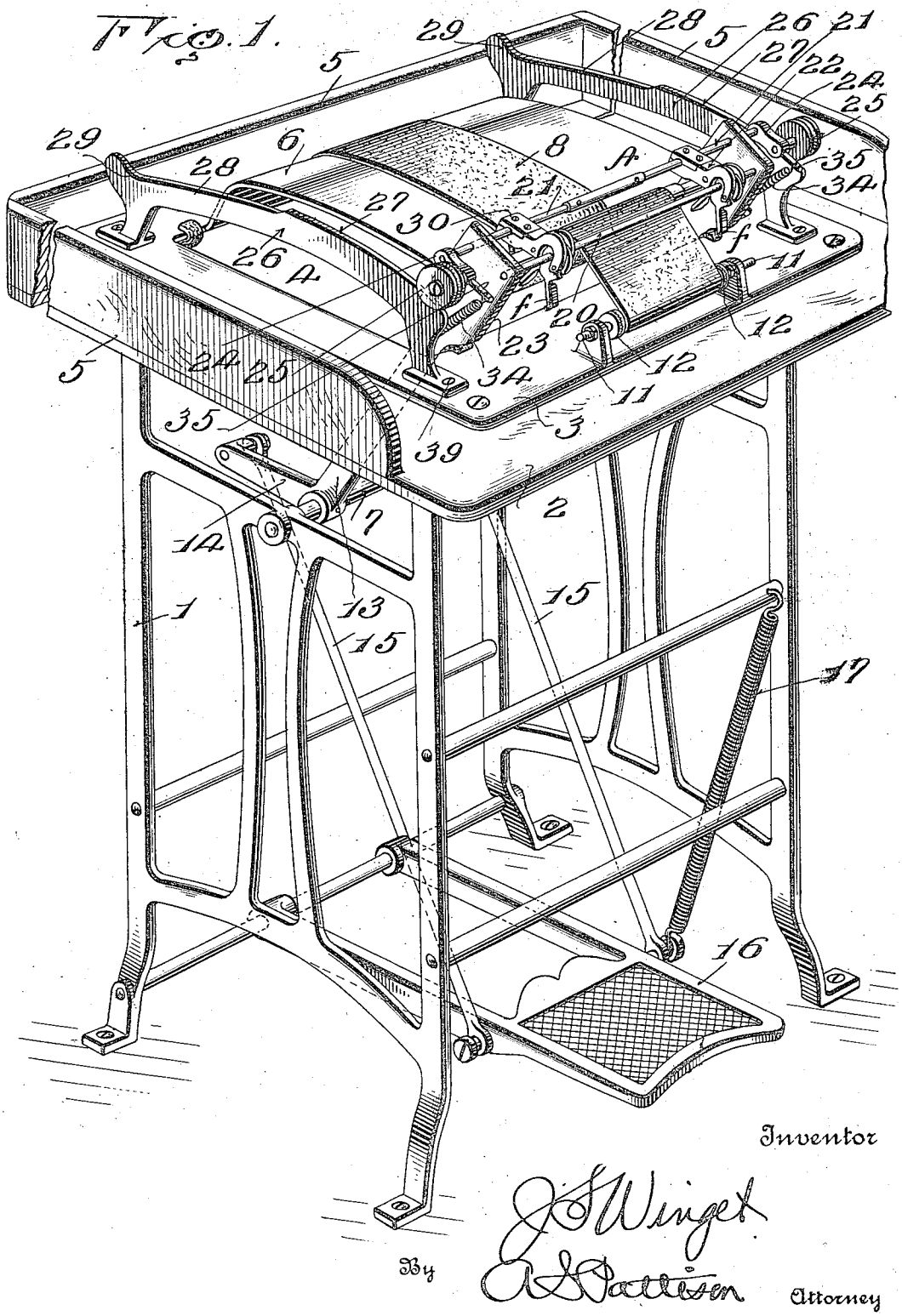
March 18, 1924. 1,487,640

J. S. WINGET

CIGAR WRAPPING MACHINE

Filed July 7, 1920 4 Sheets-Sheet 1

FIG. 1.



