

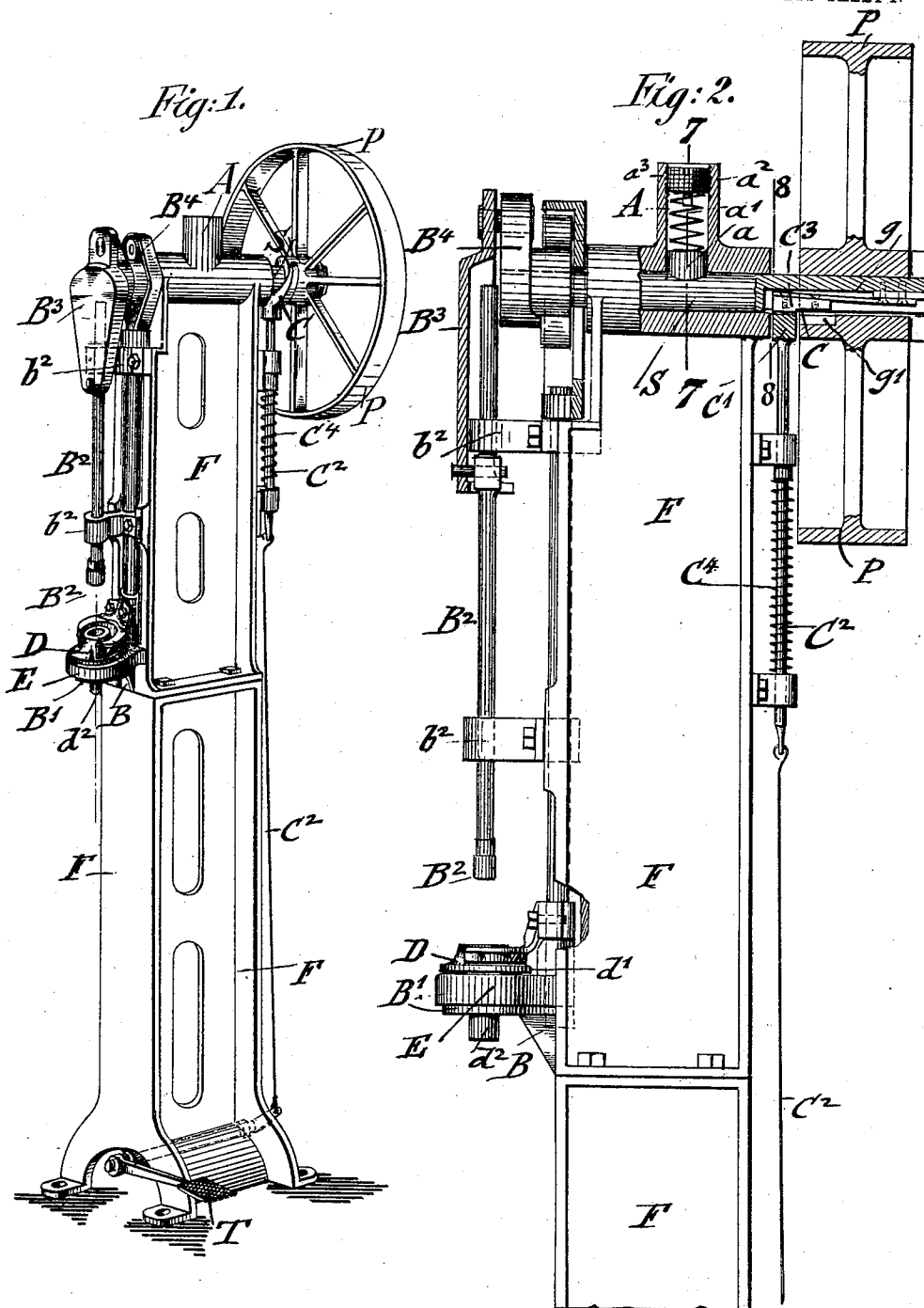
G. NORTON, DEC'D.
J. E. ALDRICH, ADMINISTRATRIX.
BOTTLE CORKING MACHINE.

980,887.

APPLICATION FILED AUG. 16, 1907. RENEWED OCT. 12, 1910.

Patented Jan. 3, 1911.

