

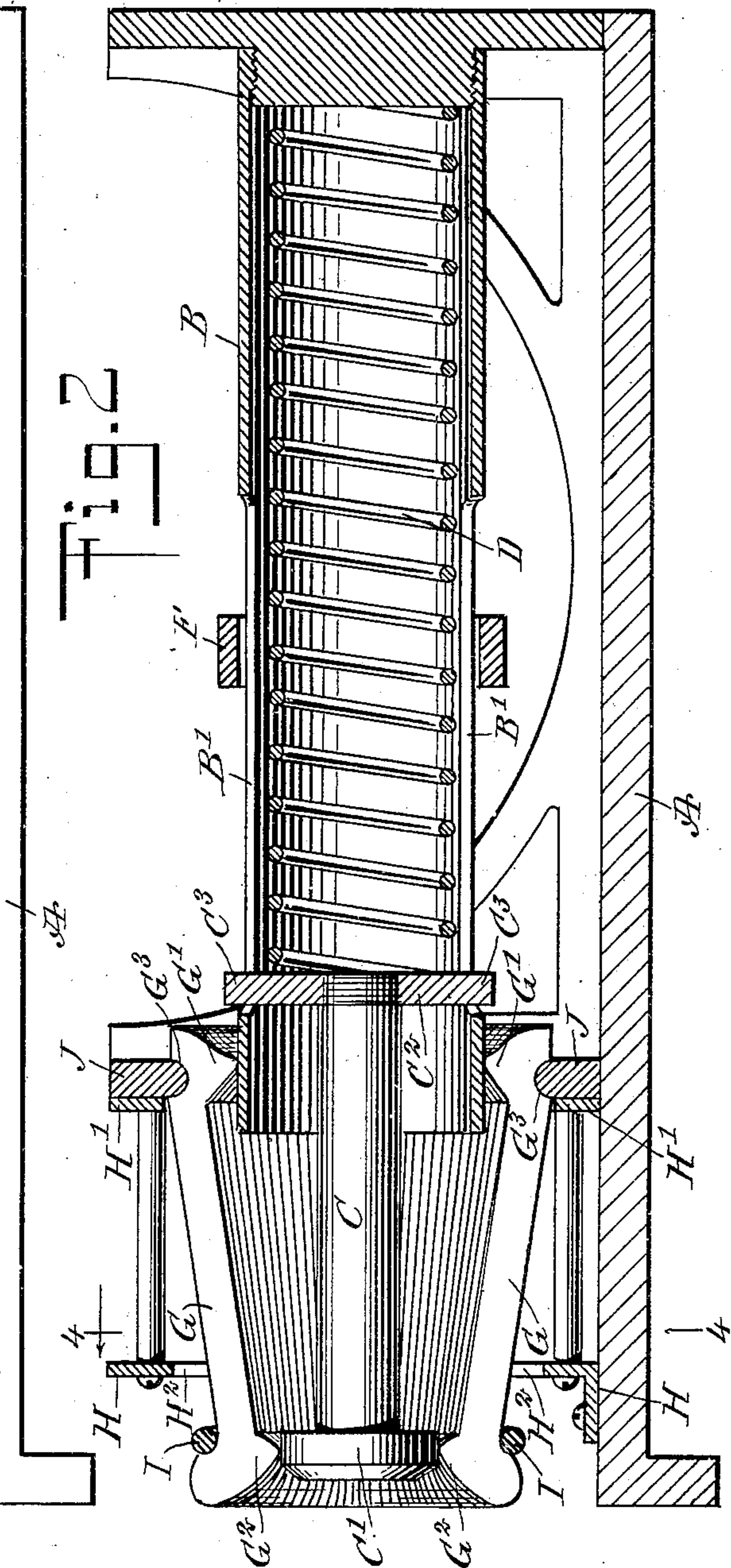
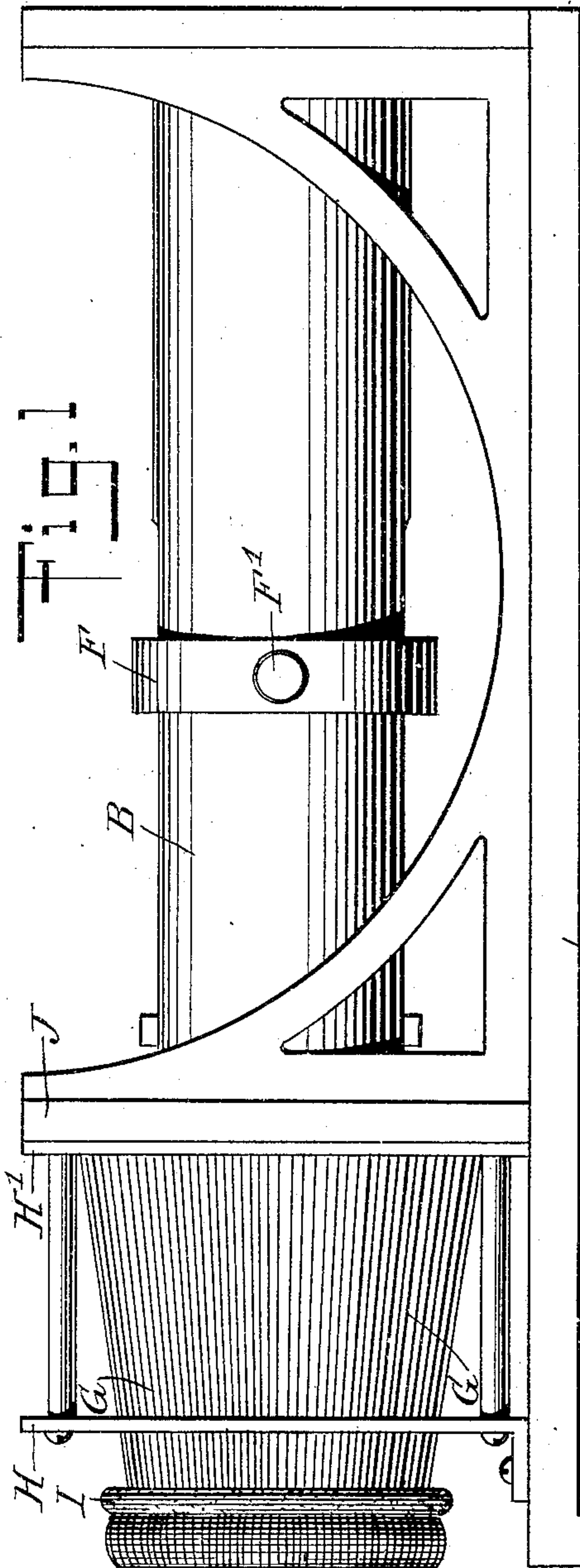
C. A. YOUNGMAN.
CAPPING MACHINE.

