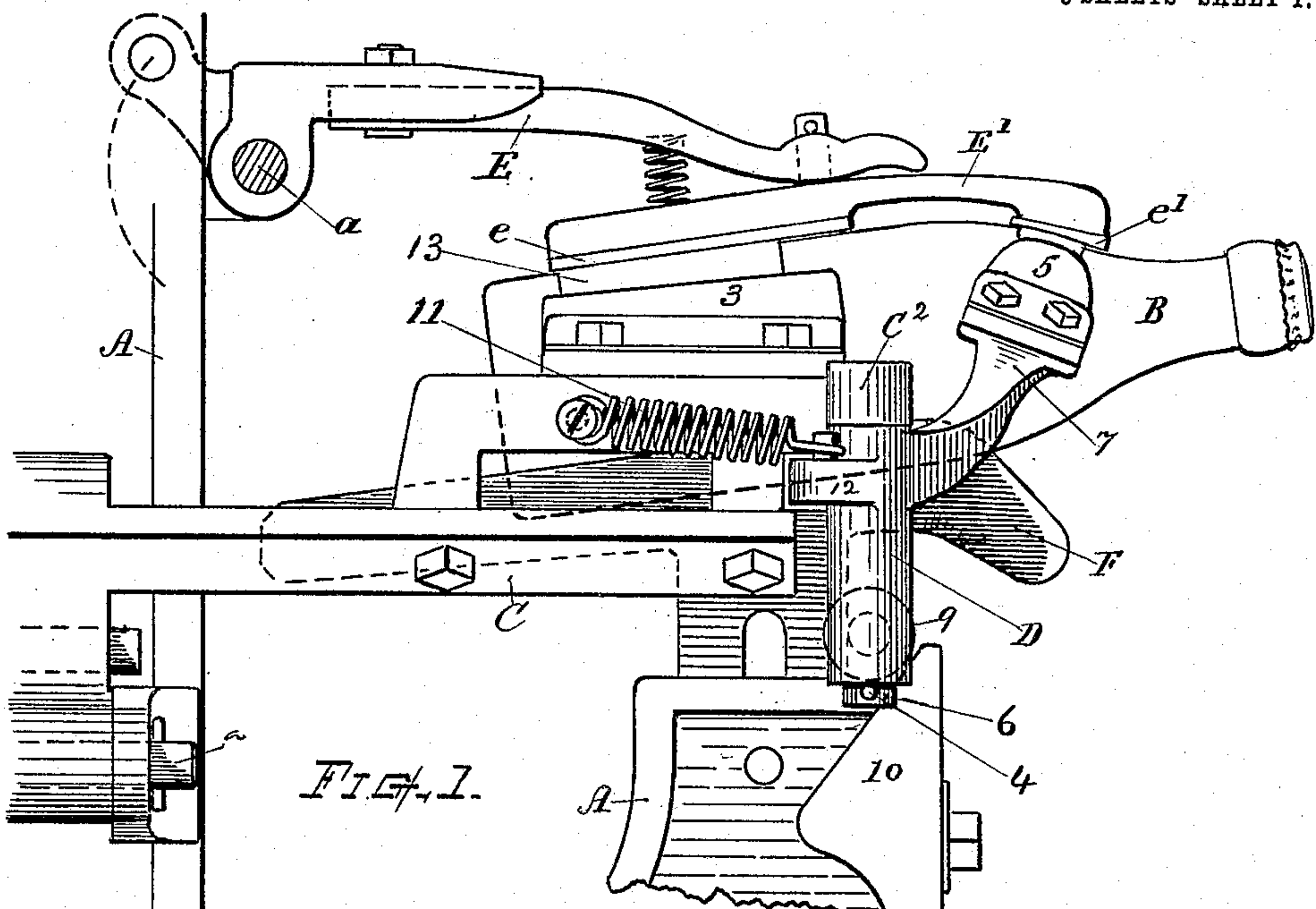


FIG. 1.

