(No Model.) 2 Sheets—Sheet 1.

T. W. MOORE.

MACHINE FOR WRAPPING ORANGES.

No. 414,428. Patented Nov. 5, 1889.

Fig. 1.

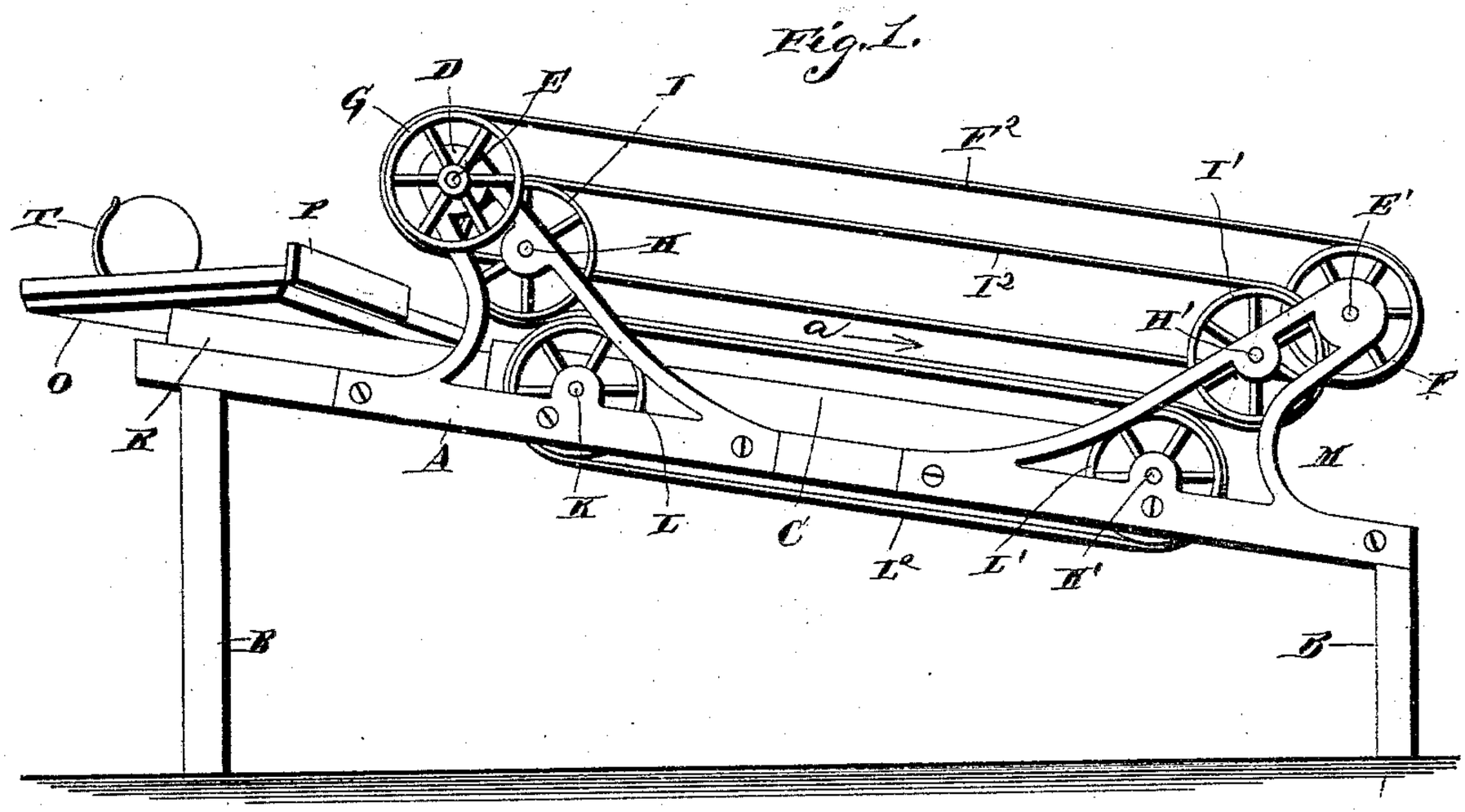
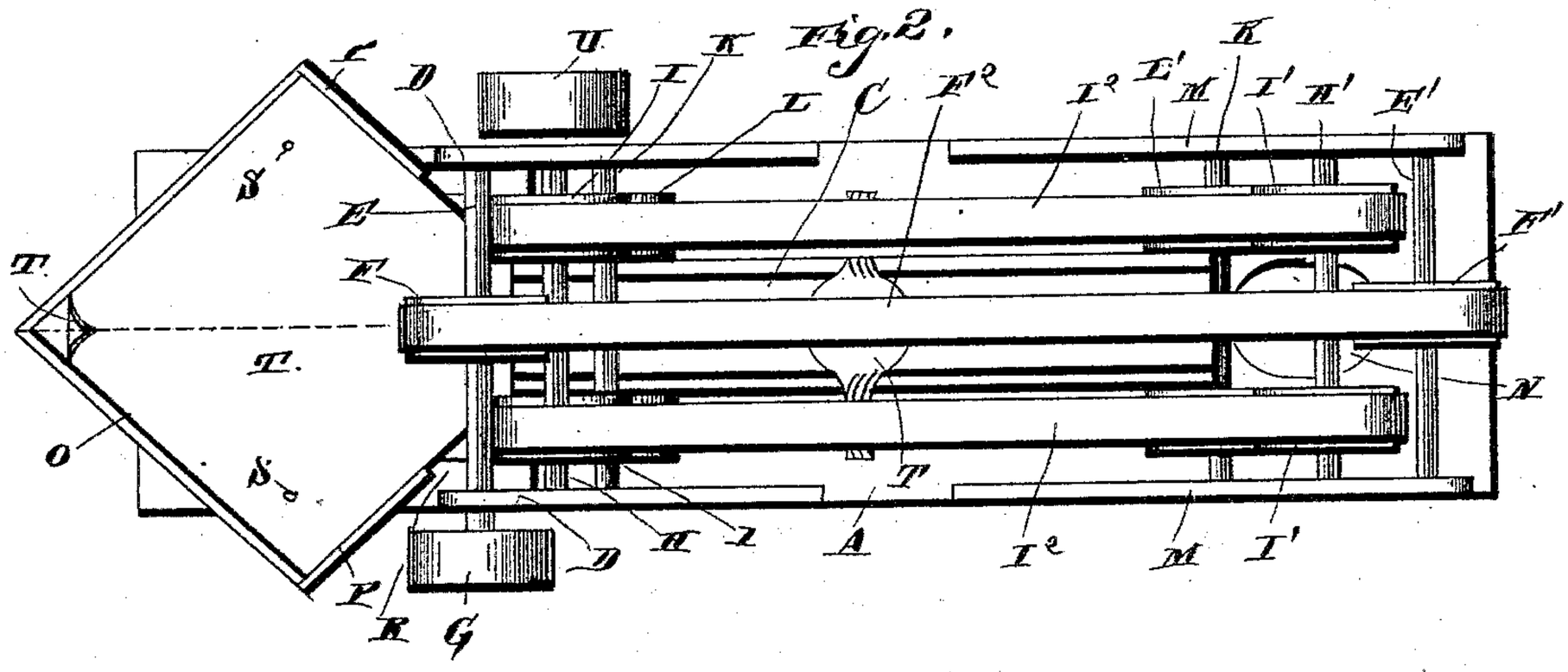


