

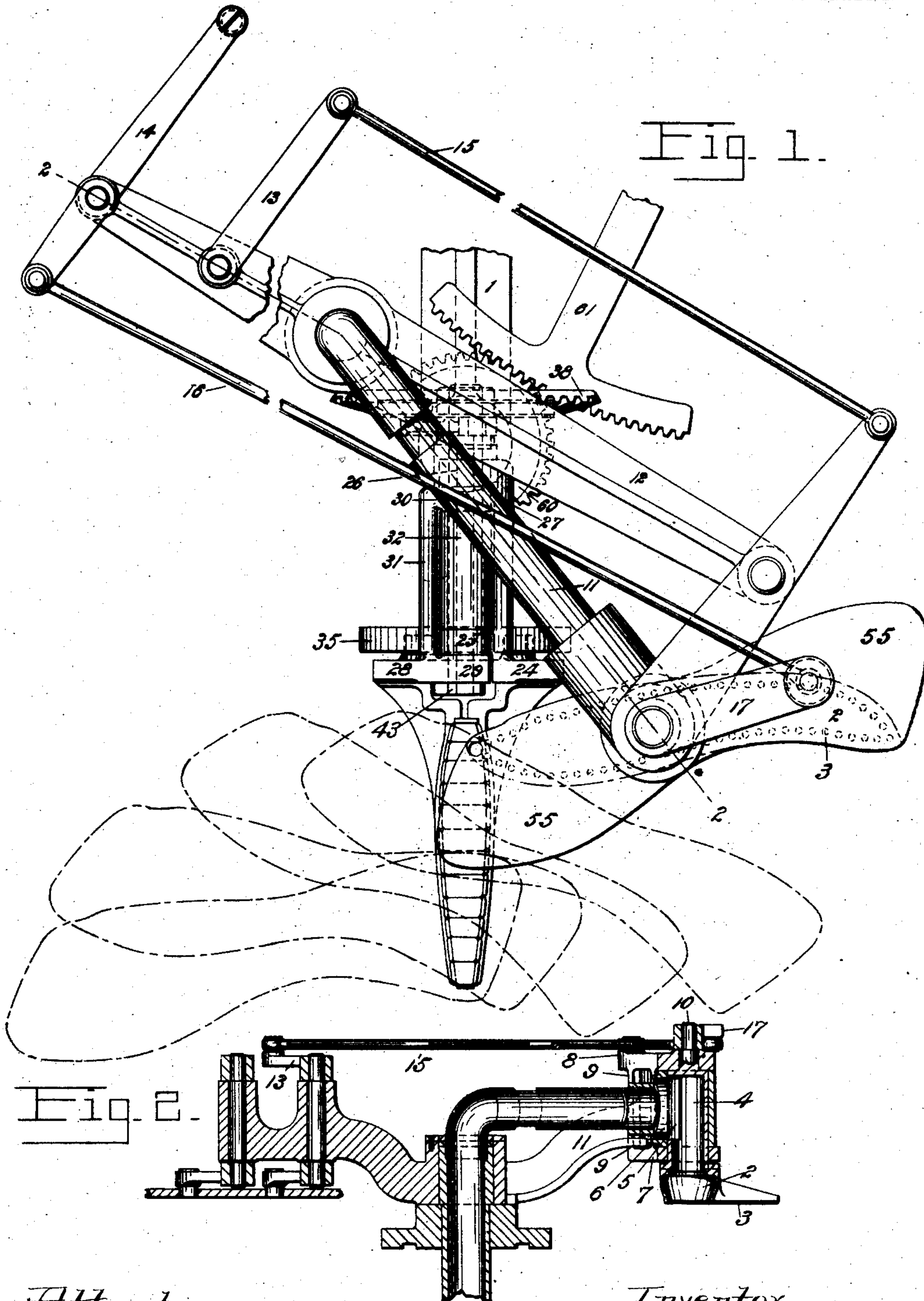
No. 879,192.

PATENTED FEB. 18, 1908.

S. I. PRESCOTT.
CIGAR MACHINE.

APPLICATION FILED AUG. 9, 1902.

