No. 866,704. PATENTED SEPT. 24, 1907.

M. F. WITT.

FRUIT CLEANER.

APPLICATION FILED MAY 11, 1907.

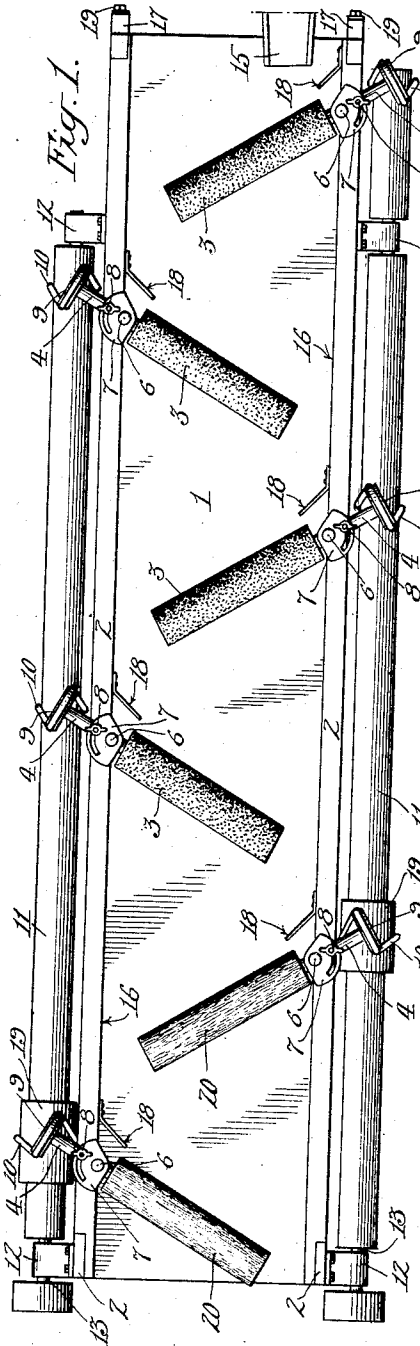

Fig. 1.

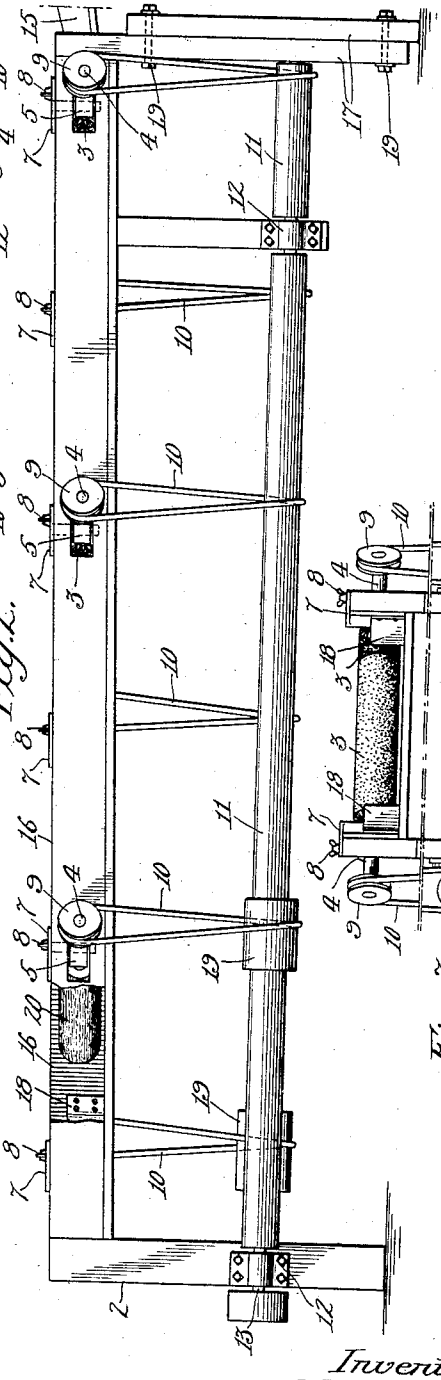

Fig. 2.

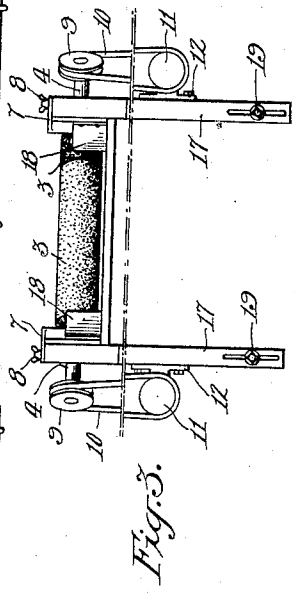

Fig. 3.

Witnesses:—
Frank L. Abraham.
Louis W. Gratz.

Inventor;
Martin F. Witt.

By
Townsend, Lyon, Hackley & Knight
his attorneys

UNITED STATES PATENT OFFICE.

MARTIN F. WITT, OF LOS ANGELES, CALIFORNIA.

FRUIT-CLEANER.

