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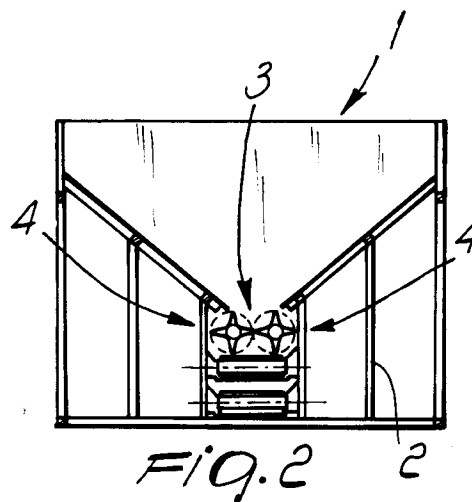
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I-20123 Milano(IT)(54) **Machine for feeding units for pressing grapes.**

(57) The machine for feeding units for pressing grapes comprises a hopper-like container (1) provided, in a downward position, with a longitudinal opening (3) at which at least one pair of adjacent motor-driven rollers (4) is arranged, the rollers (4) being provided with longitudinal vanes having an elongated spiral run, and at least one continuous conveyance means being arranged below the rollers (4).

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The present invention relates to a machine for feeding units for pressing grapes.

Units for pressing grapes are currently fed by means of machines being substantially constituted by a large hopper-like container which is open upwardly and which is arranged partially underground, the grapes to be pressed being unloaded into said container.

An auger is arranged inside the hopper-like container and moves the grapes toward a lateral discharge duct which is connected to the pressing unit.

The lower part of the hopper-like container is refrigerated, so as to lower the temperature of the grapes and prepare them for the subsequent operations.

However, these feeding machines are affected by a very important disadvantage, which is due to the fact that the screw conveyors, and most of all the one located at the bottom, act on the grape bunches in a drastic manner, pressing most of them against the lower walls of the container, and this contributes to spoil the characteristics of the grapes, leading to a decrease in the quality of the product of subsequent pressing and therefore of the wine.

Furthermore, the part of grapes which is unloaded proximate to the discharge duct passes inside the machine for a shorter time than the part unloaded at the opposite side.

This entails an uneven cooling of the grapes.

The aim of the present invention is to provide a machine for feeding units for pressing grapes which eliminates the disadvantages described above in known types.

A consequent primary object is to provide a machine which is simple and reliable in use.

Not least object is to provide a machine which can be manufactured at low cost with conventional equipment and facilities.

This aim, these objects and others which will become apparent hereinafter are achieved by a machine for feeding units for pressing grapes, characterized in that it comprises a hopper-like container provided, in a downward position, with a longitudinal opening at which at least one pair of motor-driven adjacent rollers is arranged, said rollers having longitudinal vanes of an elongated spiral run or shape, at least one continuous conveyance means being arranged below said rollers.

Further characteristics and advantages of the invention will become apparent from the detailed description of a preferred embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of the machine according to the invention;

figure 2 is a schematic front view of the machine

of figure 1;

figure 3 is a detail view of two vaned rollers present in the machine of figures 1 and 2;

figure 4 is an enlarged perspective view of a detail of the two rollers of figure 3;

figure 5 is a partially sectional side view of the machine of figures 1 and 2.

With reference to the above figures, a machine for feeding units for pressing grapes comprises a large hopper-like metallic container, indicated by the reference numeral 1, which is conveniently supported by a supporting structure 2 also made of metallic rod-like elements.

Said hopper-like container 1 has, at its bottom, a longitudinal opening 3 below which two motor-driven rollers 4 are arranged side by side.

According to the invention, each of the two rollers is provided with longitudinal vanes 5 having an elongated spiral run.

In the present embodiment, said vanes 5 are four, are arranged at 90° with respect to one another and have a radial arrangement.

The spiral run of each of said vanes is such that the profile of each vane shifts around the roller by a quarter of a round angle along the entire length of the shaft.

Conveniently, the vanes of each roller 4 are twisted in the direction opposite to the twisting direction of the vanes of the other roller, and in practice said twisting matches the direction of rotation of each roller 4, which is in turn such as to push the grapes loaded into the container 1 toward the center, discharging them downwardly.

The axes 6 of the two rollers 4 are such, and have such an arrangement, that the vanes skim one another in pairs during rotation, which is conveniently synchronous.

The consequence of the rotary effect is that the skimming point of each pair of vanes translates from one side of the container to the other.

