

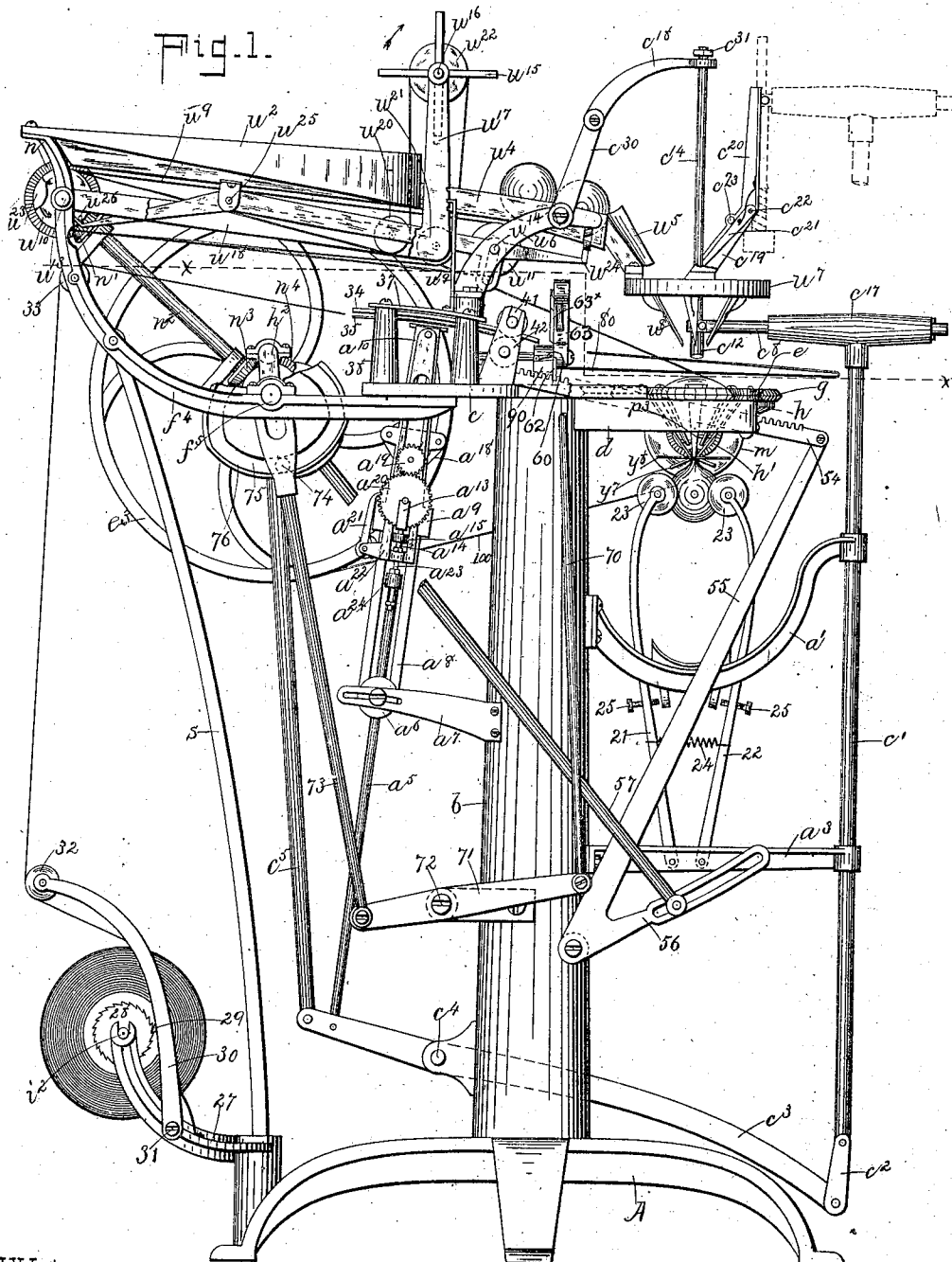
(No Model.)

3 Sheets—Sheet 1.

S. D. TRIPP.
WRAPPING MACHINE.

No. 516,136.

Patented Mar. 6, 1894.



Witnesses

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Lucy F. Grace.

Inventor

Seth D. Tripp

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attor.

(No Model.)

3 Sheets—Sheet 2.

S. D. TRIPP.
WRAPPING MACHINE.

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Fig. 2.

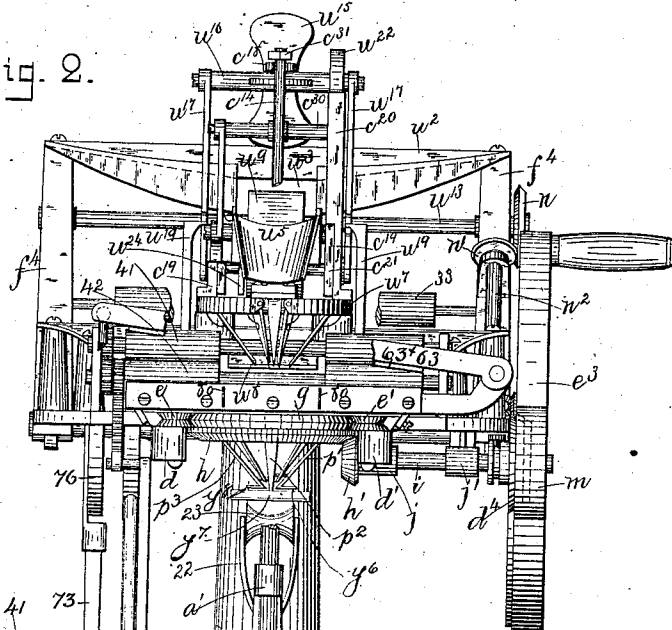


Fig. 4.