APPLICATION FILED MAR. 13, 1908.

931,244.

Patented Aug. 17, 1909.

2 SHEETS—SHEET 1.



WITNESSES

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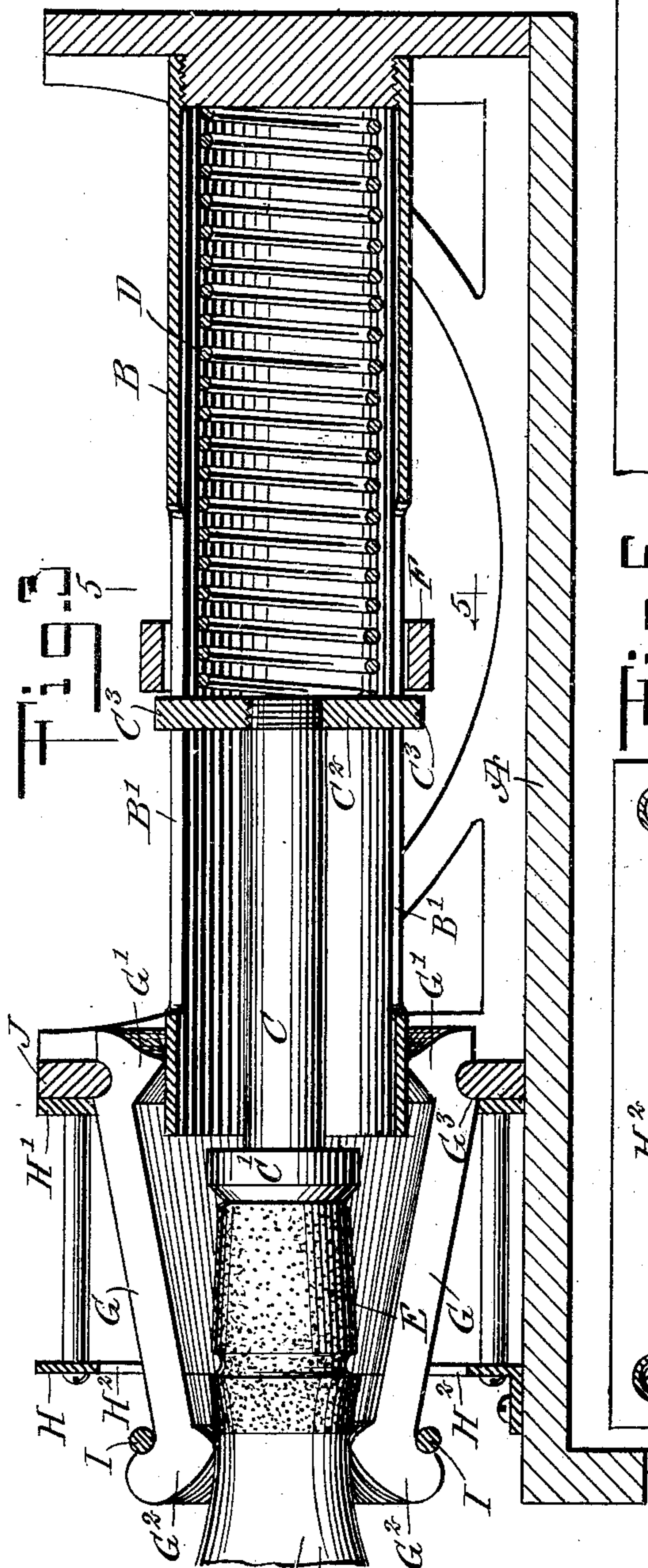