2 SHEETS-SHEET 1.



Witnesses:
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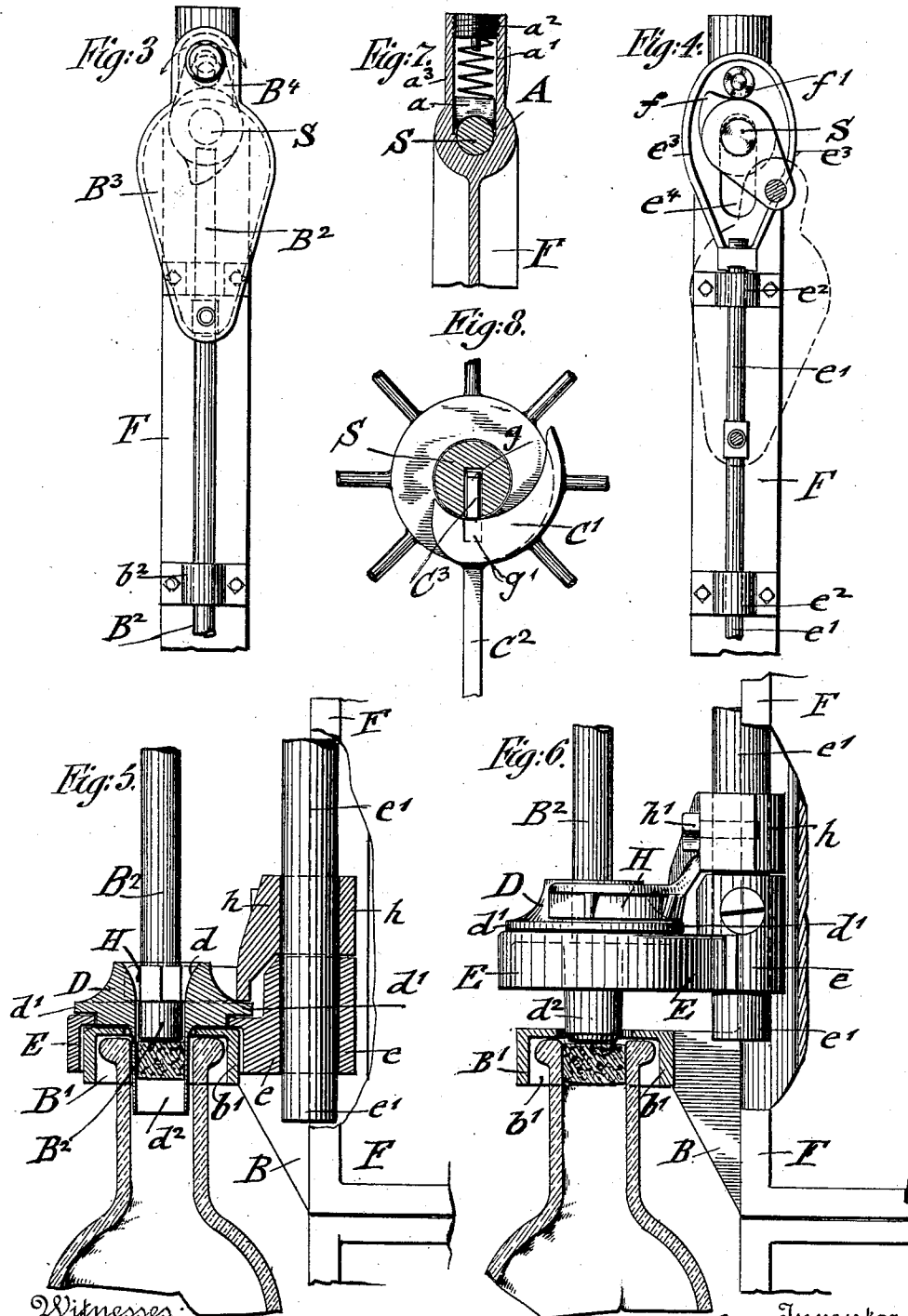
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UNITED STATES PATENT OFFICE.

GERRIT NORTON, OF NEW YORK, N. Y.; JANE E. ALDRICH, OF UPPER MONTCLAIR, NEW JERSEY, ADMINISTRATRIX OF SAID GERRIT NORTON, DECEASED.