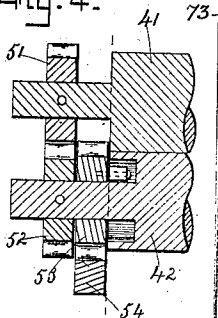


Fig. 5.

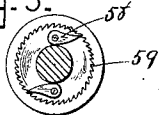


Fig. 6.

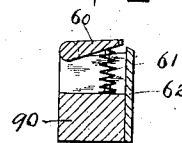


Fig. 11.

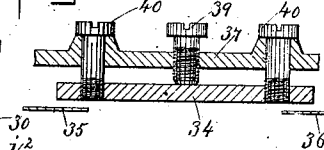
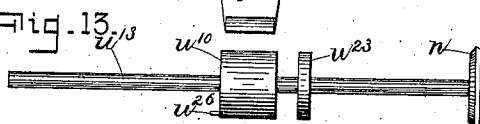


Fig. 12.



Fig. 13.



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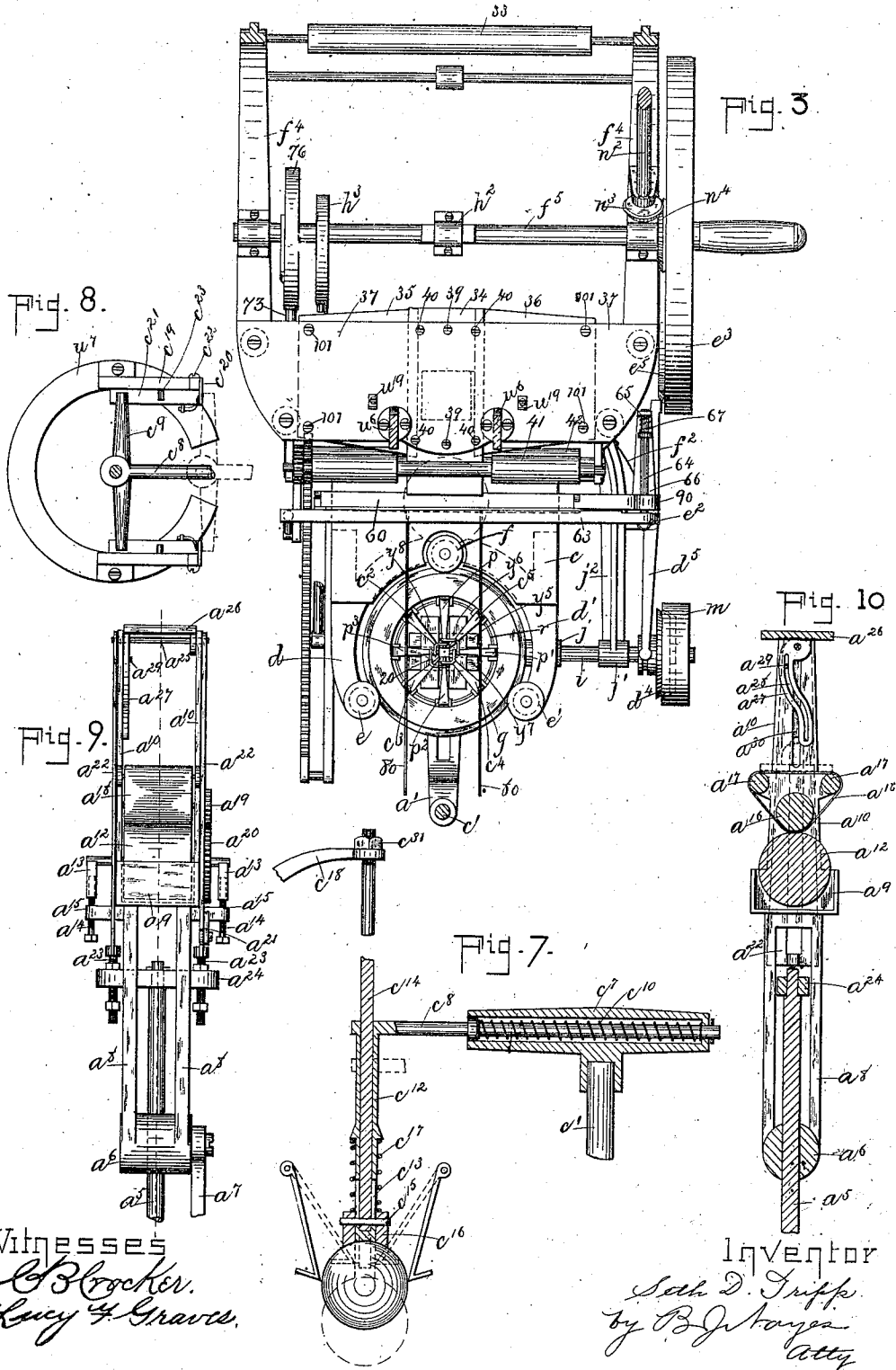
(No Model.)

3 Sheets—Sheet 3.

S. D. TRIPP.
WRAPPING MACHINE.

No. 516,136.

Patented Mar. 6, 1894.



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UNITED STATES PATENT OFFICE.

SETH D. TRIPP, OF LYNN, MASSACHUSETTS.

WRAPPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,136, dated March 6, 1894.

Application filed July 15, 1892. Serial No. 440,110. (No model.)

To all whom it may concern:

Be it known that I, SETH D. TRIPP, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Wrapping-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

In United States Letters Patent No. 472,262, dated April 5, 1892, granted to me a wrapping machine is shown in which the oranges or other articles to be wrapped are fed by means of suitable feeding devices one by one to a folding and twisting device by means of which the paper wrapper is wrapped about the orange, and the free or gathered-in ends twisted. The paper is taken from a reel, fed forward and cut off in suitable lengths and delivered to the folding and twisting device, and a printing device is also provided by means of which the wrappers are each printed.