Fig. 3

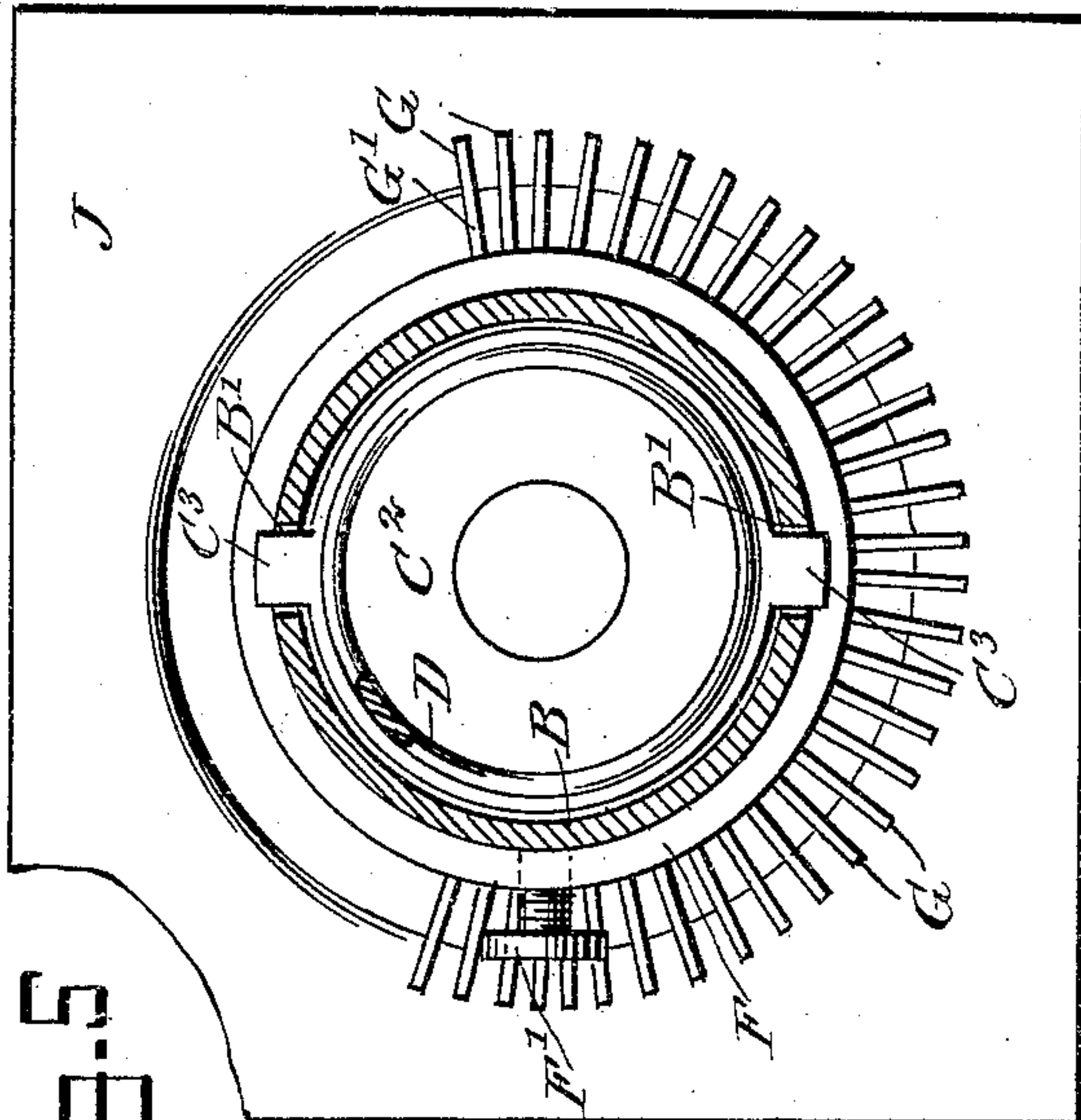


Fig. 4

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UNITED STATES PATENT OFFICE.

CHARLES ALBERT YOUNGMAN, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF TO
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CAPPING-MACHINE.

No. 931,244.

Specification of Letters Patent.

Patented Aug. 17, 1909.

Application filed March 13, 1908. Serial No. 420,779.

To all whom it may concern:

Be it known that I, CHARLES ALBERT YOUNGMAN, a citizen of the United States, and a resident of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and Improved Capping-Machine, of which the following is a full, clear, and exact description.

The invention relates to machines for applying metal caps or foil capsules to the heads and necks of bottles, jars and other receptacles.

The object of the invention is to provide a new and improved capping machine, arranged to press the cap or capsule snugly onto the head and neck of the receptacle, without danger of marring the cap or capsule, or scratching or removing the paint, wax or other material with which the cap or capsule is decorated.

The invention consists of novel features and parts and combinations of the same, which will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement; Fig. 2 is a longitudinal central section of the same; Fig. 3 is a like view of the same showing the parts in a different position; Fig. 4 is a transverse section of the same, on the line 4—4 of Fig. 2, and Fig. 5 is a similar view of the same on the line 5—5 of Fig. 3, a number of fingers being omitted.

On a suitably constructed frame A is mounted a tube B, in which is held to slide centrally a plunger C, having at its forward end a head C', and having its rear end C² provided with lugs C³, engaging longitudinal slots B' formed in the tube B, so as to guide the plunger C in its longitudinal movement. The rear end C² is pressed on by a spring D coiled