G. L. LANGER.

MACHINE FOR SEPARATING RAISINS.

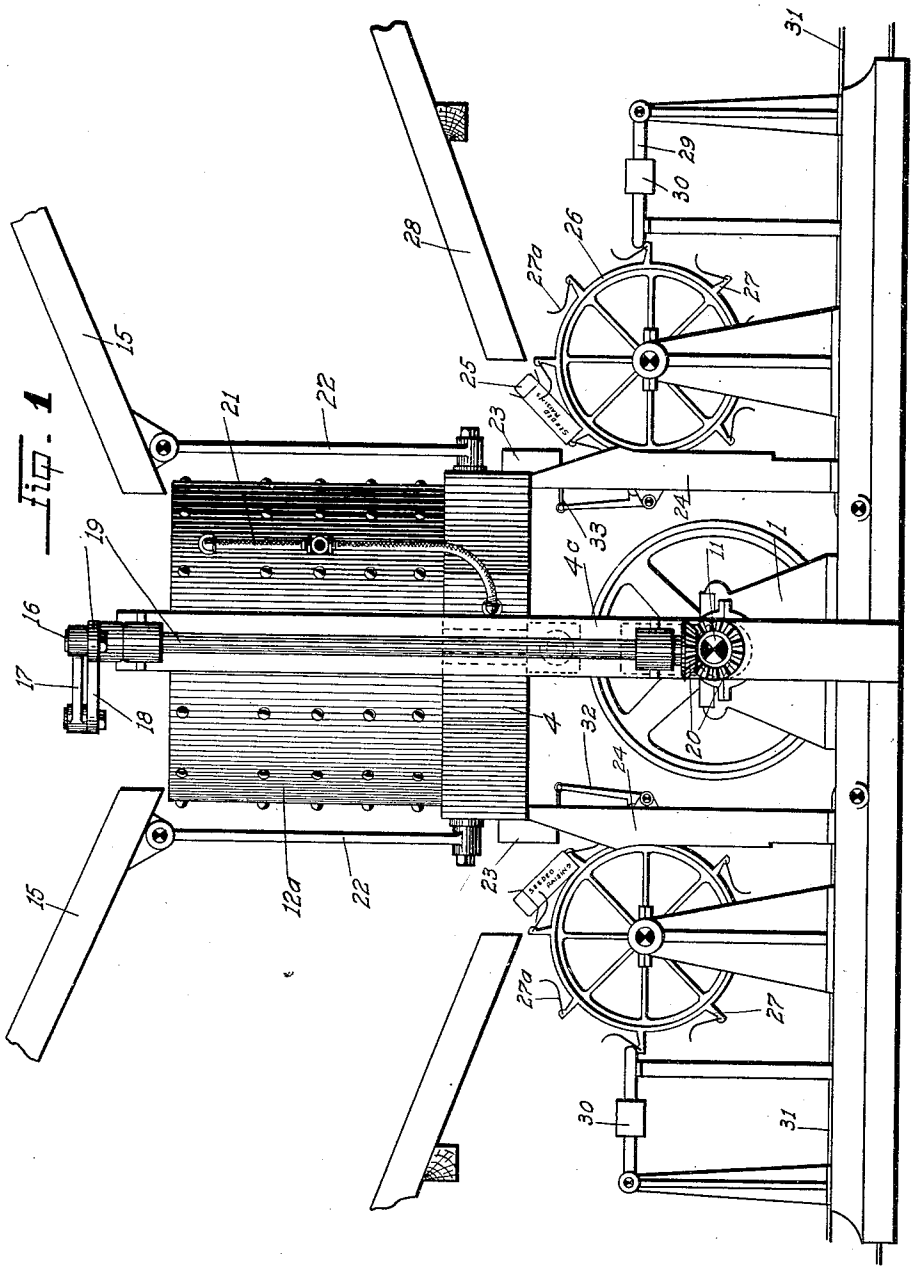
APPLICATION FILED JULY 23, 1908.

1,042,570.

Patented Oct. 29, 1912.