No. 866,704. Specification of Letters Patent. Patented Sept. 24, 1907.

Application filed May 11, 1907. Serial No. 373,175.

To all whom it may concern:

Be it known that I, MARTIN F. WITT, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Fruit-Cleaner, of which the following is a specification.

The main object of the present invention is to provide means for cleaning oranges and other fruit rapidly and economically.

Another object of the invention is to provide for adjustment of the cleaning means, according to the amount of brushing or scouring required in particular cases.

Another object is to provide means for polishing the fruit.

In the accompanying drawings:—Figure 1 is a plan of the machine. Fig. 2 is a side elevation thereof. Fig. 3 is an end elevation.

The feeding of the fruit from one end of the machine to the other is preferably by gravity, the machine comprising a table 1 mounted on a suitable frame 2, said table being arranged at a slight inclination so that the fruit will travel from one end to the other by rolling along the table. The legs at one end of the table may be adjustable, as by forming them in two relatively slidable parts 17, clamped by bolts 19 in position to support the table at any desired slant. Above the table are arranged a series of rotary cleaning brushes 3 and also a number of polishing rolls 20, each of said rotary brushes and rolls being mounted on a shaft 4, having a bearing 5 on a swivel 6 mounted in the frame 2 in such manner that the brushes may be swung in a substantially horizontal plane to any desired angular position over the table so as to vary the inclination of the brush with relation to the longitudinal direction of the table. Means are provided for clamping the supports for the cylindrical brushes in any desired angular position, such means consisting, for example, of a segment 7 on a swivel shaft 6 for each brush, said segment being slotted to receive a clamping screw 8. The shaft 4 of each brush is provided with suitable means for rotating the brush, said means consisting, for example, of a pulley 9 to receive a driving belt 10. At each side of the machine driving belts 10 may run over a single driving drum 11 mounted in bearings 12, the shafts 13 of the two drums 11 being connected to one another and to the driving power by suitable connections. The cylindrical brushes extend over the table alternately from opposite sides and extend in between one another so that the fruit in its longitudinal movement along the table, by gravity or otherwise, successively encounters these brushes and is alternately moved thereby from one side of the table to the other and back again, being at the same time subjected to the scouring or rubbing action of the brushes.

15 designates a feed chute by which the fruit is supplied to the receiving or upper end of the table. The table is provided with a retaining wall 16 at each side and with deflectors 18 extending inwardly therefrom to guide the fruit from the end of one brush on to the next brush. The last one or more rotary devices 20, in the series, are faced with polishing pads, of felt, or other soft material, instead of brushes.

The operation is as follows:—The fruit being supplied to the feed chute, passes therefrom onto the upper end of the table and runs against the first rotary brush 3 near one end thereof. The rotation of the brushes is preferably such that the face which is against the fruit is moving upwardly, although reverse motion may be used in some cases. As the brush rotates, it turns the fruit and scours the same, and at the same time the fruit in rolling forwardly along the table falls in the line of the brush so that it passes in an oblique direction along the table and against the brush and is thereby rolled in both directions and subjected to cleaning action on all parts. On reaching the end of the first brush the fruit rolls down against the higher end of the second brush and then rolls toward the opposite end of the table, the second brush repeating the scouring operation, this action being repeated as often as necessary, there being as many brushes as are required to effect complete cleaning. By adjusting the brushes at a greater angle, the fruit is allowed to pass more rapidly through the machine, whereas by placing the brushes more directly across the table the fruit is held longer on the table and a more complete cleaning is secured, so that adjustment for any condition of the fruit may be maintained. In any case, however, it is necessary to allow sufficient space between the end of one brush and the face of the next brush to permit passage of the fruit between them. After the fruit has passed the cleaning brushes, it encounters the polishing devices 20, which finish the operation by subjecting the fruit to a gentle rubbing action. The polishing rolls are preferably driven at a higher speed, the corresponding portion of the driving drums being enlarged at 19, to give such speed.

What I claim is:—

1. A fruit cleaner comprising a support for the fruit, adapted to cause the fruit to move longitudinally thereon, and rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, and means for rotating said rotary cleaning devices.

2. A fruit cleaner comprising a support for the fruit, adapted to cause the fruit to move longitudinally thereon, rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, means for rotating said rotary cleaning devices, and means for adjusting the obliquity of the rotary cleaning devices.

3. A fruit cleaner comprising a support for the fruit,

adapted to cause the fruit to move longitudinally thereon, rotary cleaning devices mounted above said support and having their axes of rotation extending obliquely with regard to the longitudinal direction of the support, and means for rotating said rotary cleaning devices, said rotary cleaning devices comprising rotary brushes and rotary polishers having padded surface, and the polishers coming into action after the brushes.

4. A fruit cleaner comprising a table, means for supporting the table at an inclination and for adjusting such inclination, a series of rotary cleaners having their axes of rotation extending obliquely above the table, means for adjusting the obliquity of the axes of rotation, and means for driving the rotary cleaners.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 2nd day of May 1907.

MARTIN F. WITT.

In presence of—
A. P. KNIGHT,
FRANK L. A. GRAHAM.