

R. E. SMITH.

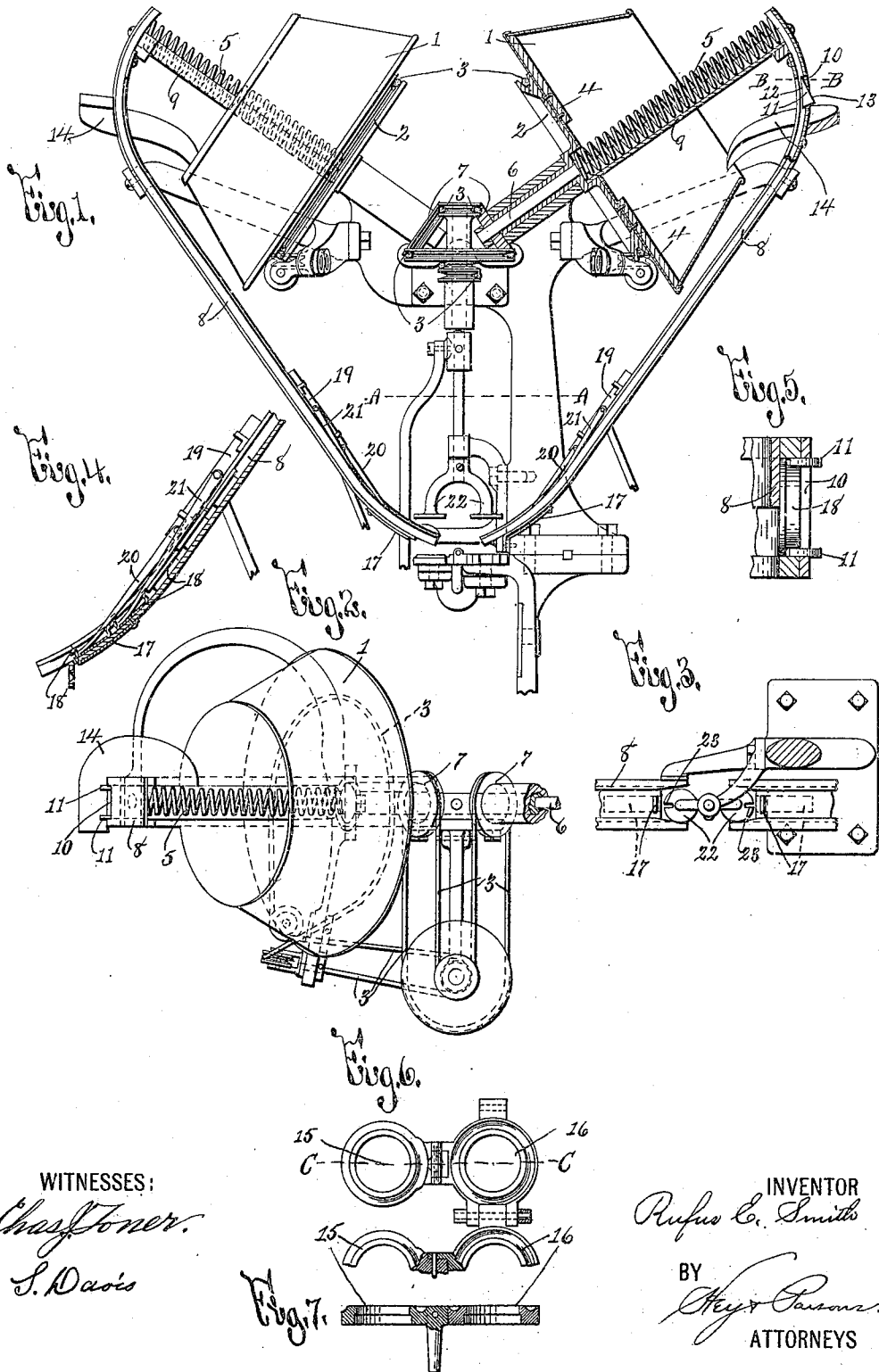
MACHINE FOR FILLING CONCEALS.

APPLICATION FILED DEC. 5, 1904. RENEWED AUG. 10, 1907.

953,353.