in the tube B, to normally hold the plunger C in a forward position, as shown in Fig. 2, the plunger being free to yield in a rearward direction when pressed on by the cap E to be fitted onto the head and neck of a bottle E' or other receptacle (see Fig. 3). The rearward sliding motion of the plunger C is limited by a stop collar F adjustably secured to the tube B by a set screw F'.

The forward end of the tube B is engaged by inwardly projecting lips G' formed on the rear ends of longitudinally-extending fingers G, provided at their forward ends with inwardly-extending lips G², adapted to engage the sides of the cap or capsule E, to press the same in firm contact with the head and neck of the bottle or other receptacle E'. The fingers G are grouped around the plunger C and are mounted to swing radially, the fingers being guided in radial slots H² formed in guideways H, H', supported on the main frame A. The forward ends of the fingers G are encircled by a band I of rubber or other elastic material, so as to press the fingers G inwardly and to allow the fingers to swing separately or collectively when the device is used, as hereinafter more fully explained. The lips G² are curved outwardly in such a manner as to form a mouth for the ready entrance of the cap E held on the neck or head of the bottle. The inner portions of the lips G² are curved to permit the head C' to readily engage the lips and swing the fingers G outward into an open position, as indicated in Fig. 2, the lips then resting on the peripheral face of the head C'. When the plunger C is in this position, a cap or capsule blank placed on the head of the bottle or other receptacle E' can be readily passed into the mouth formed by the fingers G, to engage the outer face of the head C', and on an inward pushing of the receptacle E', the lips G² of the fingers G engage the cap or capsule and thus press the same snugly onto the head and neck of the receptacle E'.

