

No. 770,803.

PATENTED SEPT. 27, 1904.

G. H. GILLETTE.
BOTTLE CAPPING MACHINE.

APPLICATION FILED NOV. 4, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

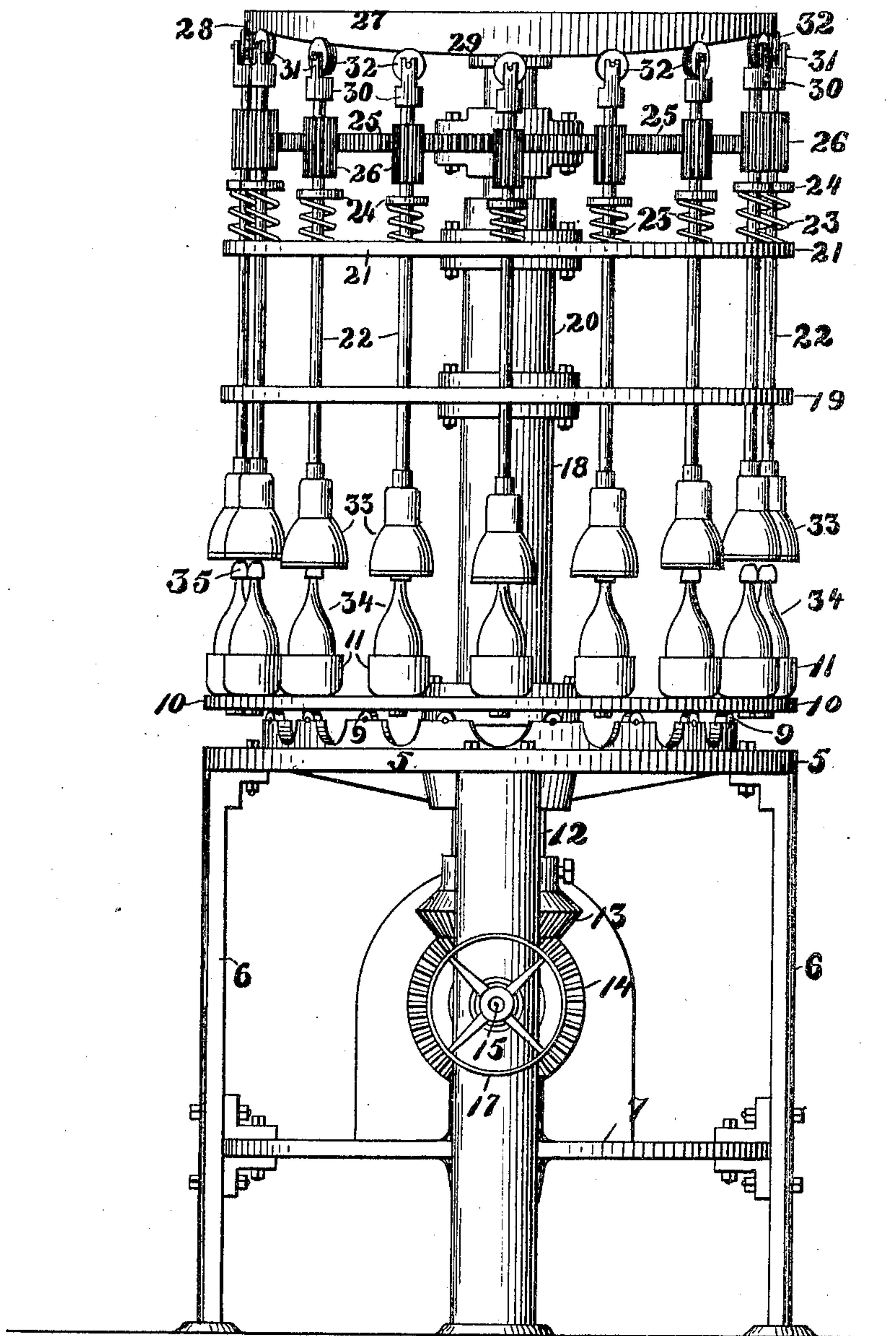


Fig. 1.

