(No Model.)

M. N. GAINES.

FRUIT CONVEYER.

No. 345,891. Patented July 20, 1886.

Fig. 1.

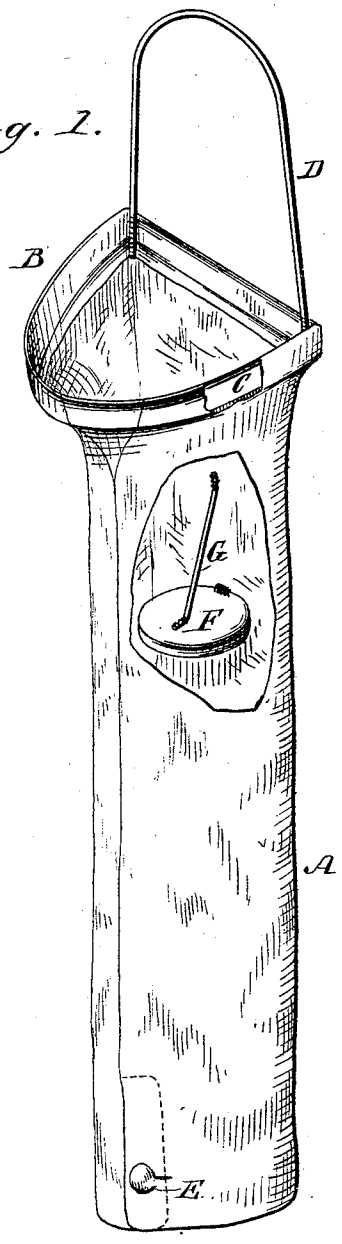
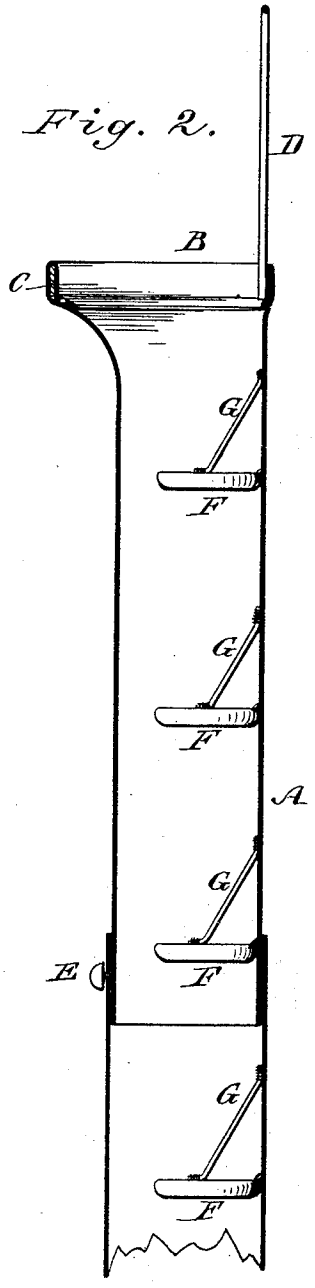


Fig. 2.



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UNITED STATES PATENT OFFICE.

MARSHALL N. GAINES, OF DUNEDIN, FLORIDA.

FRUIT-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 345,891, dated July 20, 1886.

Application filed July 10, 1885. Serial No. 171,256. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL N. GAINES, of Dunedin, in the county of Hillsborough and State of Florida, have invented a new and Improved Fruit-Conveyer, of which the following is a full, clear, and exact description.

It is the object of my invention to provide a new and improved fruit-conveyer of simple and convenient construction, and applicable to all sizes of fruit.

The invention consists of the combination, with a flexible conducting-tube having flaring mouth and suitable handle, of a series of cushioned valves working vertically in the same, and returnable by means of elastic or other spring device to a horizontal position.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a perspective view of a section of my improved fruit-conveyer, parts being broken away, in order to show the means of attaching the mouth-frame to the tubing and the arrangement of the valve within the same. Fig. 2 is a longitudinal cross-section of the fruit-conveyer, showing the method of fastening two sections together.

A indicates a flexible conducting-tube, made of canvas, rubber, or other suitable material. It is constructed at its upper end with a flaring mouth, B, into which the fruit is dropped. A semicircular frame, C, is secured to the tubing by having the material of the same passed upward over the outer surface of the frame around its upper edge, down over the inner surface, and fastened at the lower edge of the said frame, as shown in the figures. This prevents the tubing from collapsing at its mouth, and gives the opening the requisite shape and stiffness. A suitable handle, D, is secured to the frame C, by which the tubing may be attached to a branch of the tree, to the ladder, or held in the hand, as desired; or it may be in the form of a strap, and be passed over the left shoulder and under the right arm, or vice versa. At the lower end of the tubing A the seam is left open for a short distance, as shown in dotted lines in Fig. 1, and the said opening may be closed by a button, E.

The tubing A, for convenience, is made in sections of longer or shorter length, which are fastened together by passing the lower end of the upper section into the upper end of the lower section, and fastening the same in place by the button E. Two or more buttons may be employed, if desired.

A series of padded or cushioned valves, F, are secured at one edge to the interior sides of the tubing A at regular intervals, and are held in approximately horizontal positions by the rubber or other elastic bands G. These valves F serve the double purpose of breaking the fall of the fruit and of adapting one size of tubing to be used with equal advantage for small as well as large fruit.

The tension of the band G upon the valve F is so slight that even the smallest fruit gathered will have sufficient weight to depress the said valve and pass on to the succeeding one. In this manner the opening between the free edge of the valve and the sides of the tubing will only be large enough to permit the fruit, whatever its size, to pass, and will retard all sizes satisfactorily.

At the discharge end of the tubing the fruit may be received upon the ground or upon a cloth apron, or in any other suitable receptacle.

If desired, the valve F may be arranged alternately on opposite sides of the tubing A, in order to keep the same in proper shape.

The buttons E may extend the entire length of the tube, if desired, and be arranged in two or more rows, whereby the size of the tube may be adjusted to the size of the fruit.

I am aware that it is not new to simply employ a vertically-vibrating valve in connection with a flexible conducting-tube, since this construction is shown in the patent granted to C. A. Werden, February 16, 1875, and I do not claim such a construction, broadly, as of my invention; but I do claim the particular construction and combination as shown and described in the present application, and pointed out in the claims.

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

1. The combination, with the flexible tubing A, of the series of valves F, hinged at one edge to the interior of the same, and the cor-

responding series of springs, G, attached to the said valves and tubing, substantially as shown and specified.

2. The combination, with the flexible tubing A, having the flaring framed mouth B and handle D, of the series of valves F, hinged at one edge to the interior of the said tubing, and the series of springs G, attached to the said valves beyond their hinging-points and to the interior of the tubing, substantially as shown and described.

MARSHALL N. GAINES.

Witnesses:
E. C. JONES,
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