This invention has for its object to improve the construction of the machine therein shown in many particulars and consists therefore in many details of construction which will be hereinafter pointed out.

Figure 1, shows in side view a wrapping machine embodying this invention; Fig. 2, a front view of the machine shown in Fig. 1; Fig. 3, a horizontal section of the machine shown in Fig. 1, taken on the dotted line $x-x$; Figs. 4 and 5, details of the clutch mechanism for rotating the paper feeding rolls; Fig. 6, a detail of the lifting device for the paper to insure its passage over the stationary blade of the shears; Fig. 7, a detail of the plunger for forcing the orange down through the centering device to the folder and twister; Fig. 8, a plan view of the centering device, showing the switches for the plunger; Fig. 9, front elevation of the printing device; Fig. 10, a vertical section of the printing device shown in Fig. 9; Fig. 11 a sectional detail showing the impression plate and adjusting devices for it; Fig. 12 a detail of the lifting device for the oranges, and Fig. 13 a detail of one of the shafts to be referred to.

The base or stand A supports a column or vertical cylinder b , which together with the table c resting on it and numerous arms and projections constitute the frame-work which supports the operative and other parts of the machine.

To the under side of the table c are secured curved arms d, d' , arranged opposite each other and bearing at their ends rolls e, e' , and another roll f , revolves upon a pin at the point of junction of the curved arms d, d' , being seated in a recess formed in the table c . These rolls e, e' , and f , are provided with V-shaped peripheral grooves which afford guide ways for a ring g , having its periphery shaped to fit said grooves. These rolls e, e' , and f , are employed mainly as friction rolls, and hence it is obvious that they may be omitted and the ring made to revolve in stationary grooved bearings.

Secured to the under side of the ring g , or made in part with it is a beveled gear h , which is engaged by the beveled pinion h' , fixed upon a shaft i , which revolves in a suitable bearing as j herein shown as arranged on the arm d' , and also in a bearing j' , on the arm j^2 , projecting from the frame-work. The shaft i , is provided with a pulley m , by which a rotary motion may be communicated to the ring g , through the bevel gears.

In the circular opening in the ring g , are shown several lugs located at equal distances apart to which are pivoted downwardly and inwardly extended arms p, p', p^2, p^3 , the lower ends of which nearly meet on the line of the axis of the ring. Across the lower ends of each of these arms, and in parallelism with their pivot pins are secured plates or wings y^5, y^6, y^7, y^8 , which consist of narrow flat plates, whose length is about equal to the diameter of the opening in the ring g . When these arms are swung outwardly or away from each other the inner edges of the plates will form four sides of a square. The arms p, p^2 , are diametrically opposite each other and slightly longer and hence project slightly below the ends of the arms p', p^3 , and the wings on said arms p, p^2 , will occupy a plane below the wings on the arms p', p^3 , said wings however continuously contacting with each other as they are moved, and hence two of them are arranged obliquely to the other two as shown in Fig. 1. The wings y^5, y^7 , are oblique, and the wings y^6, y^8 , horizontal, when the arms are contracted or drawn toward each other, but when said arms are swung outwardly or from each other, the wings y^6, y^8 , will be oblique and the wings y^5, y^7 , horizontal. Auxiliary arms c^2, c^3, c^4, c^5 , are pivoted to the ring

g, and are arranged at equal distances apart, in the spaces between the arms p, p', p^2, p^3 , said auxiliary arms each being provided at their lower ends with suitable wings which project laterally from opposite sides of the arms at right angles with relation to each other or substantially so. The free ends of the arms p, p', p^2, p^3 , and c^2, c^3, c^4, c^5 , may be pressed inward by an elastic band r , which encircles them all or otherwise.

The auxiliary arms operate in conjunction with the main arms, and while the wings on the main arms act by their edges to gather in the edges of the wrapper, the wings on the auxiliary arms act by their faces to assist in accomplishing the same result, but the wings on the main arms act more particularly to assist in twisting said gathered-in edges as will be described.

The ring g , and main and auxiliary arms provided with wings constitute the combined folder and twister, operating to fold the paper or wrapper about the fruit as it passes through the ring, gathering in the edges thereof, and to thereafter twist the folded or gathered-in portions thereof held by the wings while the fruit is held stationary by suitable means.

Pivoted in a slot in the arm a^3 , secured to and projecting from the post b , are two curved arms 21, 22, extending vertically through a slot in the arm a' , as a guide; and bearing at their upper ends rolls 23, the peripheries of which are slightly concaved so as to conform somewhat to the convexities of the fruit. These rolls 23, are located just below the wings of the combined folder and twister, one at each side of the axis thereof, to receive and hold the fruit stationary when forced down through the folder and twister while the gathered-in edges of the wrapper are being twisted. The arms 21, 22, are drawn toward each other by a spring 24, or otherwise, and their movement toward each other is limited by the adjustable limiting stops 25, striking against projections on the under side of the arm a' .