Fig. 2.



Witnesses
C. L. Taylor
J. A. Garner

Inventor
Theophilus W. Moore

By his Attorneys
C. A. Snow & Co

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

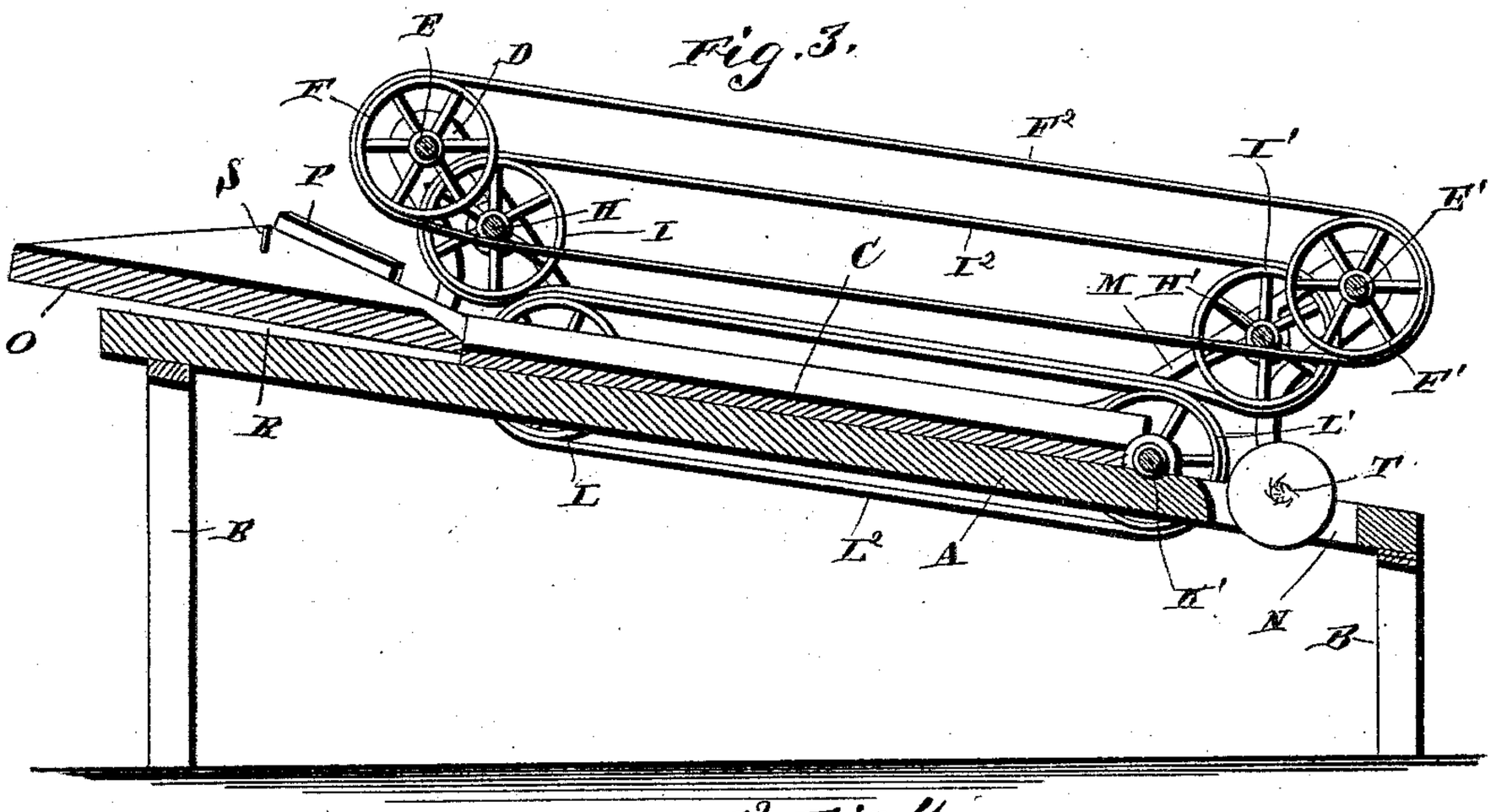
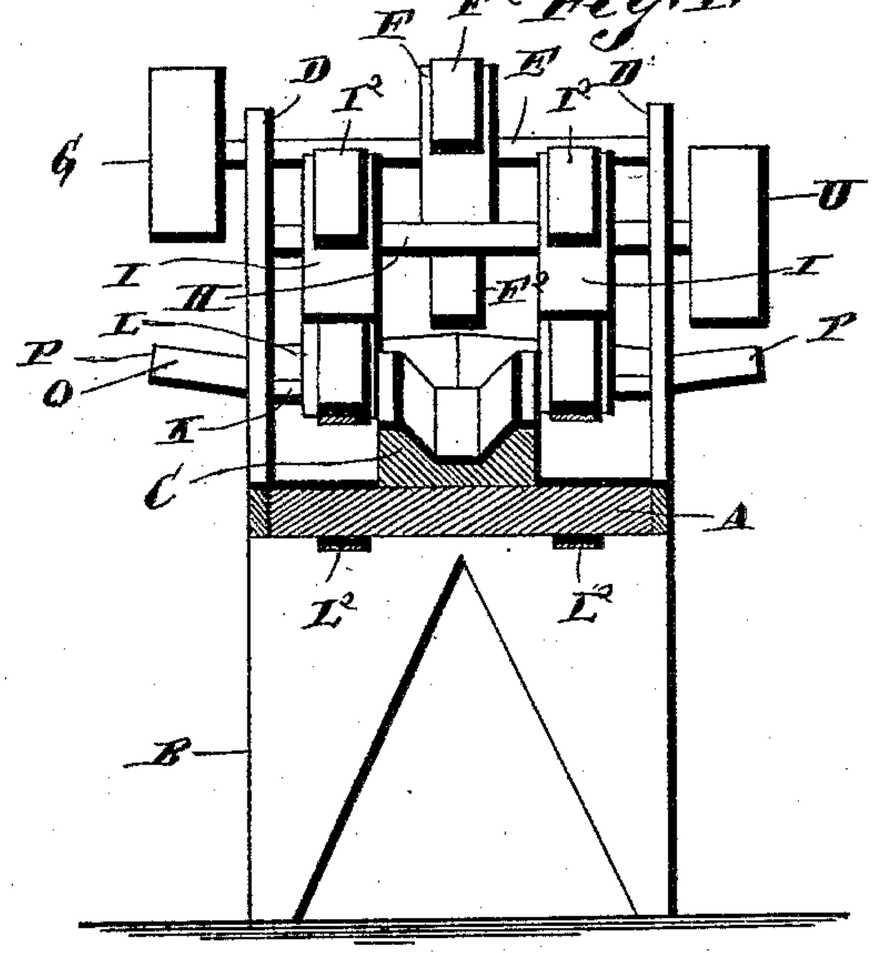