4 SHEETS—SHEET 1.

Fig. 1




Witnesses

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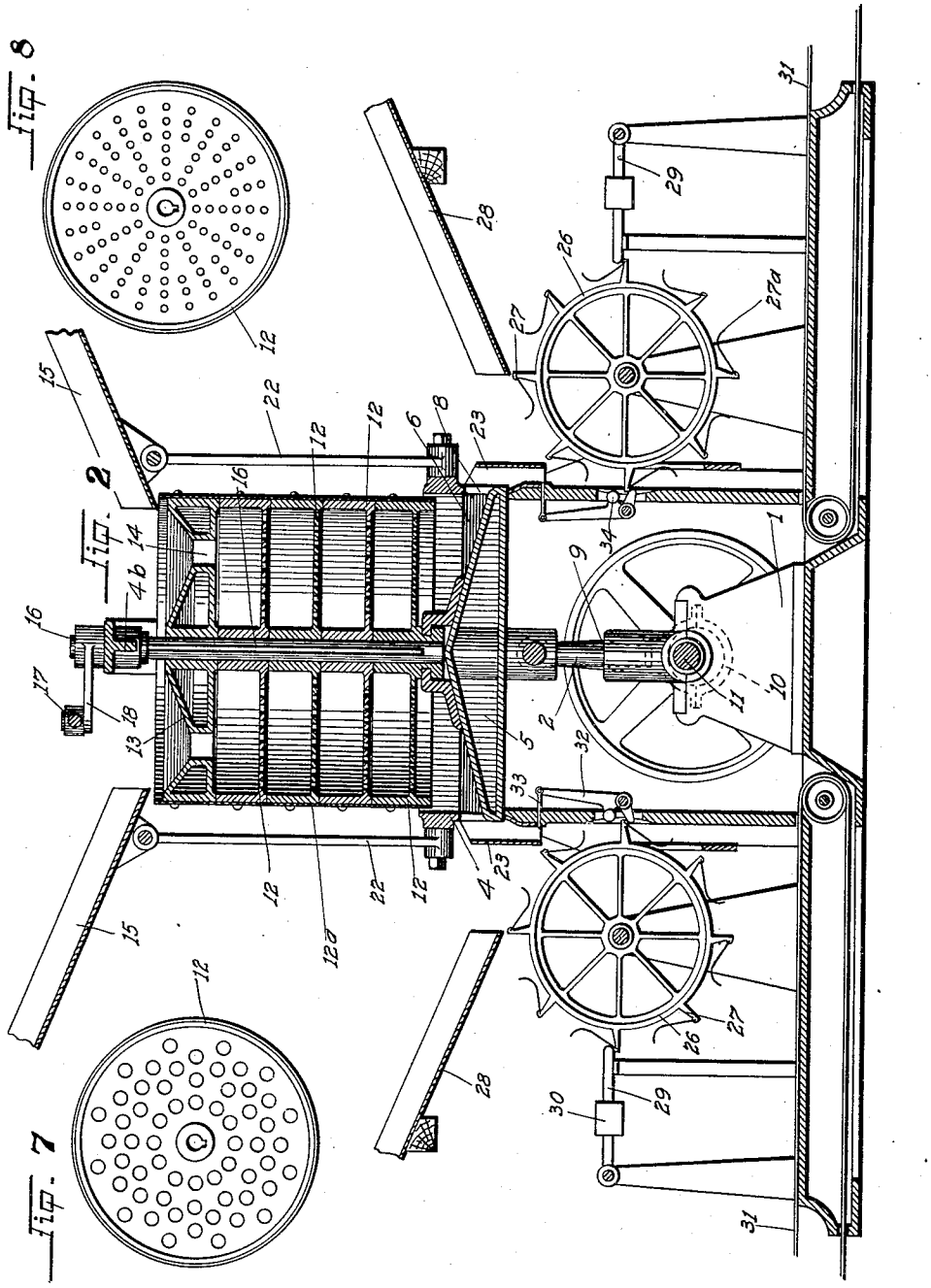