The combined folder and twister is made to revolve intermittently and at the proper time by the following means. The pulley m , is made to revolve freely upon its shaft i , and is provided with a friction clutch d^1 , which is operated by a lever d^2 , pivoted upon the arm f^2 , at e^2 . The balance or driving wheel e^3 , to which is attached a cam e^5 , to operate said lever d^2 , also serves as a pulley to carry the belt 100 which revolves pulley m . It will readily be seen that by this arrangement the twisting device will only revolve while the cam e^5 , is in contact with the lever d^2 , the spring f^2 , acting on the lever d^2 , and drawing it in a direction opposite to that in which it is moved by the cam d^5 , thereby disengaging the friction clutch d^1 , from the pulley m . Two like arms f^4, f^4 , are secured to the under side of the table c , at the rear of the machine, which are curved upwardly and at their extreme upper ends support a hopper u^2 , gradu-

ally tapering in width toward the front end, and having vertical side walls which gradually converge toward the front end, the bottom of said hopper gradually declining toward the front end, and also toward the longitudinal center of the hopper, and a central longitudinal opening u^3 , is made in said bottom which extends from at or near the rear to the front end. The converging vertical side walls of the hopper terminate a short distance apart at the front end to leave an outlet of sufficient size to permit the free passage of the oranges or other articles to be wrapped. A narrow chute or trough u^4 , see Fig. 1, projects or leads from the outlet of said hopper u^2 , of sufficient width to permit the oranges to follow down one after the other, in single file, and at the termination of said chute or trough a short and nearly vertical chute u^5 is located. The chute or trough u^4 , is rigidly connected to the hopper and is supported between the arms u^6, u^6 , rising from vertical supports on the table c , so that the hopper and attached chute or trough are supported by the arms f^4 at the rear end, and by the arms u^6 , at the forward end. The rear edges or entrance of the chute u^5 is located a short distance above the bottom of the chute or trough u^4 , at the forward end so that the oranges following down said chute u^4 , will strike against the said rear end of the chute u^5 , which forms an end wall or obstruction thereat. The chute u^5 , supports at its forward end a ring u^7 , in the circular opening of which are pivoted several spring pressed arms u^8 , said ring u^7 , being located directly above the ring g , so that the oranges passing down through said ring u^7 , are directed properly to the folding and twisting device. The ring u^7 with its spring pressed arms u^8 constitutes the centering device.

As the oranges are sometimes flat on one side or are otherwise untrue I have provided the hopper u^2 , with a feeding belt u^9 , of suitable width to substantially fill the opening in the bottom thereof, said belt passing over pulleys u^{10}, u^{11} . This belt traveling along and serving as the bottom for the central longitudinal part of the hopper u^2 , carries forward those oranges which do not descend by gravity. The pulley u^{10} is secured to a shaft u^{15} , having its bearings in the arms f^4 , beneath the hopper, and the pulley u^{11} , is secured to the shaft u^{14} , having its bearings in the arms u^6, u^6 .

As the oranges sometimes have a tendency to pile one upon the other at the outlet of the hopper u^2 , I have provided a device for throwing said superimposed oranges back toward the rear of the hopper. This device consists of a series of blades u^{15} , secured to a shaft u^{16} , having its bearings in the upper ends of like arms u^{17} , and a belt pulley u^{12} is secured to said shaft u^{16} , by means of which the shaft is rotated and the blades moved in the direction of the arrow shown in Fig. 1. This device is located at the outlet of the

hopper u^2 , and the blades are so adjusted as to height to permit one row or layer of oranges to pass beneath them, but to strike and throw back any superimposed oranges.

5 The arms u^{17} , are arranged vertically, and form d integral with or connected to horizontal arms u^{18} , loosely connected to the shaft u^{18} , and said arms are supported in elevated position by uprights u^{19} , erected on suitable supports on the table c , the upper ends of which uprights are bent to enter one or another notch of a series of notches cut in the arms u^{17} , so that said arms will be supported in an adjustable manner. Two idlers u^{20} , u^{21} , 15 are supported on one of the arms u^{18} , and the belt which passes over the pulley u^{22} , on the shaft u^{18} , passes under said idlers and thence around the pulley u^{23} secured to the shaft u^{18} . As the shaft u^{18} , is positively driven by means 20 which will be hereinafter described the said blades will be continuously rotated about the axis of the shaft u^{18} .

The blades u^{17} , constitute a clearing device for the outlet of the hopper, preventing crowding at such point and thereby obstructing the outlet.

To remove the endmost orange from the forward end of the chute or trough u^4 , which abuts against the end wall thereof, I have 30 provided a lifting device see Figs. 1 and 12 consisting of a lever u^{24} , pivoted at a point between its ends at u^{25} to the under side of the hopper, one end of said lever being slightly bent and terminating in the path of movement of a pin u^{26} on the pulley u^{10} , while the other end carries a cross-bar u^{27} having a curved upper face which enters a transverse slot in the chute or trough at or near its forward end. At each revolution of the pulley 40 u^{10} , the lever u^{24} , is lifted and the cross-bar u^{27} striking the under side of the endmost orange throws it up, and the weight of the next orange against it forces it forward into the chute u^5 , whence it passes down into or 45 through the centering device to the folder and twister, yet I do not depend on said next orange as a means of moving the orange ahead of it over the end wall. The lifting lever u^{24} returns to its normal position by gravity or 50 otherwise.

The oranges or other articles are forced down through the centering and folding and twisting devices positively by means now to be described. A vertical rod c' , slides in 55 bearings in the outer ends of the arms a' , a^3 , and is connected at its lower end by a short link c^2 , with one end of a lever c^3 pivoted at c^4 , on a projection on the stand, the opposite end of said lever being connected by a rod 60 c^5 , with a crank h^2 , on the shaft f^5 , which has its bearings in the arms f^4 , f^1 , so that at each revolution of said shaft, the rod c' , will make one complete movement up and down. The rod c' , see Fig. 7, supports at its upper 65 end a tubular cross-piece c^7 , which receives a horizontal rod c^8 , having at its outer end a cross-bar c^9 , of a length sufficient to permit it