Patented Mar. 29, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

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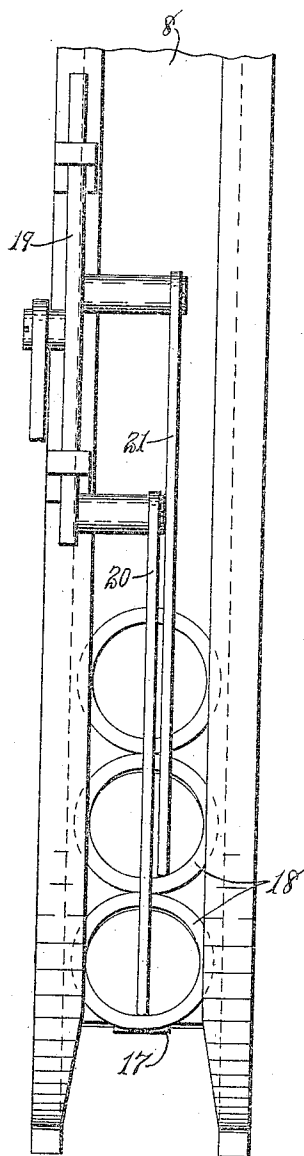
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Fig-8-



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UNITED STATES PATENT OFFICE.

RUFUS E. SMITH, OF SYRACUSE, NEW YORK.

MACHINE FOR FILLING CONCEALS.

953,353.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed December 5, 1904, Serial No. 235,604. Renewed August 10, 1907. Serial No. 387,954.

To all whom it may concern:

Be it known that I, RUFUS E. SMITH, of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Machine for Filling Conceals, of which the following is a specification.

My invention has for its object the production of a machine for filling conceals which is particularly simple in construction and efficient in operation; and to this end, it consists in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a side elevation, partly in section, of a portion of a machine for filling conceals, including one embodiment of my invention. Fig. 2 is a top plan of a portion of the mechanism seen in Fig. 1. Fig. 3 is a horizontal sectional view on line A—A, Fig. 1. Fig. 4 is a detail sectional view of the exit-end of one of the guides for the conceals, and contiguous parts, a number of the unfilled conceals being shown in position in said guide. Fig. 5 is a transverse sectional view on line B—B, Fig. 1, an unfilled conceal being illustrated in the predetermined position in the guide. Fig. 6 is a plan, partly in section, of a portion of the receiving means for the unfilled conceals. Fig. 7 is a sectional view, partly in elevation, taken on line C—C, Fig. 6. Fig. 8 is an enlarged plan of the means shown in Fig. 4.

1 are revoluble receptacles for the unfilled conceals, these receptacles being preferably arranged in an inclined plane and revoluble about an inclined axis, and having the lowermost portions of their bottoms and sides diverging from a perpendicular line passing through the juncture of said lowermost portions. The receptacles 1 may be revolved by any suitable means, here illustrated as pulleys 2 fixed to their bottoms and engaged by a driving belt 3.

4 are substantially radial ribs fixed to the inner faces of the bottoms of the receptacles 1 and having their inner ends terminating at points separated from the axes of the receptacles.

5 are feeding members having their axes substantially coincident with the axes of the receptacles 1, and being thus disposed in

planes inclining upwardly from the central portions of the bottoms of the receptacles 1. The lower ends of the feeding members 5 are suitably fixed to spindles 6 which are provided with pulleys 7 driven by the belt 3 in a direction opposite to that in which the receptacles 1 revolve. The upper ends of the feeding members 5 preferably project beyond the receptacles 1 and discharge the unfilled conceals into the upper ends of guides 8 of any desirable construction. In the illustrated embodiment of my invention, the feeding members 5 are each formed of a spirally bent piece of wire, and directly beneath said feeding members are guides or troughs 9 which support the unfilled conceals in their movement by the members 5.

As the receptacles 1 revolve, the ribs 4 on the bottoms thereof pass through the mass of unfilled conceals and elevate a number thereof from below the contiguous portions of the feeding members 5 to a point above said contiguous portions, whereupon the conceals are fed by gravity to the upper sides of said portions of the feeding members and are then engaged thereby and fed one by one, or separately, to the guides 8. As the ribs 4 are comparatively narrow in width, the conceals, not arranged in the predetermined position, tend to fall therefrom, so that but a small proportion of the conceals fed to the members 5 are not in the predetermined position.

The guides 8 are preferably provided with openings 10 for the passage from said guides of the conceals supplied thereto, and not in the predetermined position. At opposite sides of these openings 10 are engaging pieces 11 provided with diverging faces 12, 13, the faces 12 being substantially equidistant at all points from the opposing inner surfaces of the guides 8, and the faces 13 diverging outwardly from said inner faces through the openings 10. When an unfilled conceal, arranged in the predetermined position, approaches the opening 10 of one of the guides 8, the flange on said conceal is engaged by the faces 12 of the engaging pieces 11 at opposite sides of said opening, so that the conceal is supported in its movement across and beyond the opening 10. On the contrary, if a conceal, not in the predetermined position, approaches said opening 10, its flange engages the faces 13 which cause the conceal to pass outwardly through this opening.