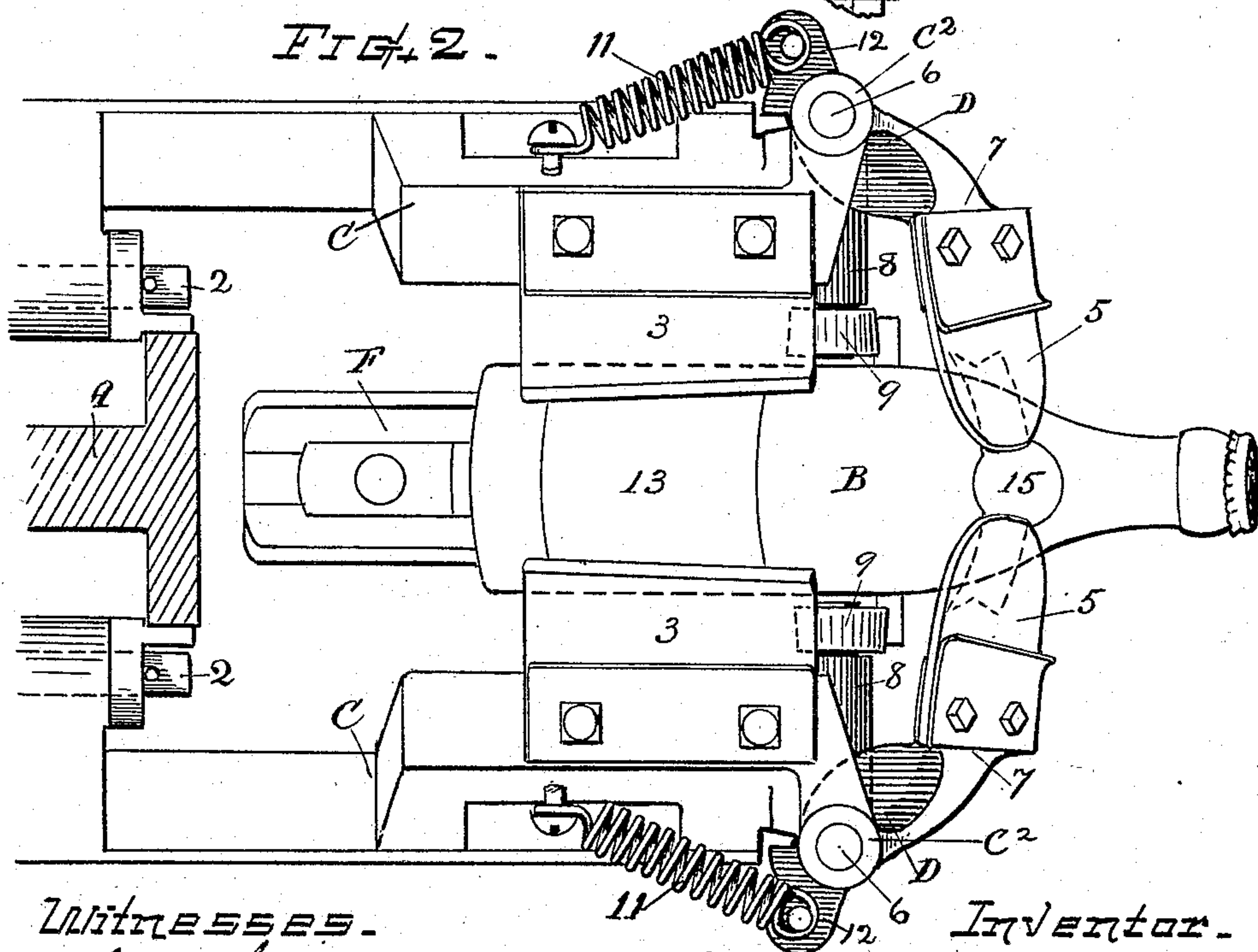


FIG. 2.

WITNESSES.