to pass through the circular opening in the ring u^7 of the centering device. The rod c^8 , is pressed outward by a spring c^{10} , confined 70 within the tubular recess of the cross-piece c^7 , one end of said spring bearing against the outer end of the cross-piece, and the other end bearing against a collar on the rod c^8 . On the outer end of the rods c^8 , and directly 75 beneath the cross-bar c^9 a sleeve c^{12} is formed or secured which extends down some little distance, being slotted at c^{13} at opposite sides near its lower end. A rod c^{14} , is contained within and adapted to be moved in said sleeve 80 c^{12} , said rod having rigidly secured to its lower end as by a pin c^{15} , a block which surrounds and moves on the sleeve. A spring c^{17} surrounds the sleeve, bearing at one end against the block c^{16} , and at the other end 85 against a collar on the sleeve acting to hold the block normally depressed, yet permitting it to yield. The lower end of the block c^{16} , as well as the lower end of the sleeve which is shown as closed are made slightly concaved 90 to conform to the convexity of the orange. When the rod c^8 is in its extreme outward position, the sleeve c^{12} and rod c^{14} contained within it, are directly above the center of the centering device. As the rod c' , is depressed 95 with the parts in the position just described, and as shown in Fig. 7, the orange will be forced down through the centering device and folding and twisting device until a nut c^{31} on 100 the upper end of said rod c^{14} strikes and is arrested at the top of the forked arm c^{18} , which arm is rigidly connected to a yoke c^{30} , the lower ends of the arms of said yoke being rigidly connected to the upper ends of the arms u^6 , u^9 . As soon as said nut c^{31} , is 105 arrested by the arm, the rod c^{14} and block thereon are held from farther advancing while the sleeve c^{12} advances independently, the spring c^{17} being compressed. Were it not for this independent movement of the sleeve, the block 110 c^{16} in order to force the orange downward as far as desired, would owing to its size engage the spring actuated gathering-in arms and other wrapping devices for the wrapper, and thereby prevent their proper and effectual operation. 115 The nut c^{31} is adjustable so that the distance which the block c^{16} advances may be regulated. Suitable guides are erected on top of the ring u^7 , at each side thereof, they being herein shown as made alike or substantially 120 so, and comprising a standard which is inclined outwardly for a short distance as at c^{19} , and then rising vertically for a short distance as at c^{20} , the said vertical portions having side flanges, and a switch or arm c^{21} is 125 pivoted to each standard at c^{22} , extending downwardly substantially parallel to the vertical inclined portion c^{19} , and normally held pressed up against a pin c^{23} by a spring. As the rod c' , when depressed arrives at its lowermost position, the ends of the cross-bar c^9 , 130 will have engaged and passed by the ends of said switches or arms c^{21} , which yield to accommodate such movement of the cross-bar,

and occupy a position beneath said switches as represented in Fig. 1, and as said rod c' , rises the ends of said cross-bar will engage the under side of said switches or arms c^{21} , and by them will be forced laterally, compressing the spring c^{10} , and as said cross-bar disengages the upper or pivotal ends of said switches or arms it is brought into engagement with the vertical portion c^{20} of the standards or guides, or the side flanges thereof. As the rod c' continues to rise, and just as it arrives at its most elevated position the said cross-bar c^9 , passes by the upper end of said vertical portion c^{20} , when the spring c^{10} is permitted to expand, returning the cross-bar and its attached parts into position directly above the center of the centering device. The ring u^7 , is broken away or open at one side to permit the passage through it of the rod c^8 , and parts connected therewith. Thus it will be seen that the block c^{16} , and parts to which it is connected and which constitute the follower or plunger for forcing the orange down through the centering and folding and twisting devices is given four motions namely: a downward vertical motion and a lateral motion, an upward vertical motion, and then a lateral motion in an opposite direction returning to the starting point. By giving the plunger or follower four motions as described or some equivalent motions whereby it will pass down through the centering device and force the fruit down and then return to its normal position by a different path or outside of the centering device, enables the fruit to be delivered to the centering device during the time that the follower or plunger is returning, so that I do not desire to limit my invention to any particular shape or construction of guide or guides for said follower or plunger, or to any particular path or paths in which it shall travel, so long as it moves in different paths in forcing the fruit down and in returning. A bevel gear n is secured to the shaft u^{13} , which is engaged by a bevel pinion n' , secured to a diagonal shaft n^2 , having its bearings in the frame-work, the opposite end of said diagonal shaft having secured to it a bevel pinion n^3 , which engages a bevel gear n^4 , secured to the shaft f^5 . The shaft f^5 , carries the main driving wheel or pulley e^3 , and hence said shaft constitutes the main operating shaft, and by it the shaft u^{13} , is positively driven by means of the bevel gears and pinions. A yoke or frame 27, is secured to the rearmost leg of the base A, being additionally supported by means of a vertical brace rod S, and the roll i^2 , which carries the paper has its bearings in the extreme ends of the arms of said yoke 27. A ratchet wheel 28, is secured to each end of said roll i^2 , which wheels are engaged by pawls or dogs 29, on like arms 30, pivoted at 31, to the arms of the yoke, the upper ends of said arms 30 being connected by a roll 32, which rests upon or against the paper as it leaves the roll. The arms 30, are made quite heavy, and together