The rear ends of the fingers G are provided with external grooves G³ engaged by a collar J attached to the frame A, the collar serving to hold the fingers against longitudinal displacement. The collar J also serves with the lips G' as means for pivotally mounting the fingers G.

The operation is as follows: When the several parts are in the position illustrated in Figs. 1 and 2, the fingers G are held open by the head C' of the plunger C now in a forward position. The operator places the cap or capsule blank on the end of the bottle or other receptacle E' and pushes the same against the head C', whereby the cap or capsule blank, is partly folded back by the mouth of the fingers G, and on further rearward pressure the plunger C yields rearwardly and the lips G² now firmly press the

sides of the cap or capsule onto the head and neck of the receptacle E', so that the cap snugly follows the configuration of the head and neck of the receptacle E'. When the
 5 lips G² pass the end of the cap or capsule, the lugs C³ abut against the collar F, thus arresting the inward movement of the plunger C and that of the receptacle E'. The operator now withdraws the receptacle with
 10 the cap or capsule E pressed forward, and the above described operation is then repeated with another receptacle and cap as described.

From the foregoing it will be seen that the
 15 fingers G press the side of the cap or capsule in a longitudinal direction, as the receptacle E' is moved inwardly, thus insuring a snug fit of the cap or capsule E on the head and neck of the receptacle E', without danger of
 20 marring the cap or capsule E, or scratching or removing the paint, wax or other material with which the cap or capsule is decorated.

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

1. A capping machine, comprising a tube, a spring-pressed plunger mounted to slide centrally in the said tube, a series of fingers arranged lengthwise of the tube and grouped
 30 around the axis thereof to swing radially, the fingers having their ends provided with inwardly projecting lips, the rear end lips resting on the forward end of the said tube, a collar encircling the rear ends of the
 35 fingers and holding the lips at the said end in engagement with the tube, guides for the fingers, whereby they are held spaced apart and caused to swing radially, and a spring band encircling the free outer ends of the
 40 said fingers to press the latter inwardly.

2. A capping machine, comprising a slotted tube, a spring pressed plunger in the tube, the inner end of the plunger being provided with lugs working in the slots of the
 45 tube, an adjustable collar on the tube, piv-

oted and spring pressed fingers at one end of the tube and having at their forward ends inwardly extending lips, and a slotted plate, in the slots of which the fingers work.

3. A capping machine, comprising a tube, 50 a spring pressed plunger in the tube and normally held projected from said tube, means for adjustably limiting the inward movement of the plunger, radially movable fingers at one end of the tube and grouped around 55 the plunger, means for holding the fingers spaced apart and guiding them, and a spring surrounding the free ends of the fingers and holding them pressed inwardly.

4. In a capping machine, a tube, a plunger 60 in the tube, fingers having at their ends inwardly projecting lips, and at their rear ends external grooves, the lips at the rear ends of the fingers resting upon the forward end of the tube, and a collar fitting in the grooves 65 of the fingers.

5. In a capping machine, a slotted tube, a spring pressed plunger working in the tube and normally projecting from one end of said tube, and provided with lugs engaging 70 the slots of the tube, pivoted and spring pressed fingers at one end of the tube and grouped around the plunger, and means for guiding the fingers.

6. In a capping machine, a slotted tube, a 75 spring pressed plunger working in the tube and normally projecting from one end of the tube, said plunger being provided with lugs engaging the slots of the tube, radially movable fingers at one end of the tube and 80 grouped around the plunger, means for guiding the fingers, and means for holding the free ends of the fingers pressed inward.

In testimony whereof I have signed my name to this specification in the presence of 85 two subscribing witnesses.

CHARLES ALBERT YOUNGMAN.

Witnesses:

C. H. DYE,

A. J. POHLMAN.