Fig. 4.



Witnesses
C. L. Taylor
Jno. Wedderburn

Inventor
Theophilus W. Moore.

By Lig Attorneys
C. A. Snow & Co

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

THEOPHILUS WILSON MOORE, OF FRUIT COVE, FLORIDA.

MACHINE FOR WRAPPING ORANGES.

SPECIFICATION forming part of Letters Patent No. 414,428, dated November 5, 1889.

Application filed May 31, 1888. Serial No. 275,665. (No model.)

To all whom it may concern:

Be it known that I, THEOPHILUS WILSON MOORE, a citizen of the United States, residing at Fruit Cove, in the county of St. John's and State of Florida, have invented a new and useful Improvement in Machines for Wrapping Oranges, of which the following is a specification.

My invention relates to an improvement in machines for wrapping oranges; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of an orange-wrapping machine embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal sectional view of the same. Fig. 4 is a vertical transverse sectional view.

A represents an inclined table or platform which is provided with suitable supporting-legs B at its ends. On the upper side of the table, at the center of the same, is arranged a longitudinal guiding-trough C of suitable length, the sides of which are beveled or inclined, as shown. The table is provided on its sides, in line with the upper end of the trough, with a pair of standards D, in the upper ends of which is journaled the transverse shaft E. To the center of the said shaft is secured a pulley F, and to one end thereof is secured a driving-pulley G.

H represents a transverse shaft, which is also journaled in the standards D at a suitable distance below the shaft E, and is provided near its ends with pulleys I, which are arranged at a suitable distance apart.

K represents a third shaft, which is also journaled in the standards D, and is arranged at a slight distance above the inclined table A. The said shaft is provided with a pair of pulleys L, which are arranged on opposite sides of the trough and in line with the pulleys I. At the lower end of the table A, on opposite sides of the same, is a pair of standards M. In the upper ends of the said standard is journaled a transverse shaft E′, which is provided at its center with a pulley F′, the latter being connected to the pulley F by means of an endless belt or tape F^2.

H′ represents a shaft which is journaled transversely in the standard M at a suitable distance below and in advance of the shaft E′, and said shaft H′ is provided with a pair of pulleys I′, which are in line with the pulleys I, and are connected thereto by means of endless belts or tapes I^2.