WITNESSES:

Loretto Ungerer.
C. H. Bertholf

INVENTOR

George H. Gillette.

BY

Garry P. Van Wye
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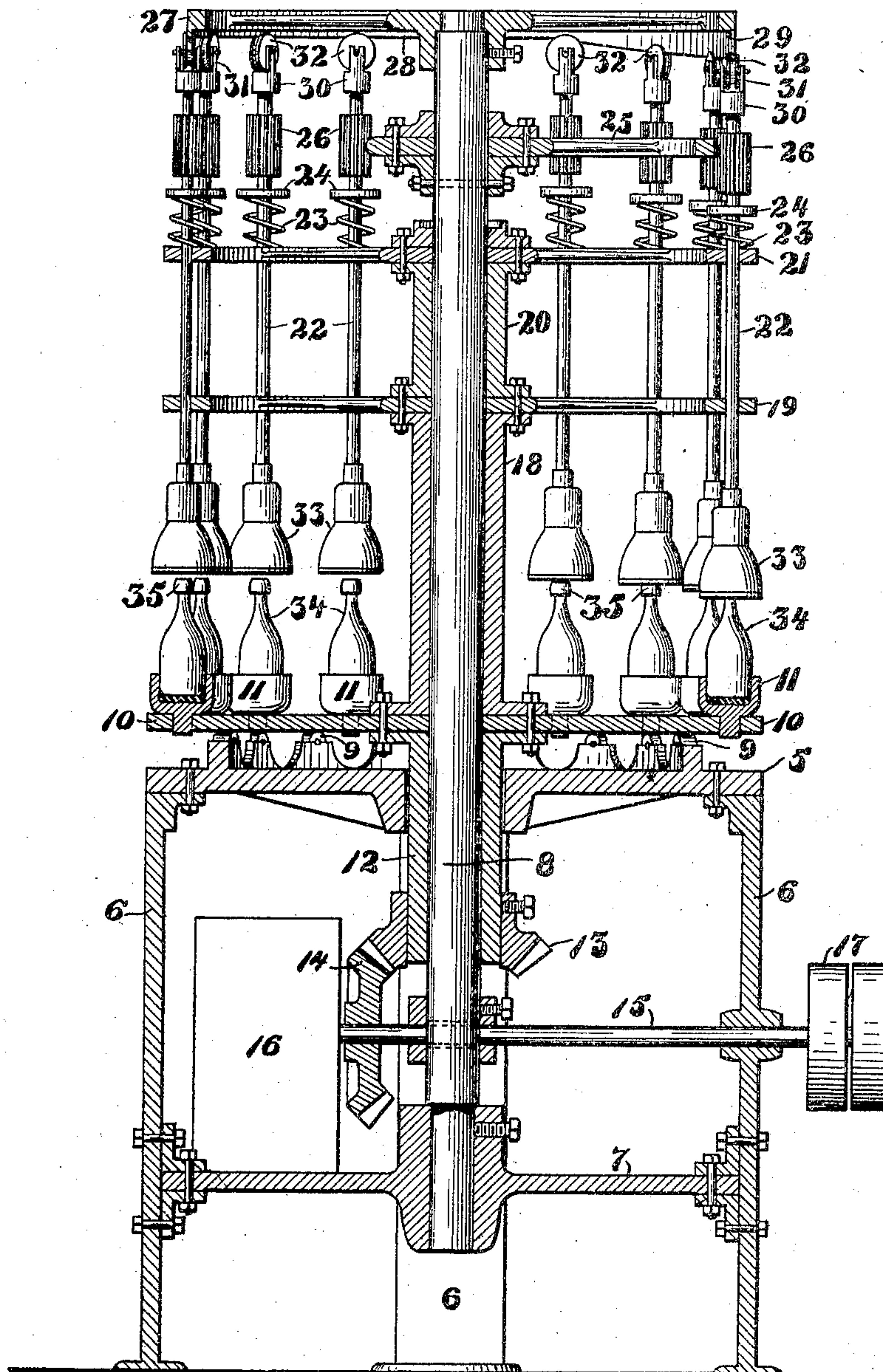


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE H. GILLETTE, OF NEW YORK, N. Y., ASSIGNOR TO THE CROWN CORK AND SEAL CO. OF BALTIMORE CITY, OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

BOTTLE-CAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 770,803, dated September 27, 1904.