2 SHEETS—SHEET 1.



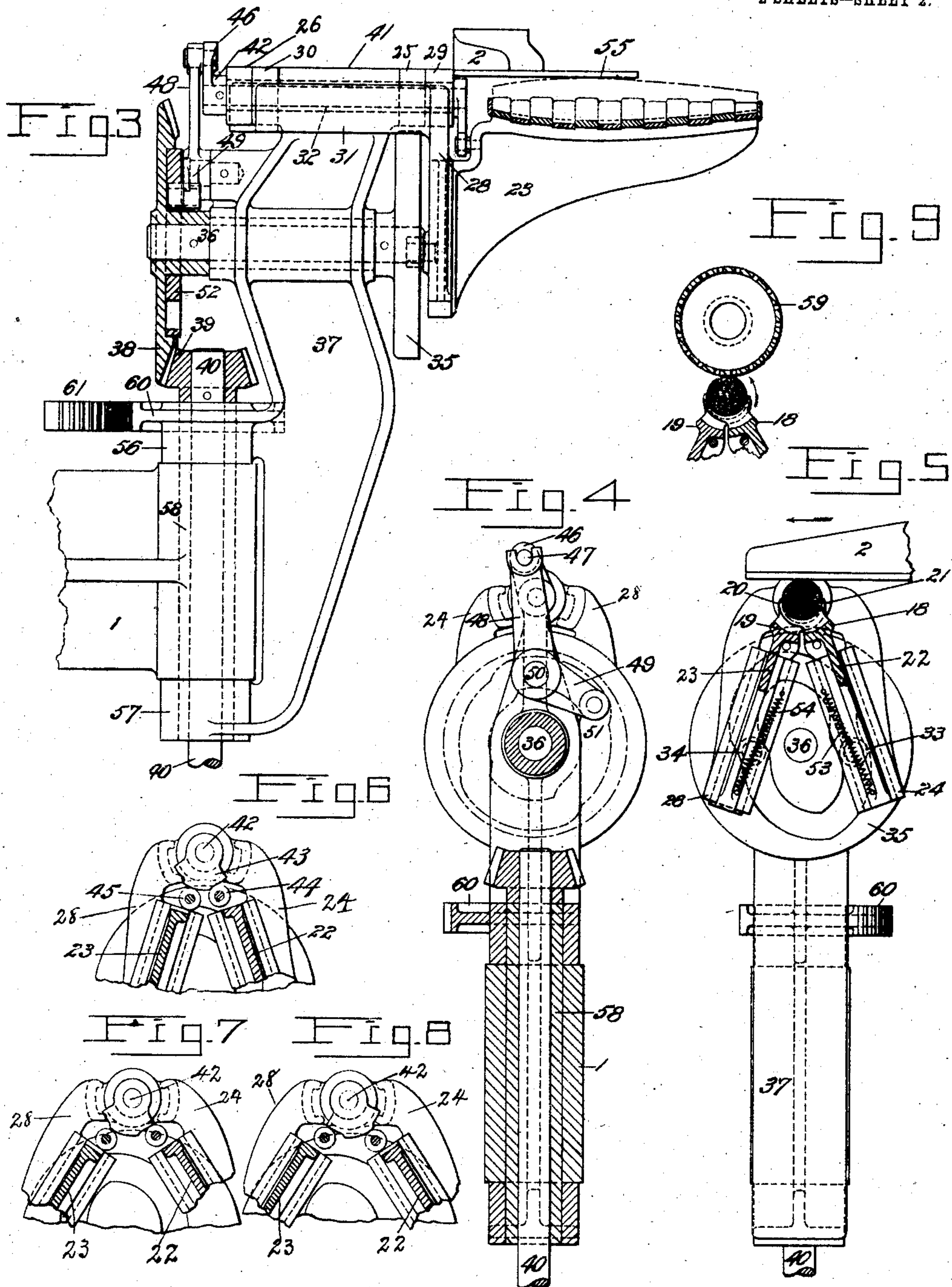
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

SYDNEY I. PRESCOTT, OF NEW YORK, N. Y., ASSIGNOR TO RUFUS L. PATTERSON AND
GEORGE ARENTS, JR., OF NEW YORK, N. Y.

CIGAR-MACHINE.

No. 879,192.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed August 9, 1902. Serial No. 119,044.

To all whom it may concern:

Be it known that I, SYDNEY I. PRESCOTT, a citizen of the United States, residing at New York, county of New York, and State of New York, have invented certain new and useful Improvements in Cigar-Machines, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in cigar machines and has for its object to produce a cigar machine which is simple and comparatively cheap in construction and which is efficient in operation.

With this and other objects in view, the invention consists in certain constructions and in certain parts, improvements and combinations as will be hereinafter fully described and then specifically pointed out in the claims hereunto appended.