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CIGAR WRAPPING MACHINE

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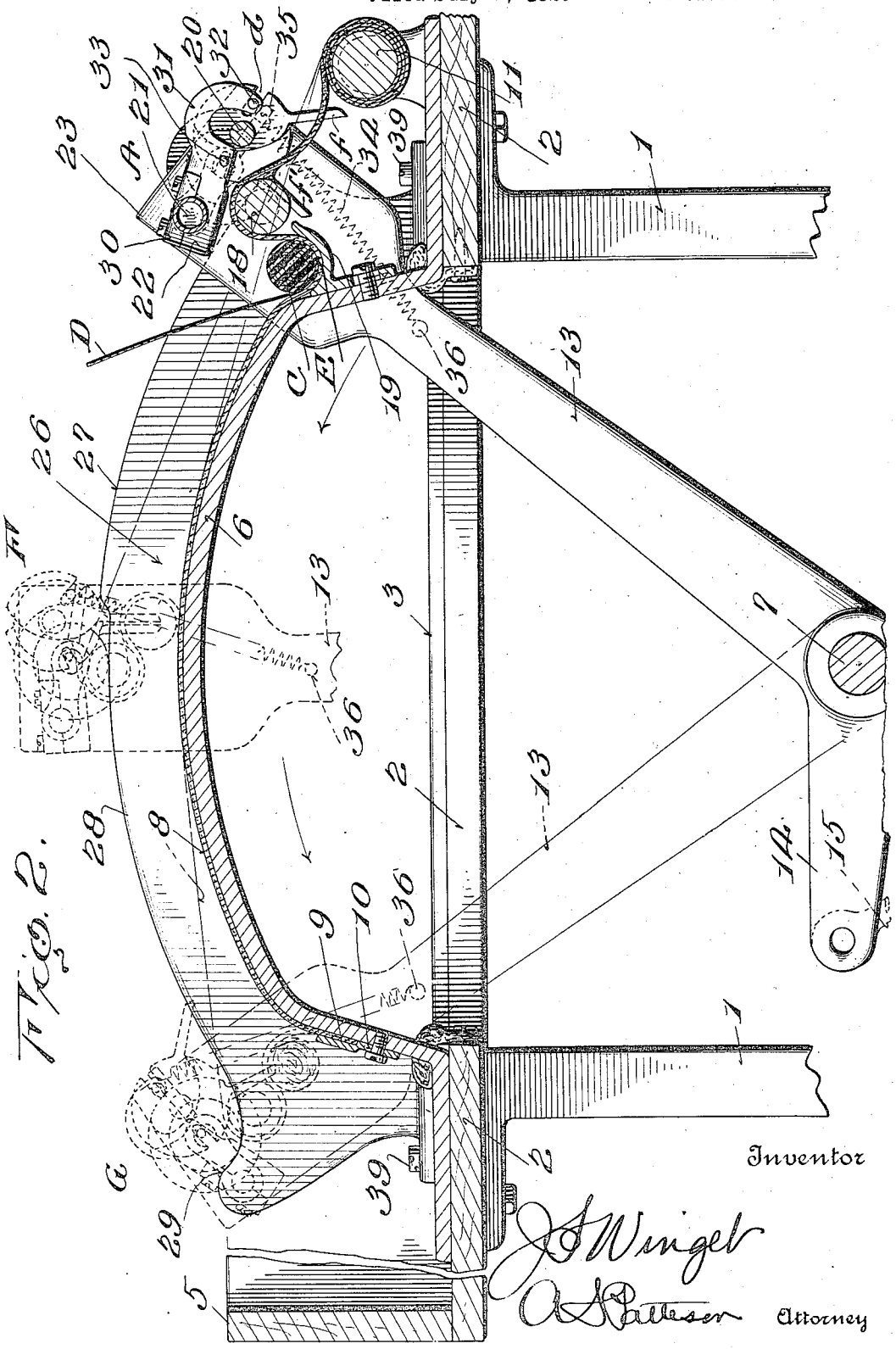


Fig. 2.