Application filed November 4, 1902. Serial No. 130,048. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. GILLETTE, a citizen of the United States, residing at New York, in the county and State of New York, have invented a new and useful Bottle-Capping Machine, of which the following is a specification.

My invention relates to machines for capping bottles, and especially to machines for crimping or spinning the caps on the bottle; and the object thereof is to provide a machine adapted to cap bottles rapidly, a further object being to provide a machine of the character set forth adapted to use a head such as described in my application filed September 30, 1902, Serial No. 125,396.

I accomplish the objects of my invention by the construction illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of one side of a machine constructed according to my invention; and Fig. 2 is a vertical section thereof, taken at right angles to Fig. 1.

In the accompanying drawings like numerals of reference refer to the same parts in each of the views, and in the practice of my invention I provide a table 5, supported by legs 6, which carry a cross-piece 7, on which is mounted a standard 8 in a fixed position. On the table 5 is mounted a plurality of friction-rollers 9, which support a rotating platform 10, carrying a plurality of bottle-sockets 11, which are arranged on the said platform in a circular manner, and secured to the said platform is a sleeve 12, which passes downward through the table 5 and has secured thereto the beveled gear 13, which meshes with the beveled gear 14 on a shaft 15, which may be rotated by a motor 16 or by a belt-pulley 17 and by which the platform will be rotated, as will be understood. Secured to the said platform and rising therefrom is a second sleeve 18, to which is secured a wheel 19, having secured thereto a sleeve 20, to which is secured a wheel 21, and a plurality of spindles 22 are mounted in the wheels 19 and 21 and are supported in position by springs 23, which bear against the wheel 21 and the respective collars 24 on the shafts or spindles 22, and as all of these

parts are secured to the platform 9 they all rotate therewith; but the spindles 22 are free to rotate in the wheels 19 and 21 for reasons hereinafter described.

Mounted on the fixed standard 8 above the wheel 21 is a segmental gear 25, and each spindle 22 is provided with an elongated pinion 26, which meshes with the said segmental gear while passing before the same, causing the spindle to rotate, as will be understood. On the top of the standard 8 is a top piece 27, having on the under side thereof a flange 28, which increases in width on one side of the machine, as shown at 29, and swiveled on the top of each spindle 22 is a socket 30, provided with yoke-shaped standards 31, on which are mounted grooved rollers 32, which engage the flange 28, so that the sockets remain fixed in the line of travel around said flange while the spindles rotate therein. To the lower end of each spindle is secured a head 33, as described in my application referred to above, or any suitable capping-head may be used.

The operation is as follows: The bottles 34 are placed in the sockets 11 at the left of the machine, as shown in Fig. 2, or opposite the cam part 29 of the flange 28. The platform continues to rotate and with it the wheels 19 and 21, carrying with them the spindles 22 and capping-heads 33, one of which heads is mounted directly over each socket 11, and when the rotation of the parts carry the spindles beneath the cam part 29 of the flange 28 the spindles are forced downward, carrying the heads 33 down upon the caps 35, as clearly shown in the drawings, and securing the same on the bottle by the rotary motion imparted to the heads through the pinions 26, passing the segmental gear 25, as is fully explained in my former application referred to above and which will be understood by any one familiar with the art. During the passage of the spindles before the segmental gear they are rotated in the sockets 30.