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W. A. Harrington,

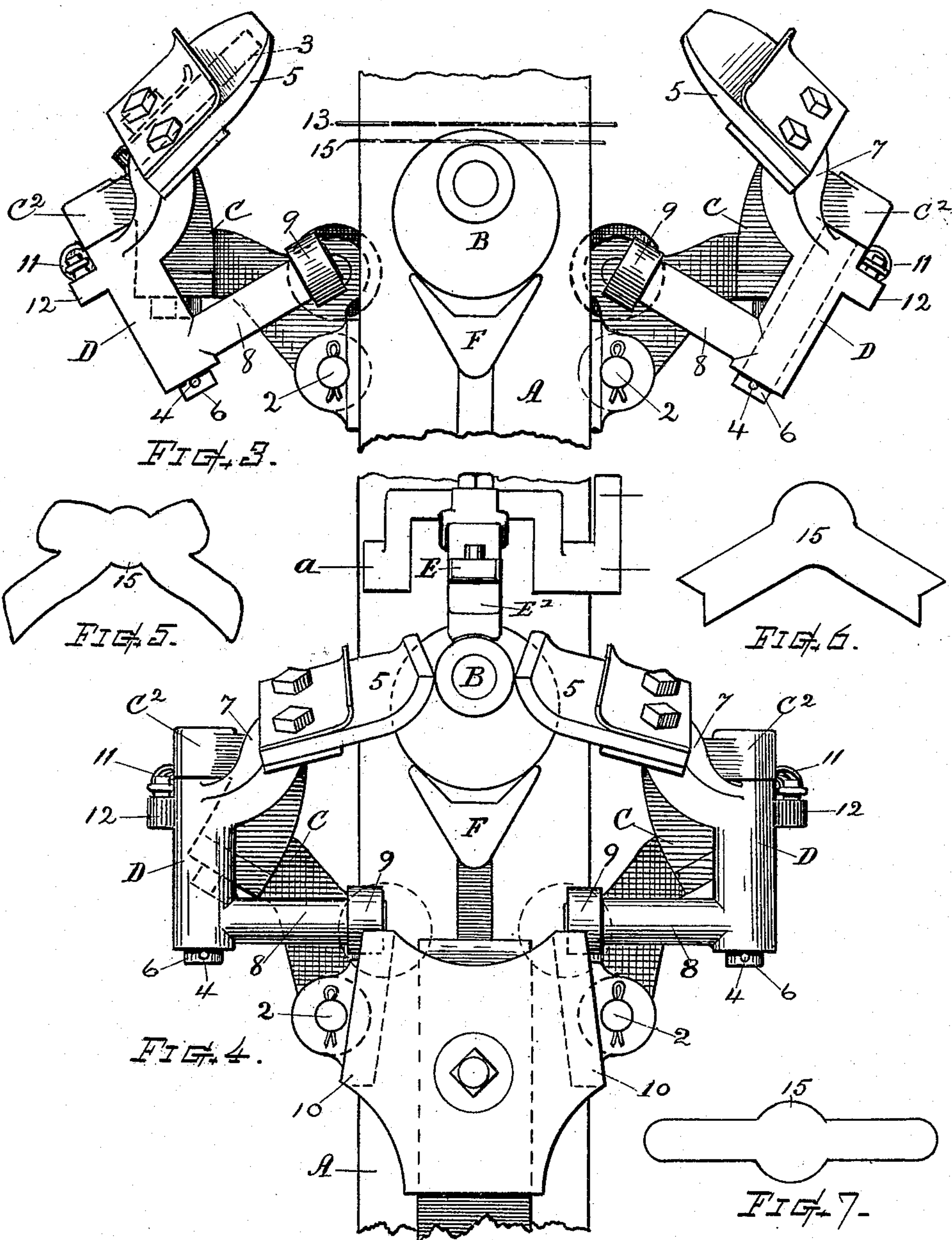
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3 SHEETS—SHEET 3.