BOTTLE-CORKING MACHINE.

980,887.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed August 16, 1907, Serial No. 388,768. Renewed October 12, 1910. Serial No. 586,791.

To all whom it may concern:

Be it known that I, GERRIT NORTON, a citizen of the United States, residing in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Bottle-Corking Machines, of which the following is a specification.

This invention relates to certain improvements in the corking-machine for which Letters Patent were granted to me heretofore No. 527,021, dated October 2, 1894.

The object of the invention is to so improve the construction of the machine as to make it particularly adapted to be driven by power instead of by hand; and the invention also aims to improve several details of the construction, as will appear from the following description and claims.

In the accompanying drawings, Figure 1 represents a perspective view of my improved bottle-corking machine, Fig. 2 is a side-elevation of the same, drawn on a larger scale and partly in section through the upper portion of the machine so as to show the clutch and brake-mechanism for the driving-shaft, Figs. 3 and 4 are respectively detail front-views of the mechanism for reciprocating the plunger, and the cork-compressing tube, Figs. 5 and 6 are respectively a vertical transverse section and a side elevation of the cork-compressing and transferring mechanism, showing the same respectively in the act of compressing the cork and introducing it into the mouth of the bottle and after the cork-compressing tube is withdrawn, Fig. 7 is a detail transverse section on line 7, 7, Fig. 2, showing the brake device for retarding the motion of the driving-shaft, and Fig. 8 is a vertical transverse section on line 8, 8, Fig. 2, showing the construction of the clutch for starting and stopping the driving-shaft.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawings.

Referring to the drawings, F represents the upright cast-metal frame of my improved corking-machine which frame is provided at its upper part with bearings for a driving-shaft S to which motion is im-

parted by a belt and pulley transmission from a suitable power-shaft. The pulley P runs loose on the shaft S until a clutch C, which is operated by a treadle T and intermediate connections, shown in Figs. 1 and 2, is called into action by the foot of the attendant. The lowering of the treadle and the intermediate spring-actuating mechanism withdraws a segmental cam C¹ at the upper end of the clutch-operating rod C² and permits the partial dropping of the movable clutch-member C³ which is applied to a flat spring and located in a longitudinal groove *g* at the interior of the shaft S, as shown in Fig. 2, said clutch-member dropping into a recess *g*¹ in the hub of the pulley so as to lock the same to the shaft and impart thereby rotary motion to the latter for actuating thereby the operative parts of the machine for the corking operation. Every depression of the treadle produces the actuation of the clutch-mechanism and by a full rotation of the shaft S a complete corking operation. As soon as the treadle is released, the cushioning-spring C⁴ on the clutch-rod C² raises the cam C¹ and lifts the movable clutch-member out of the recess *g*¹ in the hub of the pulley P so as to prevent motion to be transmitted to the driving-shaft.

On the journal-bearings of the driving-shaft S is arranged a spring-actuated brake-device A by which the motion of the driving-shaft is retarded as soon as the clutch is withdrawn, so that the operating crank B⁴ on the driving-shaft is held in normal raised position ready for the next corking operation. The brake-device A consists of a brake-shoe *a*, a cushioning spring *a*¹, and a stationary block *a*² which is screwed into the upper part of the tubular housing of the brake as shown in Figs. 2 and 7.

To the middle-front part of the frame F is applied a stationary bracket B which carries a circular bottle-neck holding portion B¹ that has a central opening through which the cork-compressing tube extends in the act of delivering the compressed cork into the neck of the bottle. The bottle-neck holding portion B¹ is provided with a circumferential flange *b*¹ at its under-side, the distance

between the flange and the cork-feeding tube of the cork-compressing tube being of sufficient width to provide for different sizes of bottles as used for olives, mustard and similar articles.

Vertically in line with the opening in the bottle-neck holding portion B^1 is arranged a reciprocating plunger B^2 . The plunger B^2 is guided in stationary keepers b^2 attached to the front of the frame A and connected at its upper end with the lower end of a stirrup B^3 which is pivoted at its upper part to a wrist-pin on a crank B^4 keyed to the front-end of the driving-shaft S, as shown in Figs. 1, 2 and 3. The size of the crank B^4 corresponds with the stroke required by the plunger.