Referring to the drawings, Figure 1 is a diagrammatic plan view illustrating so much of a construction of a cigar machine as is necessary to an understanding of the invention. Fig. 2 is a detail section on the line 2—2 of Fig. 1. Fig. 3 is a side elevation, partly in section, of a part of the construction shown in Fig. 1. Figs. 4, 5, 6, 7 and 8 are detail views. Fig. 9 is a detail view illustrating a modification of the construction.

In the specific mechanism which has been selected to illustrate a concrete embodiment of the invention, the bunch which is to have a wrapper applied thereto is held and rotated between a pressing surface and a cooperating wrapping means.

Referring to the drawings, 1 indicates a portion of the frame of a machine, which frame may be of any suitable or desired construction and which serves to support the operative parts of the machine. In the construction illustrated, which is the preferred form of the construction, the pressing surface which operates in connection with the cooperating wrapping mechanism to wind the wrapper about the bunch is also a wrapper support. As shown, this wrapper support consists of a suction chamber 2 having its under surface perforated, as indicated at 3, to form a suction field upon which the wrapper is held in stretched condition. This suction chamber is connected in any suitable manner to a suction barrel or chamber 4 which is cut out at one side, which is indicated at 5, to form an air outlet. This barrel is

preferably mounted in a chamber 6 which is in turn mounted in a carrier which consists of two bars 7 and 8 connected in any suitable manner, as by webs 9. The barrel 4 is mounted to rotate in the chamber 6 and is preferably provided with an upwardly extending lug 10 which extends through a perforation in the bar 8. The chamber 6 has an opening in one side thereof to which is connected a pipe 11 which forms a part of the connections by which suction is transmitted to the chamber 6.

The construction so far described is substantially that illustrated and described in the United States Patent No. 654,203, dated July 24, 1900, and granted to P. L. Patterson and George Arents, Jr., as assignees of Oluf Tyberg, the purpose of the construction being to enable the wrapper support to be given certain movements in the delivery of the wrapper which will be hereinafter more particularly referred to, and the purpose of which is to enable the wrapper to be smoothly wound upon the bunch. While, however, this construction forms a convenient one for carrying the present invention into effect, it is to be understood that the invention is not to be limited to this construction, or to any construction in which the wrapper support is given the movements referred to, as the invention may be embodied in constructions which differ widely therefrom and in constructions in which the wrapper support has no movement, and in which a stationary pressing surface which does not act as a wrapper support is employed.

In the construction illustrated, the support is mounted on the end of the swinging lever 12 to which are pivoted two other levers 13 and 14 connected by rods 15 and 16 to the support and to the barrel or chamber 6 which carries the wrapper support, the connection between the rod 16 and the barrel being effected by means of an arm 17.

Suitable cams and connections will be employed, when the invention is embodied in the mechanism described, to give to the wrapper support the movement referred to in said Patent No. 654,203, namely, a movement which is the resultant of an approaching movement,—or the movement by which the wrapper is delivered to the bunch,—a traversing movement,—or the movement by which the wrapper is advanced along the bunch,—and an angular movement,—or the

movement by which the angle of presentation of the wrapper to the bunch is controlled. These cams and connections may be the same as those illustrated and described in the
 5 Patent No. 654,203 to which reference is made for a full disclosure of the construction.

The suction means employed are or may be the same as those illustrated in the said patent and it is therefore regarded as unnecessary to describe them here.

10 The mechanism which coöperates with the pressing surface or wrapper support when the surface is employed as a wrapper support may be varied widely in construction. As shown, this mechanism comprises a group of
 15 two wrapping members 18 and 19 which, in the preferred form of the construction, are provided with intermeshing fingers 20 and 21, said fingers being shaped to form a cradle
 20 which has the general configuration of the bunch to be wrapped. These wrapping members are somewhat similar to those described and illustrated in the patent to J. Reuse, No. 552,447, granted Dec. 31, 1895,
 25 but are to be distinguished therefrom by the fact that in the Reuse construction the sets of fingers grip and rotate the bunch without assistance from any other agency, whereas in the present construction the fingers form a
 30 cradle in which the bunch rests and against which it is forced by the pressing surface or wrapper support 2 hereinbefore referred to, the rotation of the bunch being effected by the movement of the fingers coacting with
 35 the pressing surface.