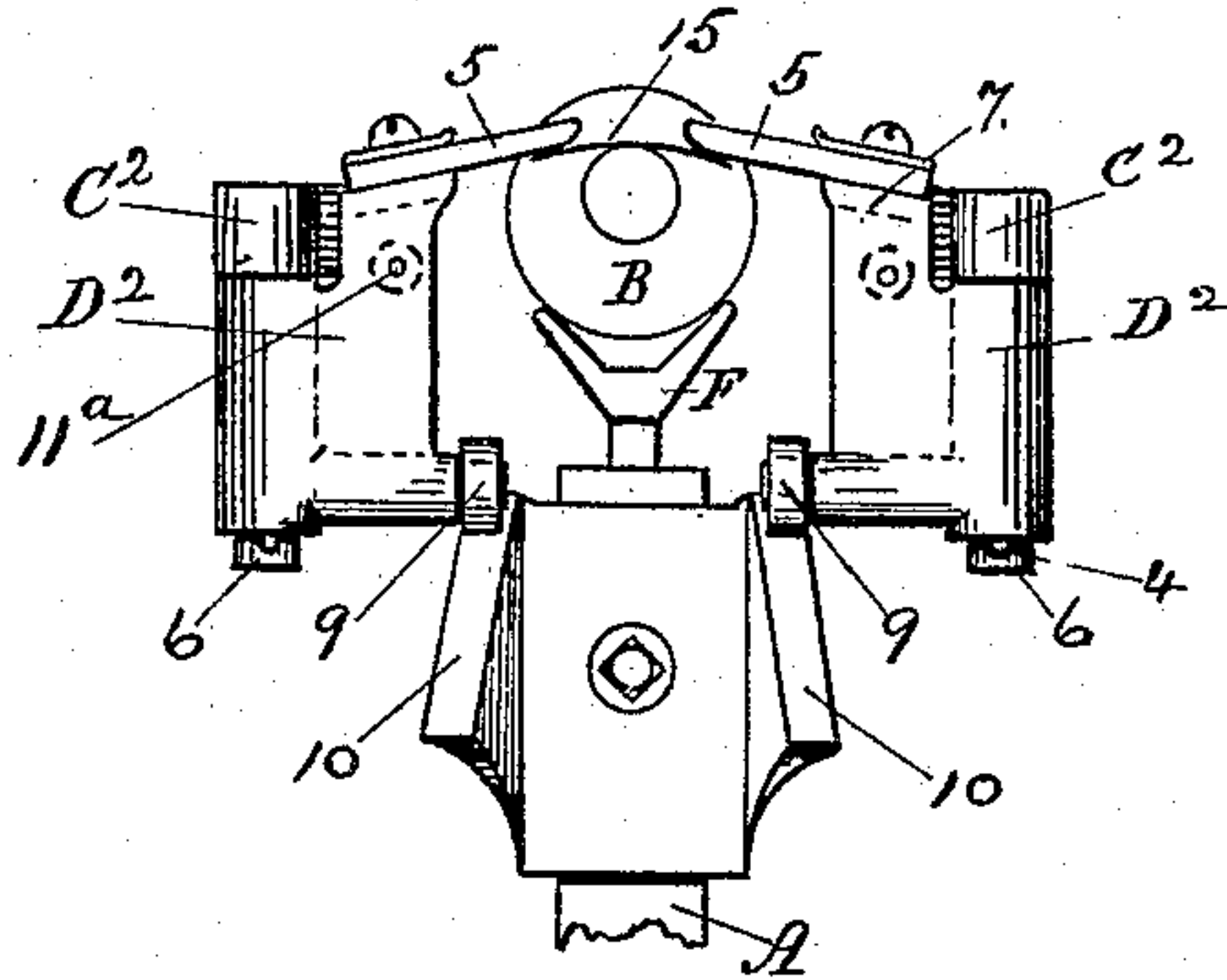


FIG. 8.