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CIGAR WRAPPING MACHINE

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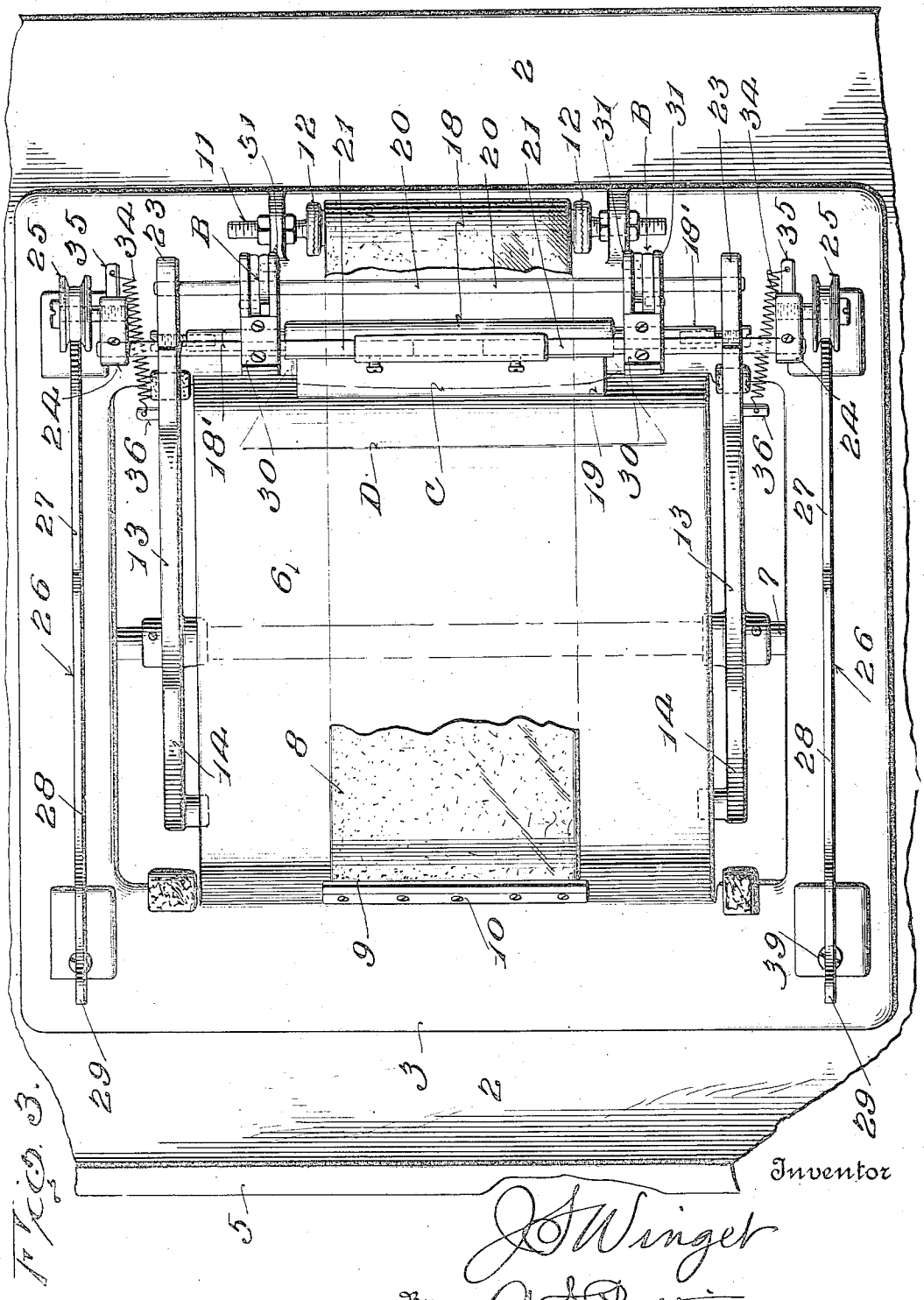


Fig. 3.

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FIG. 4.

