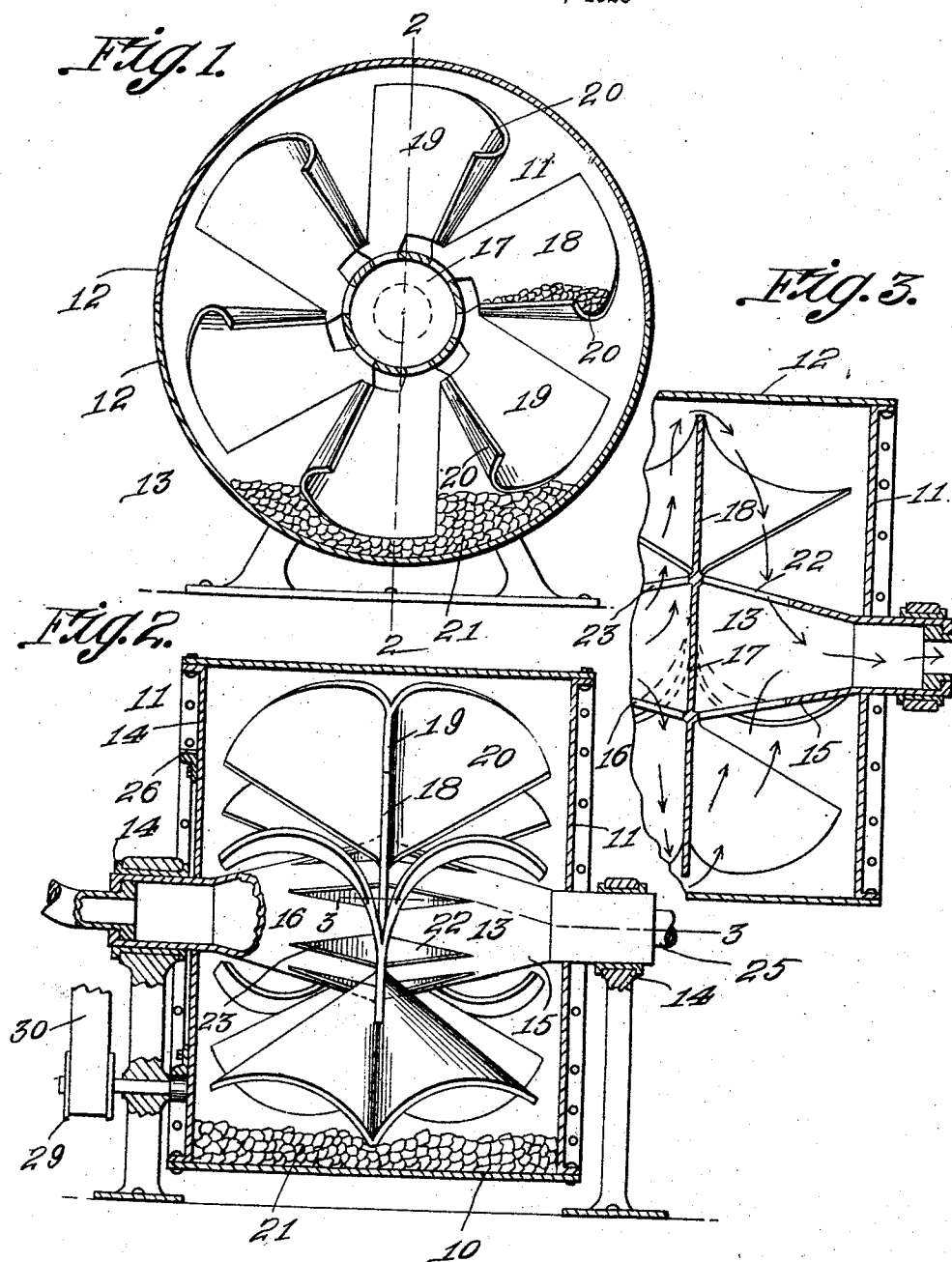


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P. BALLETO
GRINDING MILL OR TRITURATOR

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PAUL BALLETO, OF LONG ISLAND CITY, NEW YORK.

GRINDING MILL OR TRITURATOR.

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To all whom it may concern:

Be it known that I, PAUL BALLETO, a citizen of the United States, residing at Long Island City, in the county of Queens and State of New York, have invented new and useful Improvements in Grinding Mills or Triturators, of which the following is a specification.