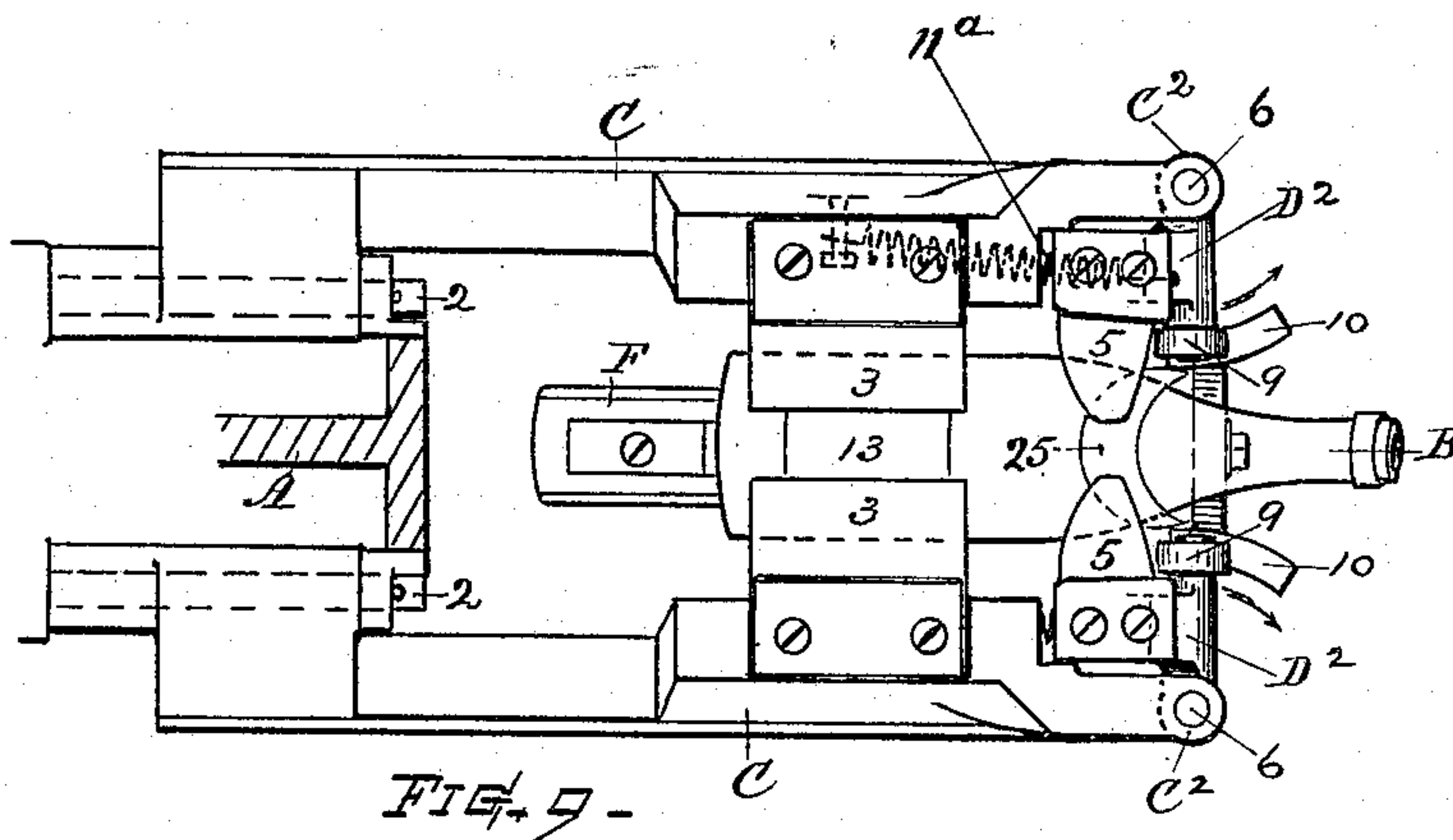


FIG. 9.

Witnesses.

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UNITED STATES PATENT OFFICE.

FRANK O. WOODLAND, OF WORCESTER, MASSACHUSETTS.

WIPER FOR LABELING-MACHINES.

No. 919,991.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed June 18, 1906. Serial No. 322,197.

To all whom it may concern:

Be it known that I, FRANK O. WOODLAND, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented new and useful Wipers for Labeling-Machines, of which the following is a specification, reference being made therein to the accompanying drawings.

The object of my present invention is to provide a wiper-mechanism for bottle-labeling machines adapted for wiping on labels of arched form, angle shapes, narrow bands, or other peculiar styles of contour; and for conveniently laying such labels upon the rounded shoulders of bottles, or similar convex surfaces.

Another object is to provide, in a bottle labeling machine, means for simultaneously operating wipers by a direct movement thereof crosswise of the bottle, and a supplementary movement thereof approximately in a direction longitudinally of the bottle.

Another object is to provide wipers that give an oblique or inclined wiping action, together with wipers that have a downward movement or movement transverse to the bottle or article labeled, as more fully herein-after explained.

I attain these objects by the mechanism illustrated in the drawings, wherein—

Figure 1 is a side view, and Fig. 2 a plan view of wiper mechanism embodying my invention. Fig. 3 represents a front view showing the wipers in elevated and open position. Fig. 4 represents a front view showing the wiper mechanism in closed position as when wiping on labels. Figs. 5, 6 and 7 illustrate some commonly used shapes of labels, for laying which my improved mechanism is adapted. Fig. 8 is a front end view, and Fig. 9 a plan view illustrating a modification in construction wherein the neck wipers are arranged for a forward instead of a rearward supplementary movement.

My present invention is shown in the drawings as adapted for labeling machines wherein a body-label and neck-label are simultaneously affixed to a bottle, or similar article, supported on a suitable rest; and in which a pair of reciprocally operated wiper-arms, or wiper-carrying means, are arranged to move past the bottle after the labels, preparatively coated with glue or adhesive substance, have been delivered at proper positions to be acted upon by the wipers that are

carried upon said arm. The means for applying the glue; for delivering the labels; and for imparting movement to the wiper-arms, are not herein shown, but it will be understood that such parts may be constructed and operated substantially as described in my prior application for Letters Patent Serial No. 197,485, or in other suitable and efficient manner.