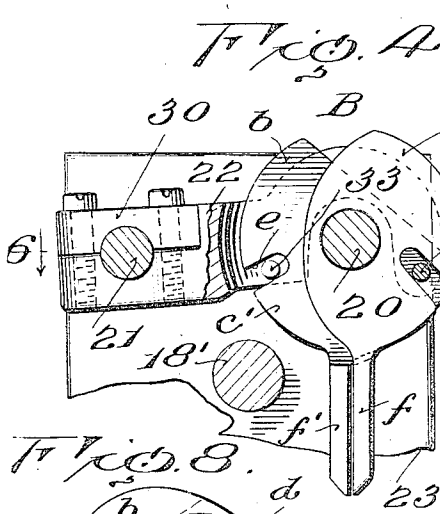


FIG. 5.

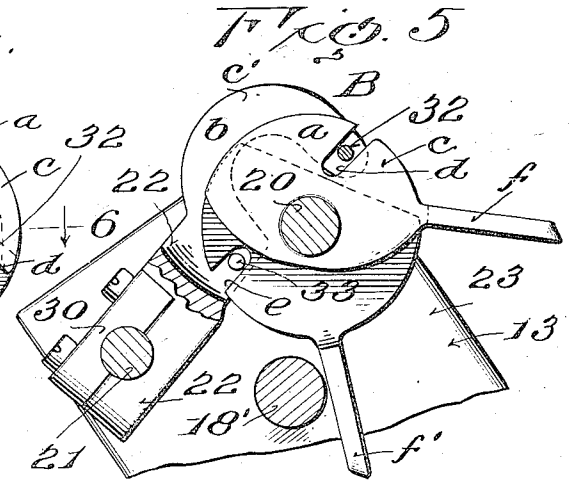


FIG. 8.

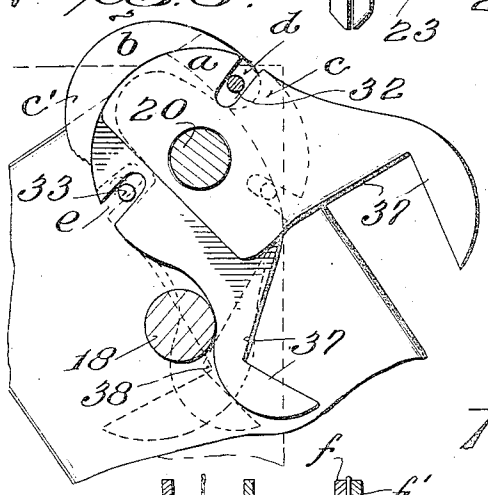


FIG. 6.

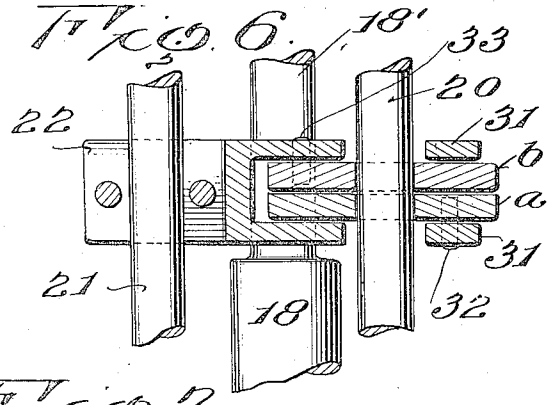
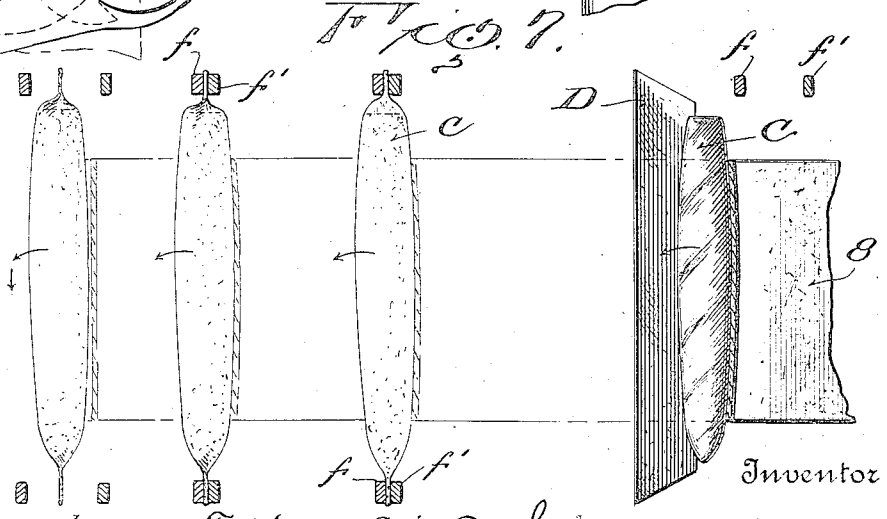


FIG. 7.