K′ represents a shaft, which is also journaled in the standards M at a point below the shaft H′, and is provided with pulleys L′, which align with the pulleys L and are connected thereto by means of endless tapes or belts L^2. At the lower end of the inclined table, at the center of the same, is an opening N.

O represents a feed-tray, the bottom of which is inclined upward in opposite directions from the center, and is diamond or lozenge shaped. On opposite sides of the said tray are converging side boards P, which extend to within a suitable distance of the lower vertex of the bottom. The said tray is supported on a pair of cleats R, which are adapted to rest upon the upper ends of the table and extend between the standards B, and thereby secure the tray in position at the upper end of the trough, the upper side of the bottom of the tray being arranged in the same plane with the bottom of the trough. The said tray is provided with a pair of vertically-projecting pins S, which serve to retain a number of square sheets of tissue-paper T in position on the tray.

The shaft H is provided at one end with a driving-pulley U, and said pulley is connected by a suitable endless belt (not shown) to a suitable counter-shaft, so as to cause rotary motion to be imparted to the shaft H, and thereby cause the shaft H′ to revolve therein, so as to move the belts I^2 in the direction indicated by the arrow *a*. The pulley G is also connected by a suitable endless belt (not shown) on a counter-shaft, and is rotated at about twice the speed of the pulley U, so as to impart rotary motion to the shaft E and E′, and thereby cause the belt F^2 to travel in the same direction with the belts I^2 and at a higher rate of speed. The belts I^2 bear at their lower sides upon the upper sides of the belts L^2, so as to impart motion to the latter and to the shafts K and K′.

The operation of my invention is as follows: Each orange to be wrapped is in succession touched at a single point with a small quantity of paste or mucilage, and is placed upon the upper sheet of paper T on the tray, and is caused to adhere to the said sheet of paper near the upper corner thereof. The orange is then rolled downward on the tray and causes the paper to fold over it as it rolls, until the orange reaches the pulley E, when it is caught by the belt F^2, and is drawn downward onto the trough and caused to pass downward on the said trough and to rotate axially while doing so. The side corners of the paper are caught between the belts I^2 and L^2, and, inasmuch as said belts travel much slower than the belt F^2, it follows that the friction exerted thereby on the corners of the paper causes the same to be twisted, so as to completely envelop the orange with the paper and also secure the paper on the orange so that it will not readily unroll therefrom. By the time that the orange has reached the lower end of the trough this operation of securing the paper thereon is completed and the orange drops through the opening N into a suitable vessel or receiver.

It will be understood that my invention is also adapted for wrapping apples, plums, and other fruits.

Having thus described my invention, I claim—

1. The combination, in a machine for wrapping oranges and other fruit, of the pairs of endless belts I^2 L^2 in contact with each other at one side, and the endless belt F^2, arranged between said pairs of belts, the said belt F^2 traveling at a higher rate of speed than the contacting belts, substantially as described.

2. The combination, in a machine for wrapping fruit, of the guiding-trough, the contacting belts on opposite sides of the same, the pulleys operating the said belts, the endless belt F^2, the revolving pulleys on which the said belt is stretched, and the tray at the upper end of the trough, substantially as described.

3. The combination of the inclined table having the trough, the series of revolving pulleys, the endless belts engaging said pulleys and arranged parallel with the tray, two pairs of said belts being in contact, and the tray arranged at the upper end of the trough, the bottom of the said tray being dished or concave, substantially as described.

4. The tray having the dished lozenge-shaped bottom provided with the converging side boards P at its sides, substantially as described.

5. The combination of the trough or guide, means, substantially as set forth, to roll an orange or other fruit on the said trough, and the pairs of endless contacting belts guided on suitable revolving pulleys and arranged on opposite sides of the trough, substantially as described.

6. The combination, in a machine for wrapping oranges and other fruit, of the trough or guide, the endless belt above the center of the same, the endless belts on the sides of the trough and traveling at a much lower rate of speed than the central belt, and means, substantially as set forth, to keep the side corners of the paper wrapper in contact with the said side belts, whereby said side corners of the paper will be twisted, substantially as described.

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

THEOPHILUS WILSON MOORE

Witnesses:

KATY HOOVER,

T. V. MOORE.