By the construction here disclosed the capping-heads travel with the bottles, so that ample time is given to spin the cap on each bottle without in any way delaying the work, as while the cap is being spun on one bottle

the preceding capping-head is just entering into engagement with the cap on the bottle, while the succeeding capping-head is just being freed from the cap which it has fixed upon the bottle beneath it. Consequently I am able to rotate the parts very rapidly and cap from one hundred and eighty to two hundred bottles per minute.

While I have described my machine as applied to a capping-head previously described, it is evident that the machine is applicable to any capping-head for spinning a cap upon the bottle. The machine could also be used very advantageously where the caps are simply crimped upon the bottle or forced into contact therewith; but in that event the mechanism for rotating the spindles would not be needed.

While I have described one method of carrying my invention into practice, I do not limit myself to the exact construction and arrangement of parts here disclosed, for many changes may be made, as will be readily understood by any mechanic.

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

1. In a bottle-capping machine, a rotary bottle-carrier provided with sockets, or holders, a capping-head mounted above each holder, means to force the capping-heads down upon the bottles, and means to rotate said capping-heads to spin the caps on the bottles.

2. A bottle-capping machine comprising a rotary bottle-carrier provided with bottle-holders, a capping-head mounted above each bottle-holder, means to bring the capping-head upon the bottle-cap during a part of the rotation of said carrier, and means to rotate said capping-head while in engagement with said cap.

3. A bottle-capping machine comprising a rotary bottle-carrier provided with bottle-holders, a plurality of capping-heads, means to bring said heads successively in contact with the successive bottles and caps, and means to rotate said heads.

4. A bottle-capping machine comprising a rotary platform provided with bottle-holders, spindle-carriers fixed to said platform through intermediate sleeves, spindles in said carriers above each bottle-holder, capping-heads on the ends of the spindles, means to force the spindles and heads downward, and means to rotate said heads when in a depressed position, for the purpose set forth.

5. A bottle-capping machine comprising a fixed standard, a platform rotatably mounted on said standard and provided with bottle-holders, spindle-carriers fixed to said platform through intermediate sleeves, spindles mount-

ed in said carriers above each bottle-holder, a capping-head mounted on the lower end of each spindle, a top piece fixed on said standard and engaging the upper ends of said spindles, one side of said top being provided with a cam adapted to force the spindles and heads downward during a part of the rotation of the platform and springs adapted to hold said spindles in contact with said top, for the purpose set forth.

6. In a bottle-capping machine, a rotary spindle-carrier, a plurality of spindles in said carriers, pinions on said spindles, and a segmental gear adapted to engage said pinions during a part of the rotation of said carriers, for the purpose set forth.

7. A bottle-capping machine comprising a rotary bottle-carrier provided with bottle-holders, spindle-carriers fixed thereto through intermediate sleeves, spindles mounted in said carriers on spring-supports, capping-heads on the lower end of said spindles, and sockets carrying grooved wheels mounted on the upper end thereof, and a flange, cam-shaped in form, engaging said grooved wheels, for the purpose set forth.

8. A bottle-capping machine comprising a rotary bottle-carrier provided with bottle-holders, spindle-carriers fixed thereto through intermediate sleeves, spindles mounted in said carriers on spring-supports, capping-heads on the lower end of said spindles, and sockets carrying grooved wheels mounted on the upper end thereof, a cam-shaped flange fixed above said spindles and engaging said wheels, and pinions on said spindles, and a segmental gear adapted to engage said pinions, for the purpose set forth.

9. A bottle-capping machine comprising a fixed table having friction-rollers thereon, a platform mounted on said rollers and provided with bottle-holders, a sleeve fixed to, and depending from said platform and engaging with operating mechanism, spindle-carriers above said platform fixed thereto through sleeves, spindles in said carriers provided with capping-heads and loosely-mounted friction-rollers, springs supporting said spindles, a fixed standard passing through said sleeves, a top piece mounted on said standard and provided with a cam-shaped flange, and pinions on said spindles and a segmental gear adapted to engage the same, as and for the purpose set forth.

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

GEORGE H. GILLETTE.

Witnesses:

HAROLD LETH,
LORETTO UNGERER.