(No Model.) 2 Sheets—Sheet 1.

T. HIATT.

ORANGE WRAPPING MACHINE.

No. 429,759. Patented June 10, 1890.

Fig 1

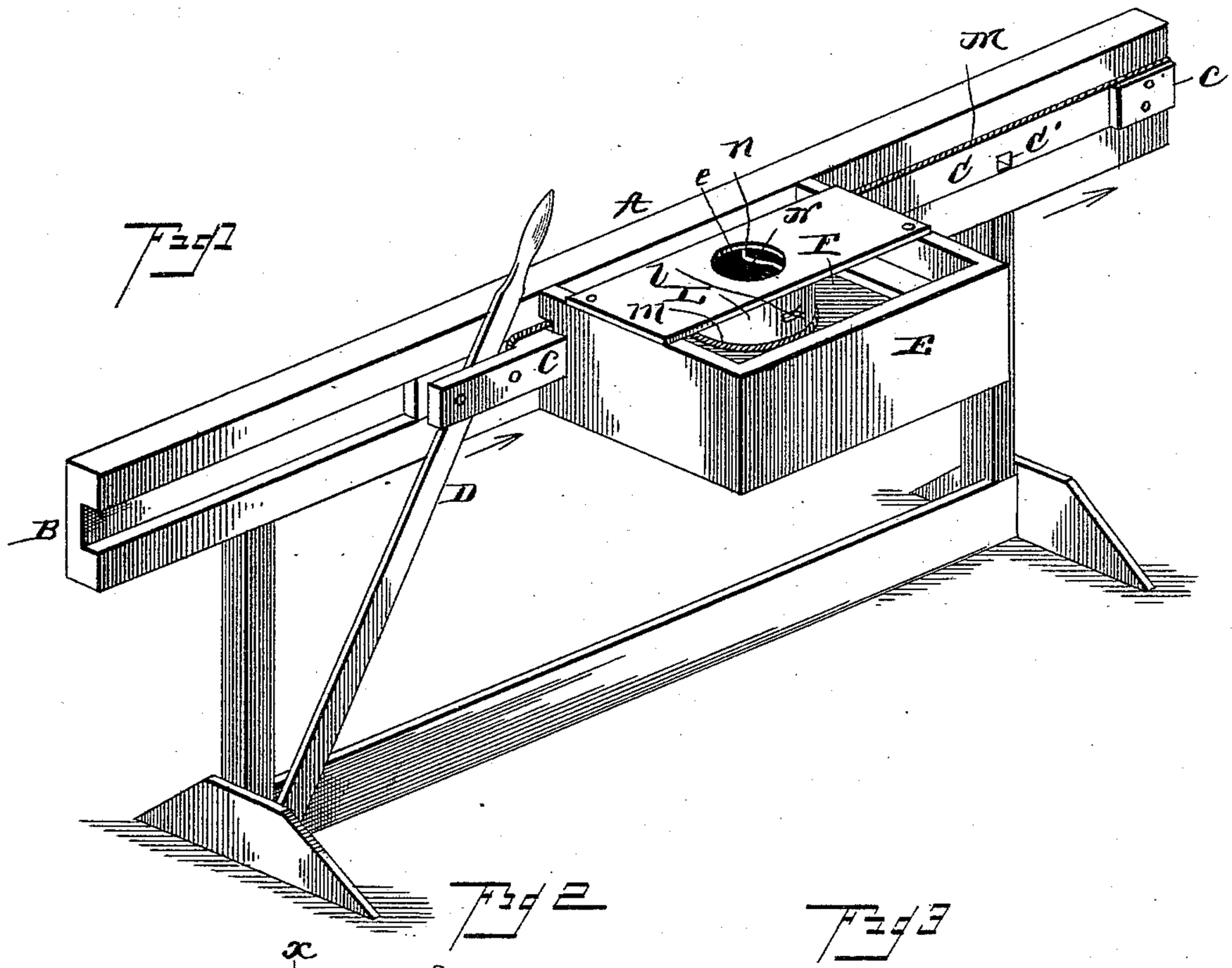


Fig 2

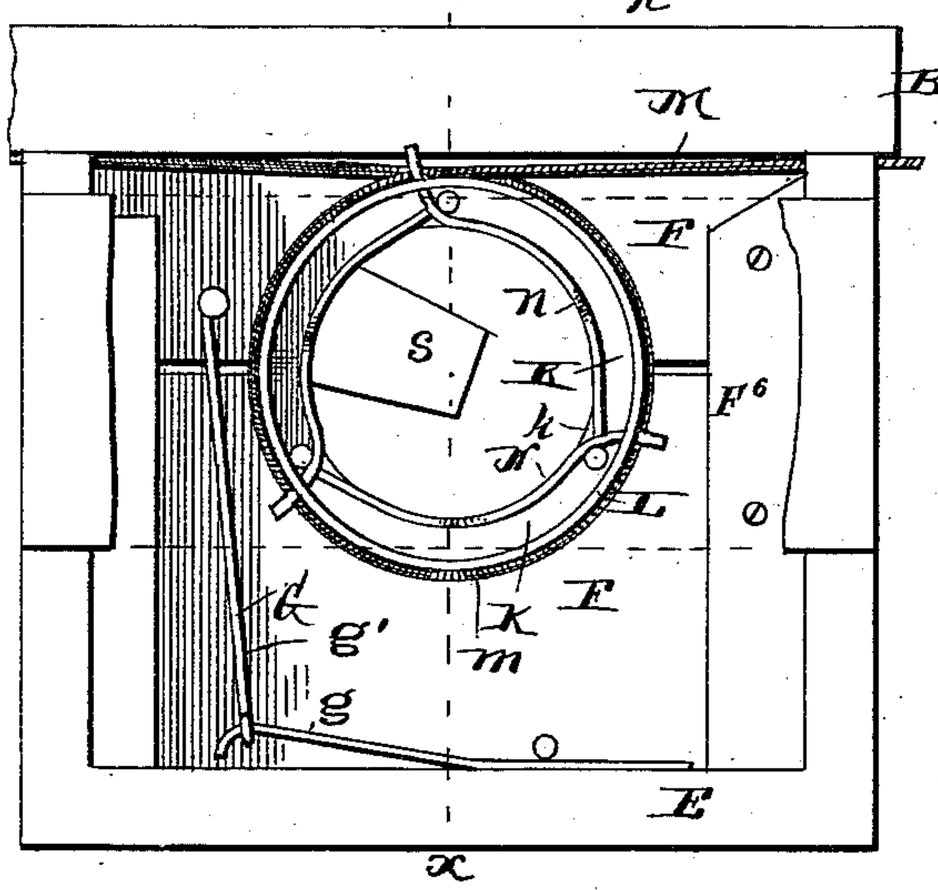
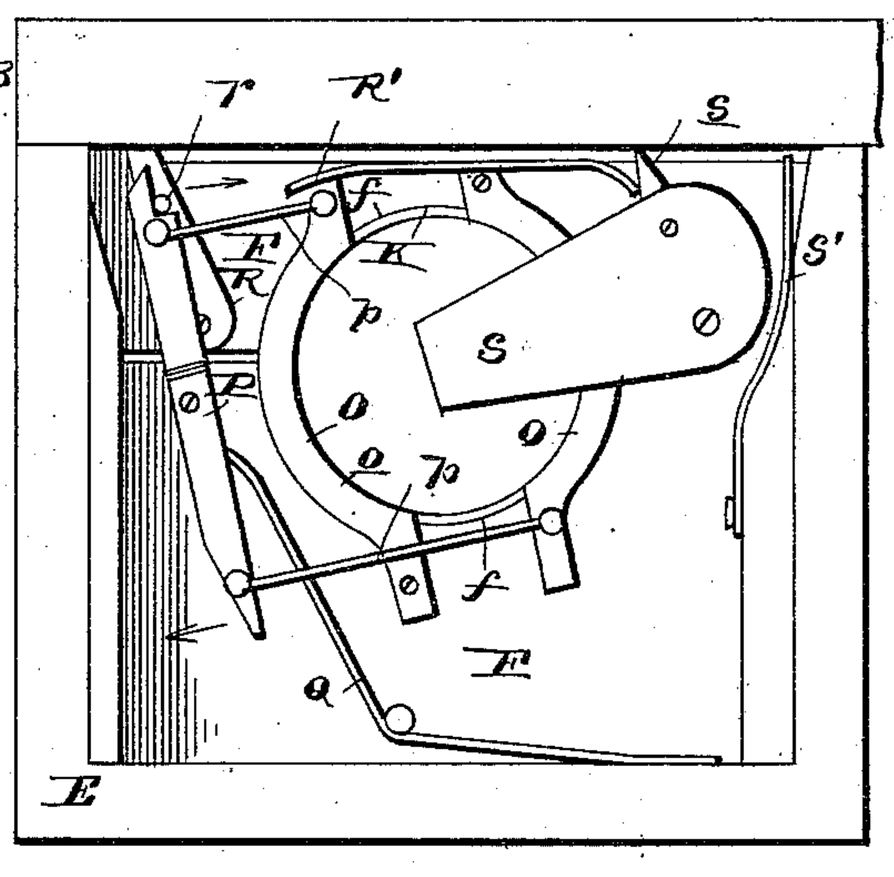