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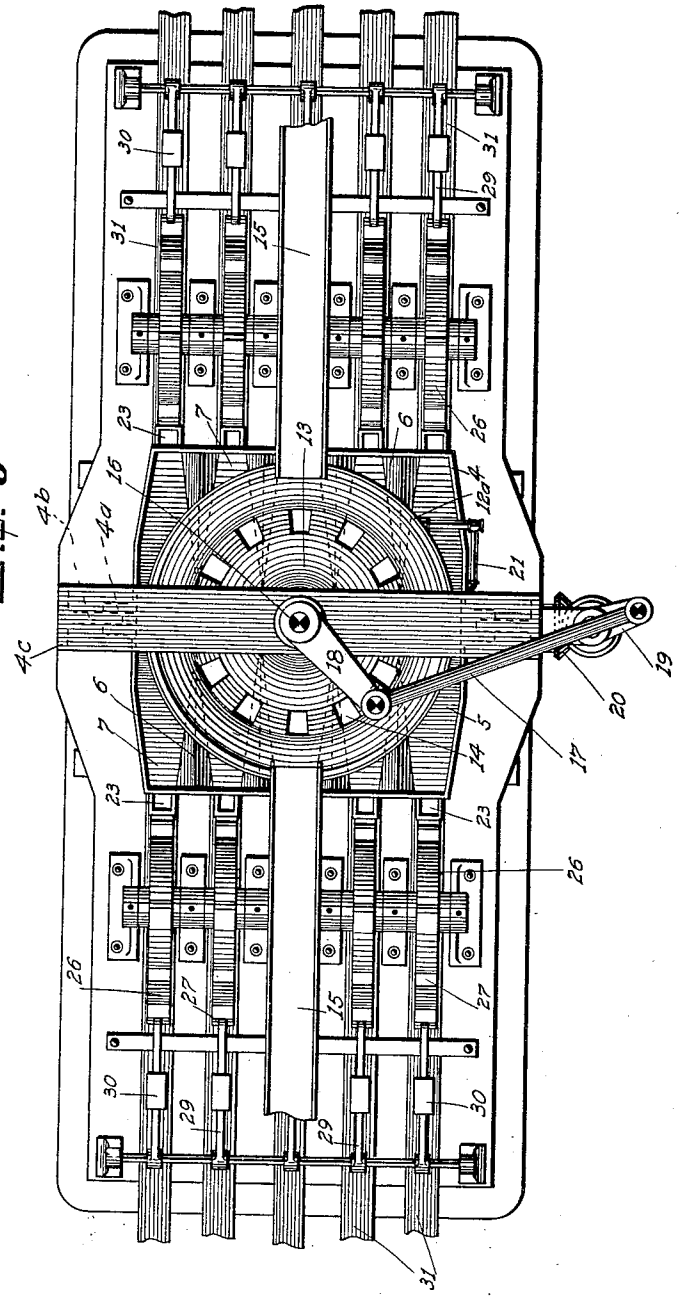
4 SHEETS—SHEET 3.

Fig. 3

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4 SHEETS—SHEET 4.