Suitable supports 14 are here illustrated as arranged beneath the engaging pieces 11 for receiving the unfilled conceals discharged through the openings 10, and as clearly seen in Fig. 1, said supports extend downwardly to the interiors of the receptacles 1 for conducting to said receptacles the conceals discharged through the openings 10.

The exit or lower ends of the guides 8 conduct unfilled conceals to sockets 15, 16 provided in a suitable receiving means, as a carrier or belt, movable beneath the exit or lower ends of said guides 8 in a plane at substantially right-angles to the path of movement of the conceals when discharged from said guides, these sockets 15, 16 being preferably arranged in pairs one in advance of the other. The exit ends of the guides 8 are provided with spring stops 17, which engage the lowermost conceals 18, as seen in Fig. 4, and temporarily prevent the escape thereof from said guides.

The conceals are discharged from the guides 8 against the action of the spring stops 17 to the receiving means provided with the sockets 15, 16 by any suitable means, which preferably forces two conceals simultaneously to the opposing sockets 15, 16. In the illustrated embodiment of my invention, this discharging means consists of a reciprocating member 19 and feeding fingers 20, 21 having their upper ends hinged to the member 19 and their lower ends movable into the conceals 18, the fingers 20 entering the advance or lowermost conceals and the fingers 21 entering the conceals next above said lowermost conceals. It will be understood that the fingers 20, 21 may be dispensed with, and any other desirable means utilized for positively feeding the conceals from the guides 8.

My machine is preferably provided with a presser-foot 22, which forces the conceals firmly into the sockets 15, 16 and remains depressed in engagement with said conceals until after the commencement of the return movement of the feeding fingers 20, 21. The presser-foot is usually provided with slots 23 which receive the feeding fingers 20, 21. It will be understood that the receiving means provided with the sockets 15, 16, the feeding fingers 20, 21 and the presser-foot 22 may be actuated by any desirable means, unnecessary to herein illustrate and describe.

The construction and operation of my machine for filling conceals, will now be readily understood upon reference to the foregoing description and the accompanying drawing, and it will be noted by those skilled in the art that more or less change may be made in the component parts thereof without departing from the spirit of my invention.

Having thus fully described my inven-

tion, what I claim as new and desire to secure by Letters Patent, is:—

1. In a machine for filling conceals, a receptacle for the unfilled conceals, revoluble means within the receptacle for feeding the unfilled conceals from the mass thereof within said receptacle, and means for separating the unfilled conceals and feeding the same from the receptacle, substantially as and for the purpose described.

2. In a machine for filling conceals, a receptacle for the unfilled conceals, means within the receptacle for feeding the unfilled conceals from the outer portion of the receptacle toward the central portion thereof, and means for conveying the unfilled conceals from the central portion of the receptacle, substantially as and for the purpose specified.

3. In a machine for filling conceals, a revoluble receptacle for the unfilled conceals, ribs provided on the inner face of the bottom of the receptacle for feeding the conceals from the mass thereof within the receptacle, and means for conveying the unfilled conceals from the receptacle, substantially as and for the purpose set forth.

4. In a machine for filling conceals, a receptacle for the unfilled conceals, said receptacle being revoluble on an inclined axis and having the lowermost portions of its bottom and side wall diverging from a perpendicular line, substantially radial ribs fixed to the bottom of the receptacle and terminating at points separated from the axis of the receptacle, and means for conveying the unfilled conceals from the receptacle, substantially as and for the purpose described.

5. In a machine for filling conceals, the combination of a receptacle for the unfilled conceals, a movable feeding member, and means for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose specified.

6. In a machine for filling conceals, the combination of a revoluble receptacle for the unfilled conceals, a revoluble feeding member arranged in substantially axial alinement with the receptacle, and means for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose set forth.

7. In a machine for filling conceals, the combination of a receptacle for the unfilled conceals, a movable feeding member arranged above a part of the receptacle, and means movable in the receptacle about the feeding member for removing the unfilled conceals from the mass thereof within the receptacle beneath a portion of the feeding member and supplying the same to said por-

tion of the feeding member from a point above the same, substantially as and for the purpose described.

8. In a machine for filling conceals, a receptacle for the unfilled conceals, a movable feeding member arranged above a part of the receptacle, a guide beneath the feeding member and partly inclosing the same, and means movable in the receptacle for removing the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose specified.

9. In a machine for filling conceals, the combination of a receptacle for the unfilled conceals, a revoluble feeding member arranged in substantially axial alinement with the receptacle and consisting of a spiral part, and means for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose set forth.

10. In a machine for filling conceals, the combination of a receptacle for the unfilled conceals, and a feeding member arranged partly within the receptacle and partly without the same, and means within the receptacle for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose described.