Above the stationary bottle-neck holding portion B^1 is arranged a cork-compressing tube D, which is provided at its upper part with a tapering mouth d^1 , at its middle part with a circumferential rim d^2 , and at its lower part with a cork-compressing and delivering-tube d^3 . The cork-compressing tube D is clearly shown in Fig. 5. The plunger B^2 passes freely through the cork-compressing tube in downward and upward direction. The cork-compressing tube D rests by its circumferential rim d^2 on a supporting-ring E, which fits over the bottle holding portion and which forms a support for the cork-compressing tube. The supporting-ring E is connected by a sleeve e with the lower end of an actuating-rod e^1 that is guided in suitable keepers e^2 at the front-part of the frame F, and connected at its upper end with a stirrup e^3 on the driving-shaft S adjacent to the crank operating the reciprocating plunger B^2 . The rod e^1 is actuated by the rotation of the shaft S which passes through a slot e^4 in the rear-wall of the stirrup e^3 , which moves up and down on the shaft S by the action of a cam f on the shaft, which cam engages an antifriction-roller f^1 on the stirrup e^3 , as shown in Fig. 4. This produces the intermittent lifting of the rod e^1 and the ring E. Immediately above the supporting-ring E is supported on the connecting-rod e^1 a semi-circular holder H, which is also attached by means of a split clamp h and clamping screws h^1 to the connecting-rod e^1 , as shown in Figs. 5 and 6, said holder bearing on the circumferential rim of the cork-compressing tube D and holding the same on the supporting-ring E so as to permit the withdrawing of the plunger after the cork has been compressed and prevent the cork-compressing tube D from following the upward motion of the plunger.

The operation of my improved corking-machine is nearly the same as that in the hand-operated corking-machine described in my prior patent referred to, only with the difference, that the operations are accomplished by power instead of by manual oper-

ations. For corking the bottle, the mouth of the same is placed below the ring-shaped portion of the stationary bracket, after which the tubular lower part of the cork-compressing tube is inserted into the mouth of the bottle, a cork placed into the upper tapering part and driven by the descending plunger in downward direction into the lower tubular portion so as to be compressed in the same, as shown in Fig. 5. By the cam-mechanism on the driving-shaft, the compressing-tube and its holder are raised above the bottle-mouth, while the plunger is still retained in its lowermost position. The cork is thereby delivered from the cork-compressing tube into the mouth of the bottle, as shown in Fig. 6. During the upward motion of the plunger, the semi-circular holder prevents the lifting of the cork-compressing tube from the supporting-ring. The plunger is then returned into its raised position as the crank arrives at its uppermost position and is held in that position by the simultaneous release of the clutch mechanism from the hub of the driving-pulley and the coaction of the friction-brake. The bottle is then removed and the next bottle placed into the bottle-holding portion, after which the next cork is inserted into the cork-compressing tube and the treadle again pressed by the foot of the attendant. This produces the descending of the plunger for compressing the cork in the lower tubular part of the cork-compressing tube, then the raising of the cork-compressing tube by the lifting action of its supporting-ring and the delivery of the cork into the mouth of the bottle, and so on for every depression of the treadle and full rotation of the driving-shaft. During the operation of corking, the bottle is held by hand against the under-side of the bottle-holding bracket, the bottle being centered in position therein by the circumferential flange and the delivery-tube at the lower end of the cork-compressing tube ready for the descent of the plunger, as shown in Fig. 5.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a bottle-corking machine, the combination, with a cork-compressing tube, and means on which the same is supported at the base for vertical movement, of a semi-circular holder embracing said tube at the upper portion and between which and said first-named means said tube is positioned.

2. In a bottle-corking machine, the combination of a reciprocating rod, a supporting ring carried thereby, a cork-compressing tube resting on said ring, and a holder applied to the rod and preventing the movement of the tube away from said supporting ring.

3. In a bottle-corking machine, the com-

5 bination, with a reciprocating plunger, of a reciprocating rod alongside the same, a supporting ring having a sleeve by which it is clamped to said rod, a cork-compressing tube resting on said ring, and a holder applied to said rod and embracing the cork-compressing tube at the upper part of the latter.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

GERRIT NORTON.

Witnesses:

PAUL GOEPEL,

HENRY J. SUHRBIER.