Fig. 4

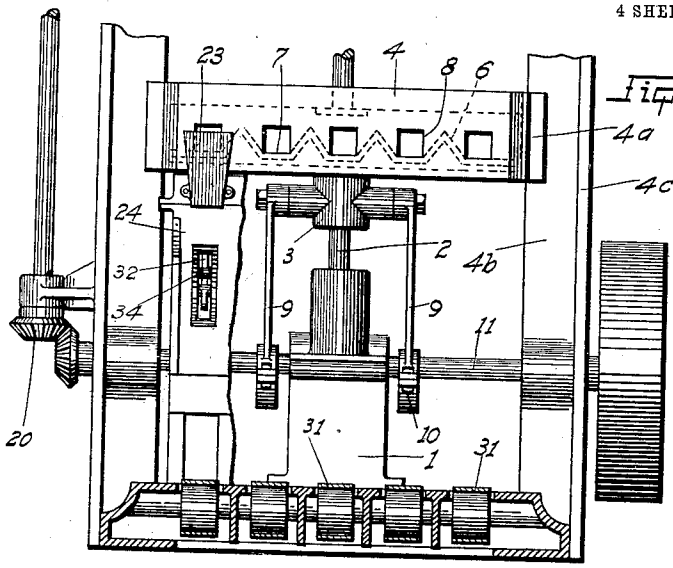



Fig. 5

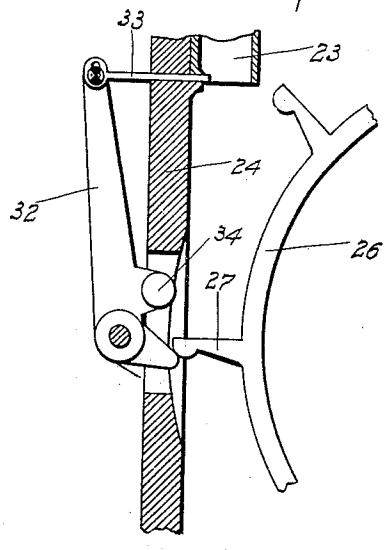
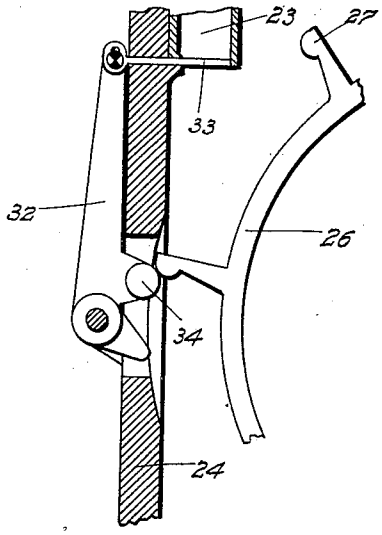



Fig. 6

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# UNITED STATES PATENT OFFICE.

GOTTHOLD L. LANGER, OF SAN FRANCISCO, CALIFORNIA.

## MACHINE FOR SEPARATING RAISINS.

1,042,570. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed July 23, 1908. Serial No. 444,941.

*To all whom it may concern:*

Be it known that I, GOTTHOLD L. LANGER, a citizen of the United States, residing at San Francisco, in the county of San Francisco, State of California, have invented certain new and useful Improvements in Machines for Separating Raisins; and I do declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in raisin handling machines, the object of the invention being to produce an efficient means for separating and disintegrating raisins from a mass and make them into a loose and separated condition whereby they can be easily fed into cartons in such quantities as to enable an exact weight to be placed into each carton. This will enable an automatic weighing attachment to be used with accuracy, an example of which weighing machine is set forth in the following specification. These objects I accomplish by means of a vertically vibrating and rocking drum in which are arranged a plurality of sizing or classifying screens through which the products pass in order to thoroughly separate the same, the said drum being provided with a heating means in order to prevent the products, if dried fruit such as seeded raisins, from sticking together and preventing easy separation or classification. Said drum and classifying means discharge into the cartons or packages which rest upon projecting shelves on revolving wheels controlled by weighted levers which weights are fixed at the desired weight for each carton whereby when the carton is filled it will lift the weight and permit the wheel to rotate to bring the next succeeding carton under its respective discharge. Also the wheels operate to close the discharge during the change of cartons, all as will more fully appear by a perusal of the following specification and claims, such weighing and discharge means being merely shown herein as indicating the advantages of my improved separating means, no claim being made in this application for such weighing and discharge means.

In the drawings similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a side elevation of the complete device. Fig. 2 is a vertical cross section of the same. Fig. 3 is a top plan view of the entire device. Fig. 4 is a fragmentary partly broken out view showing a driving means and a drum discharging means. Figs. 5 and 6 are fragmentary views showing a cut in and cut out mechanism for the discharge chutes. Figs. 7 and 8 are top plan views of sizing or classifying screens.

Referring now more particularly to the characters of reference on the drawings 1 designates a central support or bearing in which is maintained an upright guide bar or pin 2 on which is mounted a slidable sleeve 3 which maintains a basin like receptacle 4 having a hollow chamber 5 therebeneath and radiating ribs or riffles 6 forming channels 7 leading to discharge outlets 8. The member 4 has side slots $4^a$ operating on projecting flanges $4^b$ on upright frame members $4^c$.

The sleeve 3 is supported on driving arms 9 connected with eccentrics 10 on the main driving shaft 11 journaled in the support 1.

Held upward from the member 5 is a classifying or sizing drum composed of a plurality of different grades of screens 12 spaced apart one above the other, the lower screen having perforations large enough to permit the largest raisin or other products to pass therethrough, those above being larger grades to permit the products to pass through in the several stages of disintegration, the lowest screen 12 discharging into the member 4. Above the topmost screen 12 is a hollow receptacle 13 formed around openings 14 discharging onto the screens 12 and onto said member 13 discharge the supply chutes 15.