While the wrapping members will preferably be provided with fingers which form a cradle and which constitute a bunch receiver, the function of which is to hold the bunch in
 40 coöperation with the pressing surface, it is to be understood that bunch receivers may be employed in connection with the pressing surface which differ widely in construction from the one which has just been described.

45 When the bunch receiver consists of members having intermeshing fingers arranged to form a cradle, as shown, the members which constitute the receiver should be given a movement toward and away from the center
 50 of the bunch and also a swinging movement about the center of the bunch. These movements may be effected by any desired mechanism. In the construction shown, each of the members 18 and 19 has extending from it
 55 a guiding web or projection, the web or projection of the member 18 being marked 22 and the web or projection of the member 19 being marked 23. The projection 22 engages a guiding groove in a block 24, said
 60 block having formed integral therewith bearings 25 and 26 which are connected by a web 27 (see Figs. 1 and 3). Similarly, the projection 23 engages a guiding groove in a block 28 which has formed integral there-
 65 with bearings 29 and 30, said bearings being

connected by a web 31. The bearings 25, 26 and 29, 30 take over a sleeve 32, which is indicated in dotted lines in Fig. 1, said sleeve being supported in a manner to be hereinafter described.

70 The block 24 is provided with a cam roller 33 and the block 28 with a cam roller 34, these rollers engaging the groove of a closed or island cam 35 which is mounted on a suitable shaft 36. This shaft 36 is supported in
 75 suitable bearings in an arm 37 which is mounted on the frame 1, said shaft being provided with a gear 38 which is in mesh with a pinion 39. This pinion 39 is mounted on a shaft 40 suitably supported in the frame of
 80 the machine and driven by any suitable source of power, not shown. The cam 35 is so constructed as to give the blocks 24 and 28 alternate swinging movements, the center of these movements being the center of the
 85 sleeve 32 which is arranged to correspond with the center of the bunch to be wrapped. The sleeve 32 is supported in a suitable bearing 41 formed on the arm 37 before referred to.

90 The construction employed for giving the wrapping members their movement toward and away from the center of the bunch includes a shaft 42 which passes through the sleeve 32, said shaft having on one of its
 95 ends a cam 43 which bears against cam rollers 44 and 45, the roller 44 being mounted on the wrapping member 13 and the roller 45 being mounted on the wrapping member 19. The shaft 42 may be rocked in any suitable
 100 manner to operate its cam. As shown, it is provided with an arm 46 which is provided with a pin 47 which pin is engaged by one arm, 48, of a bell-crank lever 48, 49, said lever being pivoted at 50. The arm 49 of the bell-crank lever is provided with a cam
 105 roll 51 which engages with the groove of a closed cam 52 secured to the gear 38 before referred to. The web or projection 22 of the member 18 has secured to it a spring 53, said spring being also secured to the block 24.
 110 Similarly, the web or projection 23 has connected to it a spring 54, said spring being also connected to the block 28. These springs serve to hold the members 18 and 19 in such position that the rollers 44 and 45 bear
 115 against the surface of the cam 43. The various cams are so proportioned and timed that the cam 43, as the shaft 42 rocks, first moves one of the members 18 or 19 away from the center of the bunch, after which the
 120 cam 35 operates to swing the member backward. When the member has reached its backward position, a depression in the cam 42 comes opposite the cam roller of that member which has been moved backward
 125 and permits the member to be forced upward by its spring against the bunch. While this operation is taking place, the other member has been forced upward by its spring, thus holding the bunch against the pressing sur-
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face, and the member at the same time has been given a forward movement by the cam 35 so as to rotate the bunch. As one of the members begins its forward movement, the
 5 other is forced away from the bunch and is given the backward movement. It will be understood, therefore, that the wrapping members move alternately toward and away from the center of the bunch and about the center
 10 of the bunch, and that as each member engages the bunch, it rotates it in coöperation with the pressing surface which in this case is the wrapper support, said pressing surface operating to hold the bunch against the
 15 member.

The relative movement between the bunch receiver and the wrapper support which is in this case produced by moving the support, causes the support to assume various positions with regard to the receiver and the
 20 bunch therein, is indicated by the dotted lines in Fig. 1.