Fig 3



Witnesses

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(No Model.)

2 Sheets—Sheet 2.

T. HIATT.

ORANGE WRAPPING MACHINE.

No. 429,759. Patented June 10, 1890.

Fig 4

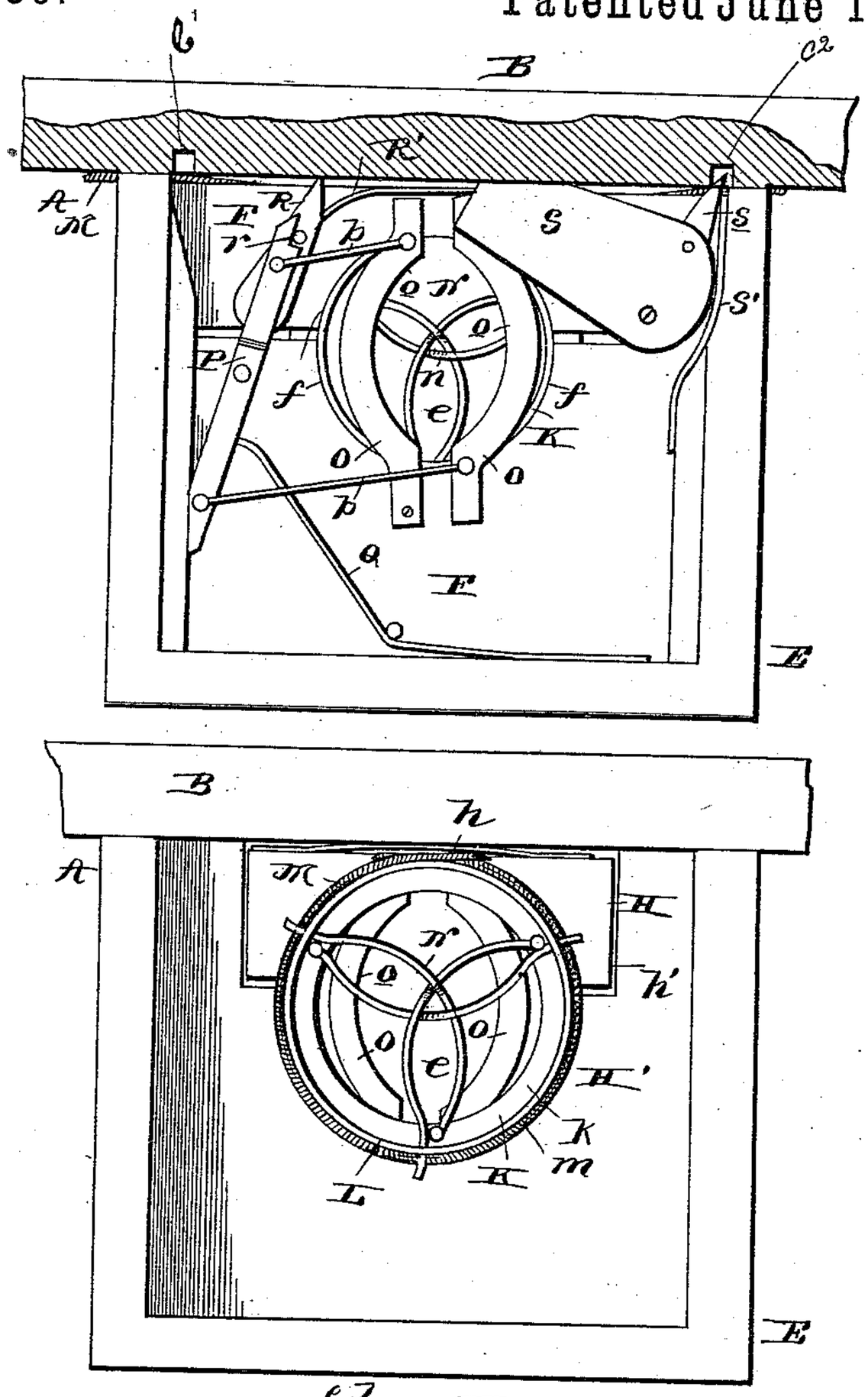
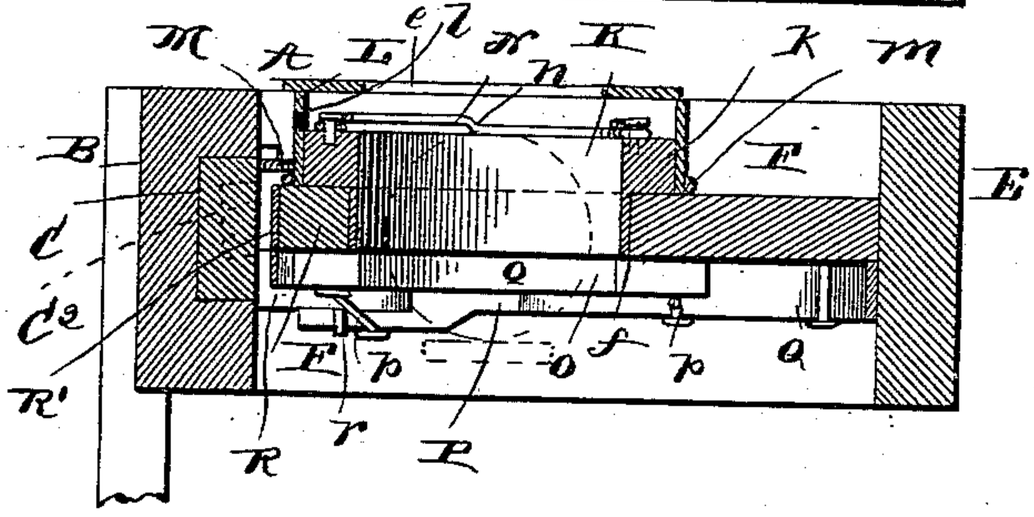


Fig 5

Fig 6



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UNITED STATES PATENT OFFICE.

THOMAS HIATT, OF LEESBURG, FLORIDA.

ORANGE-WRAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 429,759, dated June 10, 1890.

Application filed March 8, 1889. Serial No. 302,430. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HIATT, a citizen of the United States, residing at Leesburg, in the county of Lake and State of Florida, have invented a new and useful Improvement in Orange-Wrapping Machines, of which the following is a specification.

The invention relates to an orange-wrapping machine, having for its object to provide a simple, cheap, light, durable, and effective device for this purpose; and it consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of an orange-wrapper embodying my invention. Fig. 2 is a plan view of the wrapping-box, partly broken away to show the interior construction. Fig. 3 is a bottom plan view of the same with the supporting-platform arranged under the opening. Fig. 4 is a similar view with the platform swung back and the clamping-jaws in their clamping positions. Fig. 5 is a plan view showing a slightly-modified form of brake-blocks. Fig. 6 is a vertical central sectional view on the line *x x* of Fig. 2.