The members 12 and 13 are keyed to a shaft 16 provided with a top rocking arm 17 actuated by a drive rod 18 from a shaft and crank 19 suitably geared by gears 20 to the shaft 11 whereby a rocking motion may be imparted to the members 12 and 13, keeping the same and the material therein well agitated and sifting it down through the screens 12 thereby thoroughly disintegrating and separating each raisin or other product and discharging them upon the member 5 where they are passed by the channels 7 to the discharge outlets 8, an

upward vibratory motion being also imparted to the members 4 and 12 and 13 by means of the arms 9 and eccentrics 10, which motion also aids in separating the material as described.

Hot water, air or steam may be admitted to the chambers 5 and 13 through a flexible pipe or hose 21 whereby the raisins will be heated and the sticky or syrupy portions thereof melted thus preventing their sticking together and retarding the operation of the device. Arms 22 may be flexibly connected with the members 4 and 15 in order to keep the raisins discharging readily onto the member 13.

Over each discharge outlet 8 is a vertical chute 23 secured to independent frame members 24, said chutes discharging into the cartons or packages 25 which are conveyed thereunder by means of rotating wheels 26, one for each chute 23, which wheels have projecting arms 27 to receive the cartons 25 as they are discharged from the supply chutes 28.

Disposed diametrically opposite to the arms 27 holding cartons which are being filled are weighted levers or arms 29 resting against one of the arms 27 and having an adjustable weight 30 set for the weight of material to be filled into the cartons, and when such weight is reached in the cartons the levers 29 are lifted and the filled cartons rotate the wheels 26 to bring the next successive cartons under the chutes 23 and the filled cartons drop upon conveyers 31 and are conveyed to any point desired. As the filled cartons rotate the wheels 26 one of the arms 27 engage arms of bell cranks 32 to operate slide doors 33 to close the chutes 23 (see Fig. 5), and the next succeeding arms engage lugs 34 on said bell cranks 32 to operate the same to open said chutes as the next and empty cartons pass thereunder. (See Fig. 6.) On the arms 27 are projecting spring finger members $27^a$ for retaining the cartons 25 in proper position.

From the foregoing description the efficiency and simplicity of the device will be readily seen. In order to weigh the raisins properly without danger of overweight, (since a raisin or two in every carton, would mean big loss) it is necessary to have every raisin loose and free and it is accomplished by the heated drum having classifying and sizing screens the lowest of which have perforations only big enough to allow the largest necessary particles to pass therethrough. The vibration and rocking of the drum aids and keeps the products in motion so as to prevent clogging or sticking.

From the foregoing description it will be readily seen that I have produced such a structure as substantially fulfils the object of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the invention, still in practice, such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention.

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

1. In a device of the character set forth a drum, said drum being provided with a hollow chamber at its upper end, a member located at the lower end of said drum and being provided with a hollow chamber, a sizing means disposed within said drum intermediate said hollow chamber and said member, and a supply and discharge means for said drum as set forth.

2. A device of the character set forth comprising a support, a vertical rod thereon, a drum mounted on said rod, a plurality of screens in said drum, said drum being provided with a hollow chamber at its upper end, a member at the lower end of said drum provided with a hollow chamber, means admitting heat to both of said chambers and means for imparting a reciprocatory motion to said drum as described.

3. A device of the character described comprising a support, a drum mounted on said support, a separating means in said drum, a rocking arm on the top of said drum, means for operating said rocking arm to impart to said drum a horizontal reciprocatory movement, eccentrics attached to said support and means for operating said eccentrics to impart to said drum a vertical reciprocatory movement, as described.

4. A device of the character described comprising a support, a basin like member held upward from the said support and provided with a hollow chamber, means admitting heat to said hollow chamber, a plurality of radiating ribs in the bottom of said basin like member forming channels, said basin like member being provided with discharge outlets to which said channels lead, and a sizing means disposed upon said basin like member, as described.

In testimony whereof I affix my signature in presence of two witnesses.

GOTTHOLD L. LANGER.

Witnesses:
PERCY S. WEBSTER,
FRANK H. CARTER.