In order that the pressure on the bunch may not be applied at one end of the bunch
 25 only, which under some circumstances, might cause an uneven turning or twisting of the bunch, the wrapper support will preferably be widened by providing it with an extension or pressing surface which is in the
 30 form of wings 55, one of these wings being located at one end of the support and the other at the other end of the support but upon opposite sides of the support. The pressing surface formed by these wings lies
 35 outside the suction field of the support. By the addition of this pressing surface the forward and rear ends of the wrapper support are caused to be somewhat wider than half the length of the bunch. It will be noted
 40 (see Fig. 1) that as the wrapper support begins to deliver the wrapper, the front wing 55 is bearing on the center of the bunch. As the wrapper carrying part of the wrapper support advances across the bunch, the sup-
 45 port will have a bearing upon the center of the bunch through the front wing. After the wrapper carrying part of the support has passed over the center of the bunch in delivering the wrapper, the rear wing 55 will
 50 begin to bear upon the center of the bunch and will continue to bear there until the wrapper has been entirely delivered from the support.

The presser or wrapper support so far de-
 55 scribed is constructed with a substantially plane surface. While this form of presser will usually be employed, it is possible to construct the presser with other than a plane face. In Fig. 9, for instance, a presser
 60 is illustrated which consists of a suction roller 59 which serves also as a wrapper support. When a wrapper support thus formed is used, the roller may be turned in order to deliver the wrapper by any desired
 65 means, and may, if desired, be given the

angular and traversing movements before referred to.

It may be desirable to move the bunch receiver either before or after the wrapping
 70 mechanism, or both, to cause it to receive or deliver a bunch, or to present it to a trimming mechanism, or some other finishing mechanism. In the present construction this is accomplished by making the arm
 75 37 movable. To this end, it is provided with bearings 56 and 57 above and below the frame piece 1, this frame piece being provided with a socket or sleeve 58. This sleeve 58, indicated in dotted lines in Fig. 3,
 80 passes through the bearings 56 and 57, the whole construction forming a hinge of which the sleeve 58 is the pintle.

Secured to the arm 37 is a segment 60 which is in mesh with another segment 61
 85 which may be driven from any suitable source of power. By operating the segment 61 at suitable times, the bunch receiver may be given the desired movements.

The operation of the mechanism will be fully understood from the foregoing de-
 90 scription, and a detailed statement is therefore unnecessary.

What is claimed is:—

1. In a wrapping mechanism, the combination with a bunch receiver comprising a
 95 pair of cradles, of means for holding the bunch thereagainst, and means for producing a movement between the cradles and the holding means to wind the wrapper about the bunch, substantially as described. 100

2. In a wrapping mechanism, the combination with a bunch receiver comprising a
 105 pair of cradles, of means for holding the bunch thereagainst, and means for alternately operating the cradles to rotate the bunch and thereby wind the wrapper about it, substantially as described.

3. In a wrapping mechanism, the combination with a wrapper support, of a receiver
 110 comprising a pair of cradles against which the bunch is held by the support, means for operating the cradles to rotate the bunch, and means for giving the support a movement to deliver the wrapper, substantially as described. 115

4. In a wrapping mechanism, the combination with a wrapper support having a
 120 plane face, of a receiver comprising a pair of cradles against which the bunch is held by the support, means for operating the cradles to rotate the bunch, and means for giving the support a movement to deliver the wrapper, substantially as described.

5. In a wrapping mechanism, the combination with a bunch receiver comprising a
 125 pair of cradles, of means for holding the bunch thereagainst, and means for alternately rocking the cradles about the center of the bunch as a center during the wrapping operation, substantially as described. 130

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14. In a wrapping mechanism, the combi- 70

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5 combination with a pair of members having intermeshing fingers, the fingers on each member forming a cradle, of means for holding the bunch against the fingers, and means for moving said members alternately toward and away from and around the center of the bunch, substantially as described.

10 22. In a wrapping mechanism, the combination with a bunch receiver, of means for holding the bunch against the receiver and for producing a rotating movement of the bunch while thus held so as to wind the wrapper about the bunch, and means for giving the receiver a bodily movement toward or away from the wrapping position, substantially as described.

20 23. In a wrapping mechanism, the combination with a bunch receiver comprising a pair of cradles, of means for holding the bunch thereagainst, means for alternately operating the cradles to rotate the bunch and thereby wind the wrapper about it, and means for giving the receiver a bodily movement toward or away from the wrapping position, substantially as described.

30 24. In a wrapping mechanism, the combination with a wrapper support, of a bunch receiver, the bunch being held against the receiver by the support, means for operating the receiver to give the bunch a rotating movement, means for giving the support a movement to deliver the wrapper, and means for giving the receiver a bodily movement toward or away from the wrapping position, substantially as described.