Referring by letter to the drawings, A designates the frame of the orange-wrapper, which is provided with a horizontal grooved guide-bar B, and a sliding bar C fits in the groove of the guide-bar and is adapted to be slid longitudinally therein by means of the operating-lever D or by its equivalent, as a crank-wheel or other well-known device.

E represents the wrapping box or case, which is arranged at an intermediate point of the horizontal bar B, and is provided at its center with an opening *e* to receive the oranges, and the sliding bar is provided at suitable points with shoulders *c c* to come in contact with the sides of the said box and limit the longitudinal movement of the slide.

F F designate the brake-locks, arranged horizontally in the wrapping-box and provided at their contiguous edges with semicircular notches *f f*, which combine to form a circular opening which corresponds and registers with the receiving-opening *e*, the said blocks being connected pivotally at one end by a block F^6 and connected at their free ends by the spring-connection G, which consists of the spring *g*, affixed to one of the blocks and connected at its free end to the other block by the rod *g'*.

In Fig. 5 is shown a slightly-modified form of the brake-blocks, in which a small block H fits and slides in a rectangular opening *h'* in a larger block H', and is pressed inward by the tension-spring *h*, which may be arranged in any suitable manner.

K designates an inner hoop or annular fulcrum-block, which fits in the opening formed by the notches *f f*, the brake-blocks being adapted to press with sufficient force against the opposite sides of the said hoop or block to prevent accidental rotation thereof, and it is provided at its upper edge with the horizontal peripheral flange *k*, which bears on the upper sides of the brake-blocks, and is thereby held in the proper position.

L designates an outer hoop or revoluble drum, which surrounds the inner hoop or fulcrum-block, and bears at its lower edge on the upper sides of the brake-blocks, and M designates an operating-band, which is attached at its ends to the slide C, and is provided at an intermediate point with a loop *m*, which encircles the outer hoop or drum, whereby when the slide is moved longitudinally the said hoop or drum is rotated first in one direction and then in the other.

N N designate arc-shaped twisting-arms, which are pivoted at one end to the flange on the upper edge of the inner hoop or fulcrum-block at equal distances apart and project at their free ends through short horizontal slots *l l* in the outer hoop or drum. These arms are adapted, when the device is in the position shown in Fig. 2, to fit close to the sides of the inner hoop or fulcrum-block, so as to free the opening *e* and permit the insertion of an orange; but when the device is in the position shown in Fig. 4 these arms are extended across the opening *e* with their centers close together. The arms N N are provided at their centers with the vertical offsets *n n*, to permit the arms to come in contact at their centers, for a purpose which will be hereinafter explained.

O O designate clamping-jaws, which are piv-

oted to the under sides of the brake-blocks, respectively, on opposite sides of the opening through which the oranges are inserted, and extending, respectively, in opposite directions, and P designates a lever or rocking arm, which is connected at its extremities, respectively, to the free ends of the clamping-jaws by the rods *p p*. When this lever or rocking arm is swung in the direction indicated by the arrows in Fig. 3, the clamping-jaws are swung toward each other, (their facing sides being provided with curved surfaces *o o* to bear against opposite sides of the orange,) and when the said lever or rocking arm is moved in the opposite direction the jaws are separated to free the orange. A spring Q bears against one end of the lever or rocking arm to move it in the direction indicated by the said arrows, and therefore normally hold it in position to cause the jaws to clamp the fruit.

A small swinging pawl R is arranged adjacent to one end of the lever or rocking arm, and is provided with a depending stud *r* to engage the end of the same to force it in the direction opposite to that indicated by the arrows above referred to, and the free end of this pawl is engaged by notches C′ and C² in the slide, as the latter is moved respectively in opposite directions.