Inventor

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By C. S. Watson Attorney

Patented Mar. 18, 1924. 1,487,640

UNITED STATES PATENT OFFICE.

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CIGAR-WRAPPING MACHINE.

Application filed July 7, 1920. Serial No. 394,464.

To all whom it may concern:

Be it known that I, JASPER STANLEY WINGET, a citizen of the United States, residing at York, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Cigar-Wrapping Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in cigar wrapping machines, and its primary object is to provide a simple and effective construction for wrapping finished cigars with either tissue paper or tin-foil.

My machine in general terms may be characterized as one using a belt upon which the tissue paper or tin-foil wrapper and cigars are placed, and a combined oscillating or reciprocating roller and wrapper end twisting mechanism.

My present improvement further embodies a set of grips, one located beyond each end of the cigar to grip the extending ends of the tissue paper or tin-foil wrapper after it has been wrapped around the cigar and holding these ends while the cigar is further rotated to twist the extended ends of the wrapper, the gripping mechanism traveling with the cigar as it rolls, and releases the twisted ends after the rolling and twisting has been accomplished, permitting the wrapped cigar to be delivered from the machine into a suitable receptacle.

My present improvement embodies further features which will appear from the following description and disclosure.

In the accompanying drawings:

Figure 1 is a perspective view of a machine embodying my invention.

Fig. 2 is a vertical longitudinal central sectional view through the upper portion of the machine.

Fig. 3 is a top plan view of my improved machine.

Fig. 4 is a detail view of the tissue grips, showing them in closed position to grip the extending ends of the tissue wrapper.

Fig. 5 is a detail view showing the grips in released positions.

Fig. 6 is a horizontal sectional view on the line 6—6 of Fig. 4, looking in the direction indicated by arrow.

Fig. 7 is a diagrammatic view showing the operation upon the cigar and wrapper to accomplish the wrapping of the cigar and the twisting of the wrapper ends.

Fig. 8 is a detail view of a form of gripper particularly adapted for use in gripping the ends of the tin-foil.

In carrying out my invention, any suitable form of supporting frame 1 may be used. A top plate 2 is provided for receiving a rectangular plate 3, having a rectangular opening 4. Preferably, the plate 2 has an upwardly extending flange 5, extending around its sides and back. The rectangular plate 3 has a curved wrapping bed 6, extending upward therefrom, and this bed 6 is preferably the arc of a circle drawn from the center of a shaft 7, which has its ends journaled in supporting frame 1 below the plate 2. A wrapping belt 8 has its rear end 9 detachably clamped to the rear side of the wrapping bed 6, by any suitable form of clamp 10. This belt passes over and engages the outer face of the bed 6 and has its opposite end wrapped around a suitable adjustable rod 11, whereby the length of the belt may be varied by adjusting the rod 11 through the medium of any suitable ratchet mechanism 12. This adjustment adapts the belt for cigars of various diameters.

A combined wrapping and twisting mechanism A is supported between two upwardly projecting arms 13, which have their lower ends secured to the shaft 7. Each of these arms 13 has a rearwardly projecting arm 14, which are connected by links 15, with a suitable treadle 16. A contracting spring 17 serves to hold the treadle and the wrapping and twisting mechanism normally in position shown in Figs. 1 and 2. The treadle mechanism shows the machine for manual operation, but the machine may be operated by power in any suitable manner without departing from my invention.

Referring now to the wrapping and twisting mechanism A, which is supported between the upper ends of the upwardly projecting arms 13, it comprises a suitable roller 18 over which the belt 8 passes, as clearly shown in Fig. 2. Located at the forward end of the wrapping bed 6, is a suitable belt and cigar receiving pocket, 19, which projects forwardly from the plate 6.