40 25. In a wrapping mechanism, the combination with a wrapper support, of a receiver comprising a pair of cradles against which the bunch is held by the support, means for operating the cradles to rotate the bunch, means for giving the support a movement to deliver the wrapper, and means for giving the receiver a bodily movement towards or away from the wrapping position, substantially as described.

50 26. In a wrapping mechanism, the combination with a bunch receiver comprising a pair of cradles, of means for holding the bunch thereagainst, means for alternately rocking the cradles about the center of the bunch as a center during the wrapping operation, and means for giving the receiver a bodily movement towards or away from the wrapping position, substantially as described.

60 27. In a wrapping mechanism, the combination with a wrapper support, of a bunch receiver comprising a pair of cradles, the bunch being held against the receiver by the support, means for alternately rocking the cradles about the center of the bunch as a center during the wrapping operation, and means for giving the receiver a bodily movement towards or away from the wrapping position, substantially as described.

28. In a wrapping mechanism, the combination with a wrapper support, having a plane face, of a bunch receiver comprising a pair of cradles, the bunch being held against the receiver by the support, means for alternately rocking the cradles about the center of the bunch as a center during the wrapping operation, and means for giving the receiver a bodily movement towards or away from the wrapping position, substantially as described.

29. In a wrapping mechanism, the combination with a pair of wrapping members having intermeshing fingers, of means for holding the bunch against the fingers, means for moving said members alternately towards and away from and around the center of the bunch, and means for giving the wrapping members a bodily movement toward or away from the wrapping position, substantially as described.

30. In a wrapping mechanism, the combination with a pair of members having intermeshing fingers, the fingers on each member forming a cradle, of means for holding the bunch against the fingers, means for moving said members alternately toward and away from and around the center of the bunch, and means for giving the wrapping members a bodily movement toward or away from the wrapping position, substantially as described.

31. In a wrapping mechanism, the combination with a wrapper support, of a group of wrapping members, means for operating the members to rotate the bunch, and means for giving the group a bodily movement toward or away from the wrapping position, substantially as described.

32. In a wrapping mechanism, the combination with a pair of wrapping members, of a pivoted support on which said members are mounted, means for moving the members alternately toward and away from and around the center of the bunch, and means for turning the support on its pivot to give the wrapping members a movement independent of the wrapping movement, substantially as described.

33. In a wrapping mechanism, the combination with a pair of wrapping members, of a pivoted support on which said members are mounted, means for holding the bunch against the members, means for moving the members alternately toward and away from and around the center of the bunch, and means for turning the support on its pivot to give the wrapping members a movement independent of the wrapping movement, substantially as described.

34. In a wrapping mechanism, the combination with a suction wrapper support, of cooperating wrapping means against which the bunch is held by the wrapper support, and means for producing a relative travers-

ing movement between the support and the cooperating wrapping means during the wrapping operation, substantially as described.

5 35. In a wrapping mechanism, the combination with a suction wrapper support, of cooperating wrapping means against which the bunch is held by the wrapper support, and means for producing a relative move-
10 ment between the support and the cooperating wrapping means during the wrapping operation which is the resultant of an angular, a traversing and an approaching movement, substantially as described.

15 36. In a wrapping mechanism, the combination with a suction wrapper support having a pressing surface located outside the field of suction, of a cooperating wrapping means against which the bunch is held by
20 the wrapper support, and means for producing a relative movement between the support and the wrapping means during the wrapping operation which is the resultant of an angular, a traversing and an approach-
25 ing movement, substantially as described.

37. In a wrapping mechanism, the combination with a suction wrapper support provided with a pressing surface lying out-

side the field of suction, of a pair of wrapping members having intermeshing fingers against 30 which the bunch is held by the wrapper support, means for moving the members toward and away from and around the center of the bunch, and means for moving the wrapper support past the wrapping mem- 35 bers, substantially as described.

38. In a wrapping mechanism, the combination with a suction wrapper support provided with a pressing surface lying outside the field of suction, of a pair of wrapping 40 members, a pivoted support on which said members are mounted, means for moving the members towards and away from and around the center of the bunch, means for moving the support for the wrapping mem- 45 bers, and means for moving the wrapper support past the wrapping members, substantially as described.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing 50 witnesses.

SYDNEY I. PRESCOTT.

Witnesses:

W. H. KENNEDY,
A. WHITE.