Referring to the drawings, the parts marked A represent portions of the main supporting frame in the labeling machine.

C indicates the wiper-arms or carriers which are reciprocated up and down relatively to the rest F, upon which the bottle B or article to be labeled is placed, as indicated, for receiving the labels 13 and 15; which, in properly glued or paste-coated condition, are delivered at the position indicated by dotted lines on Fig. 3, and are there temporarily clamped centrally to the bottle surfaces, approximately at the positions indicated, by the grip-finger or lever E, (see Figs. 1 and 4) which finger is swung down upon the label by suitable previously employed actuating means; the grip-face e resting on the label 13 and the grip-face e^1 resting on the label 15. The wiper-arms C have a lateral or rocking movement on the centers 2, so as to spread or open the wipers, as shown in Fig. 3, when they are elevated or moving upward, or when in non-active position; and to close together, as shown in Fig. 4, while they move downward and are performing their wiping action.

In accordance with my invention the wiper devices for effecting the wiping on of neck-labels, are arranged to have an independent movement in addition to the regular wiping movement imparted to the body-label wipers 3 which are carried in fixed relation upon the wiper arms C. The neck wipers 5 are each mounted upon a supplemental arm or wiper-holder pivotally connected with the main wiper-arm C, or carrier that supports the body-wipers 3, by hinging joints, or in a manner that permits a swing or movement of the neck-wiper, while also having the upward and downward reciprocating action of the wiper-arms C and body-wipers. The wiper-arms or carriers, upon which the wipers 3 are secured, are each provided with a boss C^2 in which there is fixed a depending stud 6. The wiper-holder or swing-piece D comprises a hinging socket that movably fits upon said stud, a seat member 7 for the wiper 5, and an arm

or member 8 furnished with a roller 9 that acts in conjunction with a stationary cam or incline 10 secured to the frame A. Also, with an ear 12 from which a suitable spring 5 11 is strained to a suitable stay-pin on the wiper-arm. The tension of said spring tends to swing the wiper-holder back to its primal position in opposition to the action of the cam. The wiper-holder is confined upon its 10 pivot stud 6 by a cotter-pin or equivalent fastening device 4 at the lower end of the stud. This construction permits ready assembling and disassembling of the parts. The face contour of the cams 10 can be made 15 of such shape as will give to the wiper-devices any peculiar quality and time of movement that may in any particular instance be desired.

The grip-finger E is arranged as heretofore 20 employed to swing on the fulcrum *a*, and provided with a selfadjusting bearing shoe E¹ having frictional grip faces *e* and *e*¹ respectively adapted for clamping the body-label 13 and the neck-label 15 to the bottle surface 25 simultaneously. The grip-finger is arranged to swing up out of the way while the labels are being delivered. Its actuating devices are not herein shown as they form no part of my present invention.

30 In the operation: as the wiper-arms C move downward and bring the wipers 3 and 5 into contact with the bottle B, the rolls 9 move into contact with the inclined cam surfaces 10, thereby causing the wiper-holder 35 members 7 to swing rearward, while at the same time they are carried downward by the movement of the wiper-arms C. The resultant effect of this combined rearward and downward movement is to wipe the label 15 40 obliquely or diagonally over the tapering neck or shoulder of the bottle; and also, after the wipers pass the swell of the bottle, to carry the ends of the wipers 5 around the under curvature, thereby laying the label 45 firmly and smoothly upon the convex surface, and more or less underneath the bottle, at the shoulder thereof. The wipers 3 at the same time wipe on the body-label upon the cylindrical part of the bottle, crosswise.

50 By the rearwardly moving wipers, in combination with the grip-finger having the holding face *e*¹, angular, crescent-formed, or necktie-shaped labels of various styles can be successfully wiped on without liability of 55 tearing or wrinkling their long narrow ends that require to be passed under the swell of the neck.

The wiper pad 5 may be of any approved material and form, and can be disposed upon 60 the sidewise movable wiper-holder or supplemental arm-member 7 at a more or less degree of inclination, so as to conform in position to the required degree of oblique wiping action, in relation to the plane or line of 65 the bottle axis.