Located in front of the roller 18 is a grip-carrying rod 20, and in rear of this rod 20 is an oscillating rod 21, carrying two pairs of grip-operating members 22. The rods 20 and 21 are supported in the heads 23, which form the upper ends of the arms 13, and these rods are parallel to each other. The crank arms 24 are attached to the projecting ends of the rod 21 and these crank arms project forwardly. Journaled to the outer sides of the free ends of these crank-arms are grooved wheels 25. These grooved wheels run on grooved cam-way 26, which are located at opposite ends of the rectangular plate 3 and projecting upward approximately in the curved plane of the wrapper plate 6. These cam-ways are shaped to form elongated wheel-run-ways 27, at their forward ends, relatively depressed elongated wheel-run-ways 28, and at their rear ends upwardly extending portions 29. The wheel-run-ways 27 are in a plane above the wheel-ways 28, the object and function of which will be presently explained.

From the foregoing description it will be understood that the ways 27 and 28 constitute in effect cam-ways for operating grippers which will now be described.

The grips B comprise two members *a* and *b* having enlarged portions *c* and *c'*, and these enlarged portions are journaled on the rod 20, so that they may have oscillating movements in opposite directions. The members *a* and *b* are placed on the rod 20, side by side, as shown in Fig. 6. The parts *c* have an upwardly and inwardly extending slot *d*, and the part *c'* and upwardly and inwardly extending slot *e*, whereby the slots extend upward towards each other. Grip jaws *f*, *f'* project downward from the parts *a* and *b*, and these jaws, in Fig. 4, are shown in closed positions and in Fig. 5, in open positions. The grip operating members 22 are clamped to the rod 21 by suitable clamps 30, whereby they may be held in adjusted positions on the rod and adjusted towards and away from each other. Each of these grip-operating members have two forwardly projecting arms 31, which are approximately inverted U-shaped and are located at opposite sides of the grips, as shown in Fig. 6. The arm 31, adjacent the member *a* is provided with an inwardly extending pin 32, which enters the slot *d* of the said part, and the arm 31 of the grip-member *b* has a pin 33 entering the slot *e* of the part *b*. It will be observed that these pins 32 and 33 are at opposite sides of the shaft so that when the grip operating member 22 has its free inverted U-shaped end depressed, the jaws *f*, *f'* are brought to closed position, as shown in Fig. 4, and when the grip operating member is moved upward, it carries the said jaws to open positions, as shown in Fig. 5. With the grooved wheels 25 in engagement with the operating wheel-way 26, as shown in full lines, the free ends of the grip-operating members are elevated so that the jaws of the grips are carried to open position. When, however, the curved wheels drop on the lower wheel-way 28, the free ends of the members 22 are lowered through the action of springs 34, which have their upper ends connected to forwardly projecting rods 35 on the crank-arms 24, and their lower ends connected with the arms 13, at the points 36. When the wheels 25 reach the upwardly extending cams 29, at the rear ends of the cam-ways 26, the wheels 25 will be raised causing the free ends of the member 22 to be raised, thus opening the jaws of the grips at this point.

In Fig. 8, I have a modified form of grip-jaws, particularly constructed for acting upon the tin-foil, and these jaws consist of rectangular extending portions 37. These jaws when closed to grip the ends of the tin-foil blanks, for holding them while they are twisted, constitute a diamond shaped space 38, as shown in dotted lines, Fig. 8. Other parts of the grips, shown in Fig. 8, are the same as that shown in Figs. 4 and 5, so that the description of the last mentioned figures apply equally to Fig. 8, and it is unnecessary to repeat it in connection with this figure of the drawings.

The roller 18 has its ends reduced in diameter, as shown at 18', for a purpose which will be explained in connection with the operation of the machine.

Any desired shape of blank of tissue-paper or tin-foil may be used. This blank is made longer than the length of the cigar, so that it will project beyond its ends.