A moving opening is thus defined between the two rollers 4, and the grapes gradually deposit through said opening onto a first conveyor belt 7 which is arranged below.

The region below the rollers 4 is conveniently refrigerated by means of an air conditioning system, not illustrated, which is suitable for cooling the grapes to a low temperature in order to prepare them for subsequent pressing.

In addition to the function of feeding the first conveyor belt 7, the two rollers 4 also have the function of supporting the load of grapes present in the container 1.

Said first conveyor belt 7, which is completely comprised within the overall dimensions of the container 1, ends at an end region of said container and discharges the grapes onto a second conveyor belt 8 on which it is superimposed.

The second conveyor belt 8 moves in a direction opposite to the direction of the first conveyor belt 7 and extends beyond the area occupied by the container 1, into a duct 9, to be connected to the rest of the unit for pressing grapes.

Conveniently, the two conveyor belts 7 and 8 and the rollers 4 are comprised in a box-like structure 10 arranged below the container 1.

At this point it should be noted that the particular shape of the two rollers 4 allows in practice to gently unload the grapes onto the first conveyor belt 7, without any drastic action being exerted thereon so as to spoil its quality.

The presence of the second conveyor belt 8 allows to keep all the unloaded grapes inside the refrigerated region for a time sufficient to bring it to the required temperature.

In practice it has thus been observed that the above described machine has achieved the intended aim and objects of the present invention.

The invention thus conceived is susceptible to numerous modifications and variations, all of which are within the scope of the inventive concept.

All the details may furthermore be replaced with other technically equivalent elements.

In practice, the materials employed, so long as compatible with the contingent use, as well as the dimensions, may be any according to the requirements.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the scope of each element identified by way of example by such reference signs.

Claims

1. Machine for feeding units for pressing grapes, characterized in that it comprises a hopper-like container (1) provided, in a downward position, with a longitudinal opening (3) at which at least one pair of adjacent motor-driven rollers (4) is arranged, said rollers (4) having longitudinal vanes (5) of an elongated spiral run, at least one continuous conveyance means (7,8) being arranged below said rollers (4).
2. Machine according to claim 1, characterized in that said vanes (5) of each roller (4) extend radially.
3. Machine according to one or more of the preceding claims, characterized in that the spiral run of each vane (5) is such that the profile shifts around the roller (4), from the beginning

to the end thereof, by a fraction of an angle which is equal to the round angle divided by the total number of vanes.

4. Machine according to one or more of the preceding claims, characterized in that said vanes (5) are four for each roller (4).
5. Machine according to one or more of the preceding claims, characterized in that said rollers (4) are motor-driven in opposite directions of rotation such that said vanes (5) tend to push the grapes from above toward the region comprised between their axes of rotation (6).
6. Machine according to one or more of the preceding claims, characterized in that the spiral run of said vanes (5) matches the direction of rotation of the respective roller (4).
7. Machine according to one or more of the preceding claims, characterized in that the axes of rotation (6) of said rollers (4) are spaced by a gap such that the outer paths of the vanes (5) of different rollers skim one another.
8. Machine according to one or more of the preceding claims, characterized in that said rollers (4) are motor-driven synchronously and are arranged so that the pairs of vanes skim each other in the region comprised between the axes (6) during the rotation thereof.
9. Machine according to one or more of the preceding claims, characterized in that it comprises two continuous conveyance means (7,8) which are superimposed below said rollers (4) and are moveable in opposite directions, the lower one (8) being adapted for receiving the product unloaded by the upper one (7).
10. Machine according to one or more of the preceding claims, characterized in that said continuous conveyance means (7,8) are constituted by two conveyor belts.