with the roll 32 constitute a take up for the paper, to take up the slack of the paper, as well as to prevent the roll i^2 , from rotating beyond a required distance, which it is liable to do by its own momentum, when once started. The paper taken from the roll i^2 , and held taut by the take-up, is then carried over the roll 33, which has its bearings in the arms f^4 , f^4 , and thence between suitable guide plates, comprising as herein shown the curved under plates 35, 36, located side by side with a narrow space between them, and rigidly secured by screws 101 to a top plate 37, suitable washers being placed between said plates to insure a free and unobstructed passage between them for the paper. The top plate is mounted on suitable uprights or posts 38, erected on the table c . An impression plate 34, is placed between the under plates and top plate, over the opening or space between said under plates, being supported by screws 40, which pass down through the top plate 37 freely, and enter the impression plate 34, while screws 39 pass down through said top plate 37 and bear against the top of the impression plate, so that by adjusting the screws 40 the said impression plate may be tilted on the set screws 39, and may be also vertically adjusted when said set screws 39 are turned to permit such adjustment. This impression plate is made adjustable in order that a printing device to be described may bear upon the paper evenly, and a well defined impression made. A pair of feed rolls 41, 42, see Figs. 4 and 5, are mounted in suitable uprights at the front of said guide plates and adapted to receive and feed forward the paper, said rolls being cut away for a short distance centrally to receive the forward end of the impression plate 34, and the extreme forward ends of the guide plates 35, 36. The paper feeding rolls 41, 42, are designed to be positively driven, and to effect such result I have secured to one of the said rolls, as 41, a toothed gear 51, which is engaged by a toothed gear 52, on the other roll 42, and beside said toothed gear 52, a toothed gear is loosely mounted on said roll 42, which is engaged by a rack 54, pivotally connected at one end to an arm 55, which is pivoted to the stand b , said arm having a short arm 56 projecting from it, which is slotted to receive in an adjustable manner one end of a rod 57 on an eccentric h^3 , on the shaft f^5 . The rack 54, is reciprocated in suitable guides. The toothed gear 54 has on one side or face one or more pawls 58, two being herein shown, which engage a series of ratchet teeth 59, formed on the inner end of the roll 42, or it may be on a hub thereon, and as said rack is moved in one direction the rolls will be positively driven, and when moved in the opposite direction they will remain idle. The paper as it is delivered from the positively driven feeding rolls passes over a plate 60, extending cross-wise the table c , and pivoted to a block or bar 90, dovetailed on the table c , said plate being normally held in op-

erative position by means of a spring 61. The stationary blade 62, of the cutting device or shears is secured to the front side of said block or bar 90, its upper or cutting edge terminating just below the forward edge of the plate 60, when the latter is in its normal elevated position, so that said plate will serve as a means of lifting the paper to insure its passage over the stationary blade of the shears.

The movable blade 63*, of the shears is secured to the rear side of an arm 63 fixed to a pivot pin 64, having its bearings in the fixed blade, and also in an ear 65 rising from a horizontal projection 66, and a spring 67 encircles said pivot pin 64, one end of which bears against the ear 65, and the other end against a collar on the pin, so that said pivot pin may have a slight longitudinal movement. This permits the blades to be arranged at a slight angle with relation to each other instead of in parallelism, when the movable blade is in its elevated position, and to close at the pivot end as said movable blade descends, thereby insuring cutting the paper. The upper end of the movable blade is connected by a ball and socket joint with a rod 70, the lower end of said rod being connected to one end of a lever 71, pivoted at 72 the opposite end of which lever has connected to it a rod 73, the upper end of which is offset as shown in Fig. 2, and slotted as shown in Fig. 1 to present a guide to receive the shaft f^5 , and is also provided with a pin 74 which enters a cam groove 75 in a disk 76 secured to the shaft f^5 , so that as said shaft revolves the movable blade of the shears will be made to rise and fall, and as the machine is timed the paper will be cut off at regular and suitable lengths for the wrappers. Attached to the under or stationary blade of the shears, or to the support thereof, are two bent guide wires 80, 80, which extend forward over the combined folding and twisting device, and the paper feeding and cutting devices are so timed that the paper will be fed forward positively between the blades of the shears and into the wire guides 80, 80, until the end portion of the strip of paper passes beneath the centering device, the shears will then operate and cut off the paper, thereby leaving the severed wrapper resting on the wire guides 80, 80, just above the folding and twisting devices, and just below the centering device, so that as the fruit is forced down through the centering device and into the folding and twisting device it will carry the severed wrapper with it, the edges of which will be gathered in and nipped or held to be thereafter twisted while the wrapped orange is held stationary. The printing device herein shown, see Figs. 1, 9 and 10, is mounted on a rod a^5 , pivotally connected to one end of the lever c^3 , near the pivot of the rod c^5 . A hub or projection a^6 , is mounted on a stud secured to an arm or projection a^7 , preferably in an adjustable manner, the said hub having a hole or passage through it for the rod a^5 , and upon said hub two side plates or uprights a^8 are secured. On top of these two side plates or uprights a^8 , a pan or ink reservoir a^9 , is mounted, or it may be formed integral therewith, and on the opposite side walls of said pan suitable uprights a^{10} are formed which rise vertically some little distance. An ink roll a^{12} is placed in the ink reservoir a^9 , its journals extending through the uprights a^{10} , or it may be through the side walls of the pan and bearing on plumber blocks a^{13} mounted on adjusting screws a^{14} , which turn in projections a^{15} , on the upper ends of the side plates or uprights a^8 . A roll a^{16} is located just above the ink roll a^{12} , which has its bearings in the uprights a^{10} , and two rolls a^{17} are located a short distance above and at each side of the roll a^{16} , having their bearings in projections on the uprights a^{10} , and an inking band a^{18} , passes around the rolls a^{16} , a^{17} , a^{17} which contacts with the ink roll a^{12} , thereby passing between the roll a^{16} , and said ink roll a^{12} , to take up and become saturated with ink from said roll a^{12} . By adjusting the roll a^{12} , by means of the plumber blocks a^{13} , the quantity of ink which the inking band will carry may be regulated. The rolls a^{17} , a^{17} , lie in the same plane a short distance apart hence that portion of the inking band between them is flat or substantially so. A toothed wheel a^{19} , is secured to one of the journals of the roll a^{16} , which is engaged by a toothed wheel a^{20} secured to one of the journals of the roll a^{12} , and a pawl a^{21} is pivotally connected to an ear on the side plate a^{22} , which engages and drives the toothed wheel a^{20} , forward intermittently. The side plate a^{22} , is placed beside and parallel with the upright a^{10} and is slotted to astride the journals of the rolls a^{16} , a^{12} , and the projection a^{14} , and is secured at its lower end to the head of an adjusting screw a^{23} , which passes down through one end of a cross piece a^{24} on the upper end of the rod a^5 , which passes through the openings or slots in the side plates or uprights a^8 . A side plate similar to a^{22} , is located at the opposite side of the device beside the upright a^{10} , being slotted and secured to the head of an adjusting screw in like manner and marked with like letters. The pin a^{25} , connects the upper ends of the side plates a^{22} , a^{22} , passing through the slots in the side plates a^{10} , and on said pin between said side plates a^{10} a type carrying plate a^{26} is rigidly secured. A curved arm a^{27} is formed integral with or secured to the type carrying plate a^{26} , having a curved slot a^{28} , and a pin a^{29} is rigidly secured to one of the uprights a^{10} , which enters said curved slot. The plates a^{10} , a^{10} , each having straight vertical slots a^{30} , which serve as guides for the pin a^{25} . The type carrying plate a^{26} , in the position shown, is supposed to be suitably inked, and as the lever c^3 , completes its upward movement the said plate is brought to bear against the paper held in position by the guide plates 35, 36, 37, at a point between said plates 35, 36, against the impression plate 34, which it will be understood has been adjusted