In operation, the cigar C and the edge of the wrapper blank D are placed in the belt pocket E, as shown in Figs. 2 and 7. In this position of the parts the wheels 25 are on the elevated wheel-way 27, and the jaws *f*, *f'*, are in their open position, as above described. The combined wrapping and twisting mechanism A is then caused to travel over the bed-plate 6 in the direction indicated by arrows Fig. 2, which, through the action of the roller 18, causes the cigar to be rolled and the wrapper blank *d* wrapped therearound. This wrapping operation will be accomplished by the time the wrapping and twisting mechanism reaches the center point F of Fig. 2. When in this position, the roller 18 has traveled forward of the cigar and the grip jaws in a vertical line over the axis of the cigar. At this point the wheels 25 drop down on the lower wheel-way 28 causing the jaws to close, as above described, and grip the projecting ends of the wrapper. The combined movement of the wrapping and twisting mechanism causes the cigar to continue to roll and as the jaws hold the ends of the wrapper, the ends are caused to twist. When the wrapping and twisting

mechanism has reached the position G, of Fig. 2, the twisting has been completed and the wheels 25 are lifted by the cam-portions 29 and open the jaws and permit the wrapped cigar to fall from the machine to be caught in any suitable receptacle, not shown.

It will, of course, be understood that the number of rolls the cigar is given before the jaws grip the extended ends of the wrapper is determined by the length of the wheel-way 27, and the number of twists given to the ends of the wrapper is determined by the length of the lower wheel-ways 28. These wheel-ways are detachably held by suitable bolts 39, so that they may be detached and wheel-ways substituted therefor with different lengths of upper and lower wheel-ways 27 and 28, according to the character of work being done and the size and shape of cigar to be wrapped.

The gripping members *a* and *b* are loosely placed on the rod 20, and this rod is removable from the heads 23 of the arm 13, so that the tin-foil grips may be substituted for the tissue paper grips and vice versa.

In Fig. 7, I diagrammatically show the different positions of the cigar and wrapper during the wrapping and twisting operations.

Owing to the large center and reduced ends 18′ of the roller 18, the grip jaws are allowed to fall back out of the way while it is rolling the wrapper around the cigar.

When a tin-foil wrapper is used, it will twist off close to the ends of the cigar between the grips and ends of the cigar. If a back twist is desired, the guide-rails must both be curved in at the back end of the bed plate.

While the form of grip, shown in Fig. 8, is constructed for particularly working on tin foil, I find in practice that this form of grip works equally well with tissue-paper.

I do not limit myself to the exact construction of parts herein shown and described, for they may be varied within the scope and spirit of the appended claims without departing from my invention.

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

1. A machine of the type described, comprising a belt, a reciprocating mechanism, carrying gripping means for holding the wrapped ends of a wrapper, and means for closing the gripping means after the wrapping is completed.

2. A machine of the type described, comprising a belt, a reciprocating wrapping means co-operating with the belt, gripping means holding the ends of a wrapper, and stationary cams for closing the gripping means after the wrapping is completed.

3. A machine of the type described, comprising a belt, a reciprocating mechanism including grippers at opposite ends of a wrapper, and fixed ways for operating the grippers after the wrapping is completed.

4. A machine of the type described, comprising a bed plate, a reciprocating frame, a wrapping belt having its ends attached with the bed plate, a roller carried by the frame and co-acting with the belt and bed plate for wrapping a sheet around an elongated circular object, grippers carried at opposite sides of the frame for gripping the wrapped ends of the sheet, and stationary elongated cam-ways at opposite sides of the bed-plate, the cam-ways adapted to close the grippers at the ends of the wrapped sheet.

5. In a machine of the type described, adapted to roll a cigar in a wrapper having extended ends, comprising means for rolling the cigar and wrapper over a bed-plate, and means traveling with the cigar for twisting the extended ends of the wrapper by the roller action of the cigar.

6. In a machine of the type described for wrapping a cigar in a wrapper longer than the length of the cigar, comprising a bed-plate, a belt passing over the plate and adapted to receive a cigar and a wrapper on its outer side, a traveling member carrying a roller located in a plane beyond the cigar and engaging the under side of the belt for causing the cigar and wrapper to roll, said traveling member carrying also means for holding the extended ends of the wrapper for causing them to be twisted by the rolling action of the cigar.