When the operating-lever D is swung away from the wrapping-box, the notch C² engages the free end of the pawl and swings it inward, thereby releasing the rocking arm P and permitting it to move in the direction indicated by the arrows, so as to swing the clamping-jaws toward each other, the free end of the pawl meanwhile bearing against the free end of a spring R′, which holds it in contact with the adjacent surface of the slide. When the slide is moved in the opposite direction, or toward the wrapping-box, the free end of the pawl is engaged by the notch C′ and swung outward, thereby moving the rocking arm in the direction opposite to that indicated by the arrows and separating the clamping-jaws. The tension of the spring Q holds the free end of the pawl in contact with the surface of the slide, so that when the latter has reached the limit of its movement the notch C² (see Fig. 6) will engage it in position, swing it inwardly as before, and again release the rocking arm, when the slide starts on the return movement.

S designates a swinging platform, which is adapted to swing at its free end under the opening *e*, and it is provided near its pivoted end with a stud or pawl *s*, which is adapted to be engaged by the notch C² in the slide. When the operating-lever is swung toward the wrapping-box, (so that the slide moves in the direction indicated by the arrows in Fig. 1,) the notch C² engages the stud or pawl *s* and swings the free end of the platform under the opening *e*, in which position it is stopped by the free end of a spring S′, which bears against the stud or pawl. This spring also holds the free end of the stud or pawl in contact with the surface of the slide, so that when the latter is moved in the opposite direction the notch C² again engages it and swings the platform rearwardly, thereby freeing the opening.

The operation of the improved orange-wrapper is as follows: Having arranged the machine in the position shown in Fig. 1, (in which position the platform is arranged under the opening *e*,) a sheet of wrapping-paper is placed over the opening *e* and an orange is dropped thereon, which slips down through the twister (which consists of the outer and inner hoops and the twisting-arms which are operated thereby) until it rests on the platform, the edges of the paper being drawn up around the sides of the orange. The slide is now moved in the direction opposite to that indicated by the arrow in Fig. 1, thereby rotating the outer hoop or drum (the inner hoop or fulcrum-block is held stationary by the brake-blocks) and swinging the free ends of the twisting-arms around, so as to extend them across the opening *e* above the orange. This movement of the twisting-arms draws the free edges and corners of the wrapping-paper over the center of the orange and crimps them, and during this operation the clamping-jaws are forced toward each other by the rocking arm and bear firmly against opposite sides of the orange. The slide continues to move in the direction indicated, and the centers of the twisting-arms having come in contact and tightly clasped the edges of the paper the inner hoop or fulcrum-block is now also rotated, thereby twisting the edges of the paper together, while the orange is held from rotation by the clamping-jaws. During this twisting operation the platform is swung away from the opening, and therefore when the slide reaches the end of its stroke and starts on the return-stroke, as indicated by the arrow in Fig. 1, thereby separating the twisting-arms and separating the clamping-jaws the orange drops into a suitable receptacle placed under the wrapping-box.

It will be seen from the above that the outer and inner hoops are only connected by the twisting-arms, and therefore the rotation of the outer hoop does not affect the inner hoop (the latter being held in place by the brake-blocks) until the centers of the twisting-arms come in contact and crimp the wrapping-paper, and then, if the movement of the slide is continued, both hoops are rotated simultaneously in the same direction, thereby twisting the edges of the wrapper together.

I have above described the preferred means for carrying my invention into effect; but it will be understood that I do not limit myself strictly to the precise details of construction shown, as various minor changes may be made therein without departing from the spirit and intent of the invention.

Having thus described my invention, I claim—

1. In an orange-wrapping machine, a twisting device consisting of the rotating hoops and crimping-arms connected pivotally to one of said hoops and arranged to swing in the plane of the rotation of the latter, as set forth.

2. In an orange-wrapping machine, a rotary twister to engage the edges of the wrapper and twist them together, said twister consisting of a rotating hoop, crimping-arms connected pivotally to said hoop and arranged to swing in the plane of rotation of the latter, and an outer hoop or drum, in combination with clamping-jaws to seize the orange and hold it from rotation, and a swinging platform to support the orange during operation, as set forth.

3. A twisting device consisting of a horizontally-arranged rotary open-twisting hoop to admit of an orange being dropped through the same, crimping-arms pivoted to and arranged to swing in the plane of the rotation of said hoop, and an outer hoop or drum in combination with the swinging platform or supporting device for the orange, substantially as set forth.