so that the type plate will bear evenly thereon to thereby leave a well defined impression on the paper. As the lever c^3 descends, the rod a^5 , its cross piece a^{24} , side plates a^{23} , a^{22} connected to it, pawl a^{21} , pin a^{25} , and type carrying plate thereon, likewise descend, the pin a^{25} traveling in the straight slot in the stationary uprights a^{10} , a^{10} , and the curved arm a^{27} turning by means of the stationary pin a^{29} , thereby reversing the position of the type carrying plate a^{26} , and just as the arm c^3 arrives at its lowermost position, the said type plate is brought to bear upon the flat portion of the inking band a^{18} , between the rolls a^{17} , a^{17} , to be inked. As the lever c^3 , again rises the type plate will be restored to its normal printing position, and the wrapper will be printed, as described. The parts are so timed that the paper will be printed each time that it is fed forward, so that each severed wrapper will bear an imprint.

I claim—

1. In a wrapping machine, a combined folder and twister, consisting of the ring g , having several main depending arms with nipping devices at their lower ends, and several auxiliary depending arms with gathering-in devices at their lower ends, substantially as described.
2. In a wrapping machine, a combined folding and twisting device consisting of the ring g , having two pairs of oppositely arranged depending arms with wings at their lower ends, those of one pair being arranged obliquely with relation to those of the other pair, and two pairs of auxiliary depending arms having wings at their lower ends each projecting at right angles from opposite sides of the arm to which it is attached, substantially as described.
3. In a wrapping machine, a combined folder and twister for folding a wrapper about the article and twisting the gathered in edges, combined with several yielding arms for holding the article stationary while the twister operates, and a follower or plunger for forcing the article down through the combined folder and twister, and between said yielding arms, substantially as described.
4. In a wrapping machine, the combined folder and twister comprising a series of contracting and expansible arms supported by a revolving ring, combined with several yielding arms for restraining the article from rotation while the ring revolves to twist the gathered in edges, and a follower or plunger for forcing the article down through the combined folder and twister, and into engagement with said yielding restraining arms, substantially as described.
5. In a wrapping machine, contracting and expanding rotatable folding and twisting devices, combined with said several yielding arms for holding the article against rotation while the twister operates, and a follower or plunger for forcing the article down through the folding and twisting devices and into en-

gagement with said yielding arms, substantially as described.

6. In a wrapping machine, a folding and twisting device comprising a series of contracting and expanding arms having gathering-in and nipping devices at their lower ends, combined with several yielding arms for holding the article against rotation while the twister operates, and a follower or plunger for forcing the article down through the folding and twisting device and into engagement with the yielding arms, substantially as described.

7. In a wrapping machine, a combined folding and twisting device adapted to fold the wrapper about the article and to twist the gathered-in edges of said wrapper, combined with spring actuated arms having rolls at their upper ends for holding the article while the twisting device revolves, substantially as described.

8. In a wrapping machine, a combined folding and twisting device adapted to fold the wrapper about the article and to twist the gathered-in edges of said wrapper, combined with spring actuated arms having rolls at their upper ends with concaved peripheries for holding the article while the twisting device revolves, substantially as described.

9. In a wrapping machine, a combined folder and twister adapted to fold the wrapper about the article and to twist the gathered-in edges of said wrapper, combined with spring actuated arms for holding the article stationary while the twisting device revolves, and adjustable limiting stops for said arms, substantially as described.

10. In a wrapping machine, the combination of a declining hopper having a central longitudinal opening at the bottom, a feeding belt traveling in said opening upon which the articles to be wrapped rest, a series of blades u^{15} secured to a positively driven shaft, a pivoted frame in which said shaft has its bearing, and a locking device for locking said frame in its different positions, to adjust the blades with relation to the hopper, substantially as described.

11. In an orange wrapping machine, the combination with orange wrapping devices, of a centering device, and means for delivering the oranges thereto one by one, a follower or plunger for forcing the oranges through the centering device, and guides for directing the return of said plunger in a different path, substantially as described.

12. In an orange wrapping machine, orange wrapping devices, and a centering device and means for delivering the oranges thereto one by one, combined with a follower or plunger, and guides having switches which direct the return of said follower or plunger in a different path, substantially as described.

13. In an orange wrapping machine, orange wrapping devices, a centering device, and means for delivering the oranges thereto one by one, combined with a follower or plunger,

and guides which direct the return of said follower or plunger in a different path, comprising standards having the inclined portion c^{19} , and vertical portion c^{20} , and the switches or arms c^{21} , substantially as described.