7. A wrapping machine comprising means for wrapping a sheet around an elongated circular object with the ends of the wrapper extended, said means including in combination oscillating grippers, the grippers having a diamond-shaped surface or edge, which compresses and cuts the said extended wrapper, the diamond aperture gradually closing and compressing the ends to a solidity, a bed-plate, said grippers being oscillated by cam-ways located at opposite sides of and parallel the bed-plate, whereby the said grippers compress the extended ends of the wrapper from all angles to the center of the diamond while passing over the stationary bed-plate and cutting off the extended ends at the terminus of the said bed-plate.

8. In a machine of the type described, comprising a bed-plate, a belt passing thereover and adapted to receive a cigar and a wrapper longer than the length of the cigar, a traveling member carrying means for causing the belt to roll the cigar and grips for gripping the extended portions of the wrapper, and means for holding the grips open during the wrapping action, closin them around the extended wrapper when th

wrapping is complete for causing the ends to twist and means for opening the grips when the twisting operation is completed.

9. In a machine of the type described, comprising a bed-plate, a belt passing thereover, and adapted to receive a cigar and a wrapper longer than the length of the cigar, means for rolling the cigar and wrapper comprising a traveling member carrying a roller in a plane beyond the cigar, grips carried by the traveling member and located to grip the extended portions of the wrapper, means for holding the grips open during the wrapping operation and closing them when the wrapping is completed, the roller having reduced ends to allow the grips to fall back out of the way of the wrapper during the rolling operation.

10. A machine of the type described, comprising a bed-plate, a belt passing thereover, a traveling member carrying a roller in a plane outside of the belt for rolling a cigar and a wrapper longer than the length of the cigar, grips located to hold the extended portions of the wrapper, upper and lower elongated cam surfaces and means controlled by the cam surface for opening and closing the grips.

11. In a machine of the type described, comprising a bed-plate, a belt adapted to receive a cigar and wrapper longer than the length of the cigar, a traveling member carrying a roller located in a plane beyond the cigar, grips carried by the traveling member and closed to hold the ends of the wrapper, each grip comprising two jaws, a reciprocating member for operating the jaws and elongated cams for operating the reciprocating members for causing the jaws to open and close, for the purpose described.

12. A grip operating mechanism for a machine of the type described, comprising a traveling member, a rod carrying grips, grip operating members to open said grips, and an oscillating rod to which the grip operating members are connected, a laterally extending crank attached to each end of the rod, wheels journaled on the free ends of the cranks, upper and lower elongated cam surfaces, and means for holding the wheels normally in engagement with the cam surfaces, the parts operating as described.

13. A grip operating mechanism for a machine of the type described, comprising grips each comprising two oscillating members having extended jaws, the said members having oppositely extending slots, grip operating members carrying pins at opposite sides of the center of the oscillating member engaging said slots, and means for moving the grip operating members to open and close the grips.

14. In a machine of the type described, a curved bed-plate, a belt having one end attached to the rear end of the plate and extending loosely over the plate with its opposite end connected beyond the front end of the plate, a belt adapted to receive a cigar and a wrapper having a length greater than the length of the cigar, a swinging member carrying a roller engaging the outside of the belt and located in a plane beyond the cigar, grips located to engage the extended portions of the wrapper and means for holding the grips open during the wrapping operation, and closing the grips when the wrapping is completed for twisting the extended portions of the wrapper and for opening the grips when the twisting operation is completed.

15. In a construction substantially as set forth in claim 1, a grip support extending transverse the machine upon which the grips are adjustable towards and away from each other to accommodate different lengths of cigars.

16. A wrapping machine comprising means for wrapping a wrapper around an elongated circular object with the ends of the wrapper extended, said means including in combination oscillating members acting as grippers, compressers and cutters, the grippers having a diamond-shaped surface or edge, the diamond aperture gradually closing and compressing the extended ends to a solidity thereby compressing equally from all angles to the center of the diamond while passing over a stationary bed-plate and cutting the extended ends off at the terminus of the bed-plate, said combination grippers being oscillated by cam-ways set parallel with the bed-plate, one on each side of the same.

17. A machine of the character described, comprising means for wrapping a sheet with an extended end around an elongated object, said means including a roller having a reduced portion, and a grip located over the reduced portion of the roller, whereby a movable part of the grip can move away from the wrapped extended end of the sheet.

In testimony whereof I hereunto affix my signature.

JASPER STANLEY WINGET.