11. In a machine for filling conceals, the combination of a revoluble receptacle for the conceals, a feeding member revoluble in a direction opposite to that in which the receptacle revolves, and means within the receptacle for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose specified.

12. In a machine for filling conceals, a receptacle for the conceals, an upwardly extending feeding member within the receptacle, and means for supplying the unfilled conceals from the mass thereof within the receptacle to the feeding member, substantially as and for the purpose set forth.

13. In a machine for filling conceals, the combination of a receptacle for receiving the unfilled conceals, said receptacle being arranged in an inclined plane, a movable feeding member also arranged in an inclined plane, and means for separating the unfilled conceals from the mass thereof within the receptacle and supplying the same to the feeding member, substantially as and for the purpose described.

14. In a machine for filling conceals, the combination of a receptacle for receiving the unfilled conceals, said receptacle being revoluble about an inclined axis, a revoluble feeding member arranged in substantially

axial alinement with the receptacle and consisting of a spiral part, said feeding member being revoluble in a direction opposite to that in which the receptacle revolves, a guide beneath the feeding member and partly inclosing the same, and means within the receptacle revoluble about the feeding member for removing the unfilled conceals from the mass thereof within the receptacle beneath a portion of the feeding member and supplying the same to said portion of the feeding member from a point above the same, substantially as and for the purpose specified.

15. In a machine for filling conceals, a guide for the unfilled conceals, said guide being provided with an opening, means for supplying the unfilled conceals to the guide, and means for causing the conceals supplied to the guide, not in the predetermined position, to be discharged through said opening, substantially as and for the purpose set forth.

16. In a machine for filling conceals, a guide for the unfilled conceals, said guide being provided with an opening, means for supplying the unfilled conceals to the guide, and means for engaging the flanges of the conceals supplied to the guide and causing the conceals, not in the predetermined position, to be discharged through said opening, substantially as and for the purpose described.

17. In a machine for filling conceals, a guide for the unfilled conceals, said guide being provided with an opening, means for supplying the unfilled conceals to the guide, and means having diverging faces for engaging the flanges of the conceals supplied to the guide, one of said faces being engaged by the flanges of the conceals in the predetermined position, for supporting the conceals when passing said opening, and the other face being engaged by the flanges of the conceals not in said position for causing the last-mentioned conceals to be discharged through said opening, substantially as and for the purpose specified.

18. In a machine for filling conceals, a guide for the unfilled conceals, said guide having an opening, and a pair of engaging pieces arranged at opposite sides of said opening for supporting the conceals in the predetermined position when passing said opening, and for causing the discharge through said opening of the conceals not arranged in said position, substantially as and for the purpose specified.

19. In a machine for filling conceals, a receptacle for the unfilled conceals, a guide for the unfilled conceals, said guide having an opening, means for supplying the unfilled conceals to the guide, means for causing the conceals, not in the predetermined position, to be discharged through said

opening, and means for conducting to the receptacle the unfilled conceals discharged through said opening, substantially as and for the purpose set forth.

5 20. In a machine for filling conceals, a guide for the unfilled conceals, a yielding stop for preventing the movement of the conceals from the exit of the guide, and means for discharging the conceals from
10 the guide against the action of the yielding stop, substantially as and for the purpose described.

21. In a machine for filling conceals, receiving means provided with opposing
15 sockets, a plurality of receptacles for the unfilled conceals, and means for feeding two unfilled conceals simultaneously to the opposing sockets, substantially as and for the purpose specified.

20 22. In a machine for filling conceals, the combination of receiving means, a guide for the unfilled conceals, and means near the exit end of the guide for discharging the unfilled conceals from the guide to the
25 receiving means, substantially as and for the purpose specified.

23. In a machine for filling conceals, receiving means provided with opposing
30 sockets, a plurality of receptacles for the unfilled conceals, guides for the unfilled conceals, said guides being each provided with a yielding stop, means for feeding the

unfilled conceals from the receptacle to the guides, and means for feeding two unfilled
conceals simultaneously from the guides 35 against the action of the yielding stops to the opposing sockets, substantially as and for the purpose set forth.

24. In a machine for filling conceals, the combination of receiving means, a guide for
40 the unfilled conceals, a reciprocating member, a feeding finger hinged to said member and having its free end movable into engagement with the unfilled conceals for feeding the same from the guide, substan- 45 tially as and for the purpose described.

25. In a machine for filling conceals, the combination of receiving means, a guide for the unfilled conceals, means for discharging the unfilled conceals from the guide to the
50 receiving means, and means for pressing the unfilled conceals in position upon the receiving means, substantially as and for the purpose specified.

In testimony whereof, I have hereunto 55 signed my name in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 3rd day of December, 1904.

RUFUS E. SMITH.

Witnesses:

S. DAVIS,

R. ARONSON.