14. In an orange wrapping machine, wrapping devices and a centering device, and means for delivering the oranges thereto one by one, combined with a follower or plunger, a laterally movable or spring pressed support or rod therefor, and guides which direct the return of said follower or plunger in a different path, substantially as described.

15. In an orange wrapping machine, the combination of orange wrapping devices comprising a set of depending arms converging toward their lower ends, and means for delivering the oranges thereto, one by one, having as a cooperative part a follower or plunger provided with a yielding block c^{16} , substantially as described.

16. In an orange wrapping machine, the combination of orange wrapping devices comprising a set of depending arms converging toward each other at their lower ends, a means for delivering oranges thereto one by one, having as a cooperative part a four motioned follower or plunger provided with a yielding block c^{16} , substantially as described.

17. In an orange wrapping machine, the combination of orange wrapping devices, and means for delivering oranges thereto one by one, having as a cooperative part the follower or plunger, the bearing face or end portion of which comprises a central part and a concentric block, means for moving them simultaneously for a short distance, and a stop to arrest further movement of the concentric block while the central part continues to advance, substantially as described.

18. In an orange wrapping machine, the combination of orange wrapping devices and means for delivering oranges thereto one by one, having as a cooperative part the follower or plunger, comprising the sleeve c^{12} , slotted at c^{13} , concentric block c^{16} , attached to a rod c^{14} , contained in said sleeve, and spring c^{17} , acting on said block means for moving said parts downwardly simultaneously for a short distance, and a stop to arrest further movement of the rod c^{14} , while the sleeve c^{12} , continues to advance, substantially as described.

19. In an orange wrapping machine, the combination of orange wrapping devices, and means for delivering the oranges thereto one by one, having as a cooperative part the follower or plunger, comprising the sleeve c^{12} , slotted at c^{13} , concentric block c^{16} , attached to a rod c^{14} , contained in said sleeve, a spring c^{17} , acting upon said block means for moving said parts downwardly simultaneously for a short distance, an adjustable nut c^{21} on said rod c^{14} , and a bifurcated arm which engages said nut and thereby arrests further movement of the rod c^{14} , while the sleeve c^{12} , continues to advance, substantially as described.

20. In an orange wrapping machine, the

combination of orange wrapping devices, a centering device and means for delivering the oranges thereto one by one, having as a cooperative part the follower or plunger, a laterally movable or spring pressed support therefor, a cross-bar on the plunger rod, and two guides having switches which direct the return movements of said follower or plunger in a different path with which said cross-bar co-operates, substantially as described.

21. In an orange wrapping machine, the combination of orange wrapping devices, a centering device, and means for delivering the oranges thereto one by one, having as a cooperative part a follower or plunger, comprising two parts, movable telescopically one with relation to the other, whereby one may be advanced beyond the other, substantially as described.

22. In an orange wrapping machine, the combination of a centering device, and orange wrapping devices, a paper carrying roll, paper feeding and severing devices, and guide wires which receive between their upper and lower portions the severed wrappers located between the centering and orange wrapping devices, and a plunger for forcing the oranges down through the centering device, and into engagement with the orange wrapping devices, carrying the severed wrappers with them, substantially as described.

23. In an orange wrapping machine, the combination of a centering device, and orange wrapping devices, a paper carrying roll, and guide plates between which the web of paper travels, positively but intermittently driven feeding rolls located in front of said guide plates, cutting blades in front of said feeding rolls, and guide wires which receive between their upper and lower portions the severed wrappers, supporting them between the centering and orange wrapping devices, and a plunger for forcing the oranges down through the centering device and into engagement with the orange wrapping devices, carrying the severed wrappers with them, substantially as described.

24. In a wrapping machine, the combination with wrapping devices of the guide plates comprising the top plate 37, and two under plates 35, 36, located a short distance below the top plate, and also a short distance apart, the reciprocating printing device adapted to enter between said under plates, and an impression plate adjustably supported on the under side of said top plate 37 above the space between the under plates and adapted to be rocked or tilted, substantially as described.

25. In a wrapping machine the combination, with wrapping devices of paper feeding and severing devices for feeding a web of paper forward and cutting it into sheets or wrappers, guide plates between which said web of paper travels, an adjustable impression plate beneath which said paper travels, a reversible type plate adjustably connected to the cross-bar a^{21} , a rod a^5 to which said

cross-bar is secured guides for said rod a^5 , and means for moving said rod up and down and an inking device for said type carrying plate, substantially as described.

- 5 26. In a wrapping machine, the combination with wrapping devices of paper feeding and severing devices for feeding a web of paper forward and cutting it into sheets or
10 wrappers, guide plates between which said web of paper travels, an adjustable impression plate beneath which said paper travels,
a reversible type plate, adjustably connected to the cross bar a^{24} , a rod a^3 , to which said
15 cross bar is secured, guides for said rod a^5 , adjustably mounted on their supports, and means for moving said rod up and down, and
an inking device for said type carrying plate, substantially as described.

- 20 27. In a wrapping machine, the combination with wrapping devices of paper feeding and severing devices for feeding a web of paper forward and cutting it into sheets or

wrappers, guide plates between which said web of paper travels, an adjustable impression plate beneath which said paper travels, 25
a reversible type plate, adjustably connected to the cross bar a^{24} , a rod a^3 , to which said cross bar is secured, guides for said rod a^5 , and means for moving said rod up and down,
a stationary inking pan or reservoir, ink roll 30
 a^{12} , adjustably arranged thereon, rolls a^{16} , a^{17} , a^{17} , arranged as shown above said ink roll, an inking belt carried thereby, a pawl connected with the frame supporting the type carrying
plate for intermittingly revolving said ink 35
roll a^{12} , substantially as described.

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

SETH D. TRIPP.

Witnesses:

BERNICE J. NOYES,
LUCY F. GRAVES.