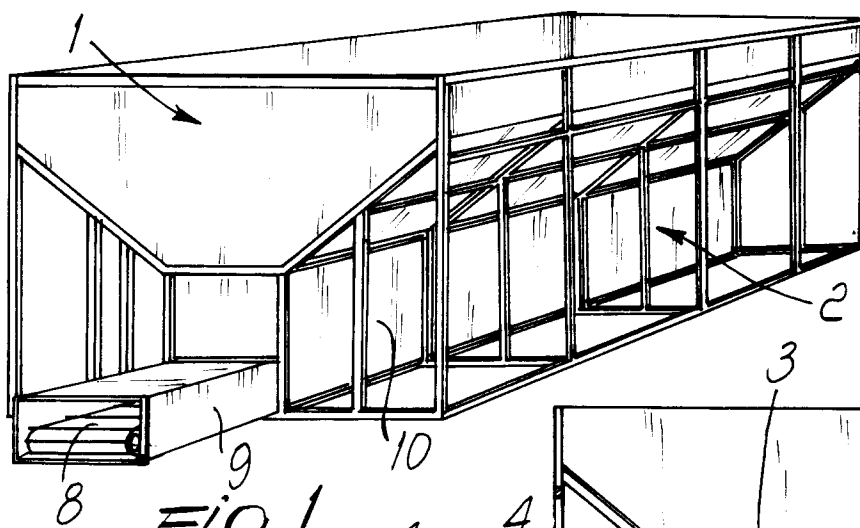


Fig. 1

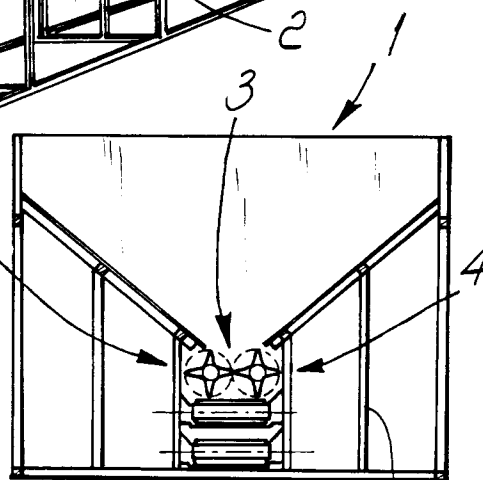


Fig. 2

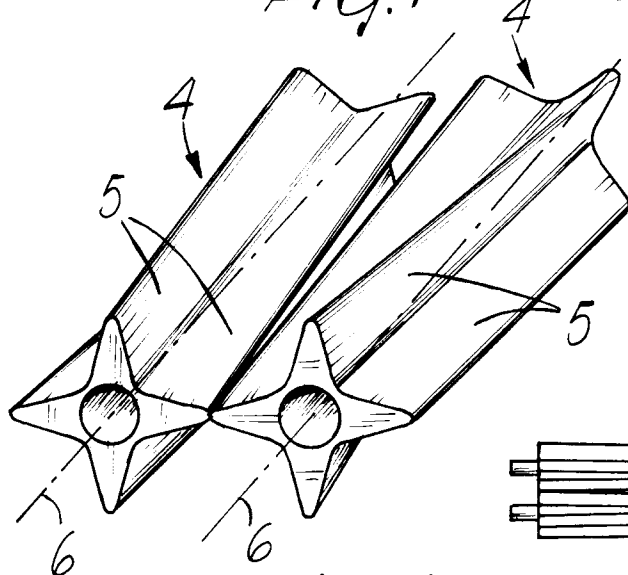


Fig. 4



Fig. 3

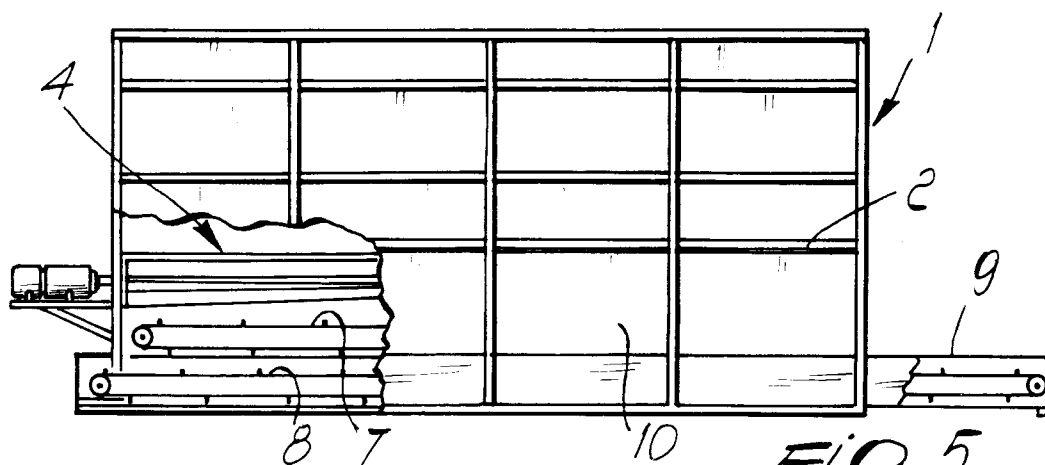


Fig. 5