4. In an orange-wrapper, the combination of the revoluble concentric hoops and the twisting-arms fulcrumed to one of the hoops and connected loosely to the other hoop, whereby when the latter is rotated the said arms approach each other to crimp the paper, substantially as specified.

5. In an orange-wrapper, the combination of the outer hoop or drum, the inner hoop or fulcrum-block concentric with the outer hoop or drum, the twisting-arms fulcrumed to the inner hoop or fulcrum-block and extended through slots in the outer hoop or drum, and the belt encircling the outer hoop or drum to rotate the latter alternately in opposite directions, substantially as specified.

6. In an orange-wrapper, the combination of the inner and outer concentric hoops, the twisting-arms fulcrumed to the inner hoop and connected at their free ends to the outer hoop, and brake-blocks in contact with opposite sides of the inner hoop, and the belt encircling the outer hoop, substantially as specified.

7. In an orange-wrapper, the combination, with the twister having the twisting-arms to engage the edges of the wrapper, of the rocking arm, the clamping-jaws connected at their free ends to the extremities of the rocking arm, and the slide to operate the rocking arm, substantially as specified.

8. In an orange-wrapper, the combination, with the twister, as described, of the clamping-jaws, the spring-actuated rocking arm connected at its ends to the free ends of the clamping-jaws, the pawl provided with a stud to engage one end of the rocking arm, and the slide provided with a notch to engage the said pawl, substantially as and for the purpose specified.

9. In an orange-wrapper, the combination, with the twister, as described, of the clamping-jaws connected at their free ends, respectively, to the opposite ends of a rocking arm, the pawl provided with a stud to engage the rocking arm, the swinging platform, and the slide provided with notches to engage the said platform and the pawl, substantially as and for the purpose specified.

10. In an orange-wrapper, the combination, with the twister, as described, of the clamping-jaws, the spring-actuated rocking arms connected at its extremities to the free ends of the clamping-jaws, the pawl to engage one end of the rocking arm, the spring to bear against the pawl and limit its movement, the swinging platform provided with a stud or pawl, which is limited in movement by a suitable spring, and the slide operating in contact with the said pawls and provided with notches to engage the same, substantially as specified.

11. In an orange-wrapper, the combination of the rotary twister having an outer hoop or drum and twisting-arms, the clamping-jaws connected at their free ends to a rocking arm, the pawl to engage the rocking arm, the swinging platform, the slide provided with notches to engage the said pawl, and a stud or pawl on the platform, and the belt connected at its ends to the slide and provided at its center with a loop which encircles the outer hoop or drum, substantially as and for the purpose specified.

12. In a machine for wrapping oranges, the combination of clamps for holding the orange, pivoted segmental arms to crimp the wrapper, the hoop or sleeve carrying the said pivoted crimping-arms to twist the wrapper, and mechanism for rotating the said hoop, substantially as set forth.

13. In a machine for wrapping oranges, the combination of clamps for holding the orange, a revoluble hoop or sleeve, segmental arms pivoted to the periphery of the latter, said arms being provided with offsets or bent portions near their centers, where they intersect each other, an outer revoluble sleeve having slots to receive the free ends of the pivoted arms, and mechanism for rotating the said outer sleeve alternately in opposite directions, substantially as set forth.

14. In a machine for wrapping oranges, the combination of a revoluble sleeve having the pivoted segmental crimping-arms crossing or intersecting each other, the outer revoluble sleeve having slots to receive the free ends of said crimping-arms, the clamps to hold the orange, a swinging platform to support the orange when the holding-clamps are separated, and suitable operating mechanism, substantially as described.

15. In a machine for wrapping oranges, the

combination of a cylindrical sleeve adapted to receive the orange, a swinging platform below said sleeve to temporarily support the same, segmental crimping-arms pivoted to said sleeve, and an outer revoluble sleeve having slots to receive the free ends of said crimping-arms which are thereby operated, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS HIATT.

Witnesses:
E. H. MOTE,
R. E. SHARRARD.