In some instances it may be desired to affix neck-labels 25 having their ends inclined toward the head of the bottle instead of toward the base. In such cases the mechanism is modified by locating the arms and 70 pivot axes at slightly different relation, and reversing the direction or the face-position of the cams 10, so that they will swing the rolls 9 forward instead of rearward. An example of such construction is illustrated in 75 Figs. 8 and 9. In such construction the form of the wiper-holder can be made substantially as shown at D², so that its hinging axis is well toward the front. The springs may be arranged at the inner side of the 80 wiper arms C, as indicated at 11^a. In this style of construction the wiper-holders for the neck wipers swing horizontally toward the neck end of the bottle while the wiper-carrying arms C move downward crosswise 85 of the bottle, thus the wipers 5 follow the trend of an upwardly horned crescent, or a V-shaped label, while wiping-on the same.

I claim and desire to secure by Letters Patent— 90

1. In a labeling machine, in combination, a bottle-supporter, reciprocating wiper-carrying means having fixed wiper-seats thereon, body-label wipers fixed on said seats, horizontally swinging supplementary wiper- 95 holders hingedly connected with said wiper-carrying means, neck-label wipers mounted upon said wiper-holders, means for pivotally moving said supplementary wiper-holders in transversely opposite direction in planes approximately perpendicular to the direction 100 of the reciprocative movement of the wiper-carrying means during the wiping-on action.

2. The combination, with a bottle-rest, reciprocating wiper-carrying means, and a 105 set of body-label wipers fixed upon and operated by movement of said carrying means in a course approximately directly past the circumference of the bottle; of a set of neck-label wipers that move in a direction diag- 110 onal or oblique in relation to the circumference of the bottle, means for reciprocatively operating said sets of wipers simultaneously, and means substantially as described for varying the distance from, and position of 115 said neck-label wipers in relation to the body-label wipers while passing the bottle.

3. In a label wiping mechanism, in combination with a reciprocating laterally rockable wiper-carrying means provided with 120 wiper-seats, and depending pivot studs fixed thereon; supplemental wiper-holders pivotally mounted on said studs; said wiper-holders provided with actuating-arms and rollers, stationary cam surfaces that engage with 125 said actuating-arms, springs for retracting said wiper-holders, and means for imparting movement to the wiper-carrying mechanism.

4. In a label wiping mechanism, in combination with means for wiping on a body- 130

label, and the carriers therefor; neck-label wipers pivoted to the body-wiper carriers by upright pivoting members, and having their wiping pads disposed oblique to the plane of their pivoting axis and the axis of the bottle, and means for effecting a swinging movement of said neck-label wipers, for the purpose set forth.

5. In a labeling machine, the combination, of a bottle-supporting-rest, a pair of body-label wipers, laterally rockable parallel wiper arms therefor, said wiper-arms supported upon a vertically moving carrier by axes approximately parallel with the axis of the bottle-rest for operating with a downward movement, a pair of neck-label wipers hingedly connected with said wiper-arms by pivot axes approximately upright and at right angle to the wiper-arm axes, and operating with a combined downward and transverse movement, means for effecting movements of said wiper-arms, and means for controlling said neck-label wipers.

6. In a labeling machine, the combination of a tiltable label-gripping device having faces adapted for separately gripping a body-label and a neck-label, a bottle-supporting rest, a set of neck-label wipers, means for moving said wipers past the bottle, and means for simultaneously controlling the lateral relation of said wipers to effect a downwardly oblique wiping action from the

position at which the label is gripped toward the ends of said label.

7. In a labeling machine, in combination with a bottle rest and wiper-carrying means; a set of body-label wipers that operate by movement in a direction crosswise of the bottle; and a set of neck-label wipers moving with said body-label wipers and also having a movement approximately lengthwise of the bottle.

8. A label-wiping mechanism comprising a wiper-carrying arm or supporter having a reciprocating and a laterally rocking movement, a swinging wiper-holder provided with a wiper-seat and a cam-engaging member, and a wiper-pad secured on said seat, said wiper-holder pivotally mounted on the wiper-carrying arm to swing in a plane approximately perpendicular to the direction of the reciprocative movement of said wiper-carrying arm, an inclined cam surface with which said engaging member is brought into contact by the movement of the wiper-carrying arm, and means for returning said swinging wiper-holder to primal position.

Witness my hand this 15th day of June, 1906.

FRANK O. WOODLAND.

Witnesses:

CHAS. H. BURLEIGH,
ELLA P. BLENUS.