This invention relates to improvements in grinding mills or tritulators.

One of the principal objects of the invention resides in a triturator wherein the substance to be trituated is thoroughly ground by lifting the same and causing the material to drop by reason of gravity until the particles are broken up to the proper consistency, and in the present instance, the particles are adapted to be ground to a powder.

Another object of the invention resides in a triturator in which the trituated particles are automatically removed from the device when the particles have been ground to their proper fineness.

With these and other objects in view, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a vertical sectional view through my improved triturator.

Figure 2 is a vertical transverse sectional view on the line 2—2 of Figure 1.

Figure 3 is a detail vertical sectional view on the line 3—3 of Figure 2.

Referring more particularly to the drawing, the reference numeral 10 designates a drum which is constructed of a pair of parallel side plates 11 which are connected to a pair of semi-circular plates 12, bolted to flanges on the periphery of the plates 11, and which plates 12 co-act to provide a continuous peripheral wall for the drum. Extending centrally through the side plates 11 is a hollow member 13 which has its ends mounted in bearings 14 exteriorly of the side walls of the drum. The member 13 is fastened to the side walls of the drum whereby both the hollow member and the drum are capable of simultaneous rotation in the same direction. The member 13 is flared in opposite directions as at 15 and 16 toward the transverse center of the drum

and a partition 17 is provided within the hollow member at the meeting points of the flared ends for separating the interior of the hollow member on opposite sides of the transverse center. Formed integral with the member 13 or secured thereto are a plurality of radially extending blades 18 which have portions 19, which are disposed at right angle to the axis of the hollow member, while one of the edges of the blades is provided with oppositely disposed curved wings 20. These wings extend to opposite sides of the transverse center of the member 13 and serve to consecutively pick up the lump material to be trituated, together with the pebbles or stones 21 which are placed within the drum for mixing with the lump material and which serve to crush the material as the same is dropped from the blades during the rotation of the device.

The flared walls 15 and 16 of the hollow member 13 are provided with elongated openings 22 and 23 respectively, which are so arranged as to be disposed at opposite sides of the partition 17 so that the particles within the drum will not tend to slide into the openings as they drop from the blades. However, should any of the particles, not of the proper consistency, enter the openings, they will automatically drop through to the drum as the device rotates.

For the purpose of removing the particles of the proper consistency or specific gravity from the interior of the drum an air inlet pipe 24 is connected to one of the ends of the hollow member 13 through which a forced draft of air is adapted to pass into the drum through the openings 22 and when entering the drum, the forced draft of air is adapted to carry those particles of the proper consistency through the openings 23 from where they are carried through an outlet pipe 25 connected with the opposite end of the hollow member 13. The partition 17 within the hollow member tends to serve as a baffle to interrupt the passage of the forced draft of air so as to compel the same to enter and circulate within the drum.

For the purpose of imparting rotation to the device, a gear 26 is fixedly mounted to one of the side plates 11 and to one end of the hollow member 13, and which gear meshes with a pinion 27 fixed to a shaft 28, which shaft carries a wheel 29 over which a driven belt 30 passes. Although I have

shown one means of transmitting motion to the device, it will be appreciated that any other suitable means may be provided if desired, so long as the drum and hollow member 13 are rotated simultaneously.

The triturator herein described is especially adapted for grinding lumps of rosin into a powdered form, and in operation, the lumps of rosin are placed within the drum together with a quantity of pebbles 21. As the drum and hollow member rotate, the wings 20 of the blades consecutively pick up the mass and after passing the horizontal center of the axis of rotation, the mass slides down the wings by reason of gravity and drops to the bottom of the drum, where the mass is again picked up and dropped until the lumps of rosin have been ground to the proper consistency. As hereinbefore mentioned, the object is to pulverize the rosin and when reaching such a state, the force of the draft of air entering the drum causes the powdered rosin to be blown from the drum as hereinbefore described.

By constructing the outer peripheral walls of the drum of two sections, it is possible to repair and replace the same when worn, without disturbing the side plates or the other parts of the apparatus.

While I have described what I deem to be the most desirable embodiment of my invention, it is obvious that many of the details may be varied without in any way departing from the spirit of my invention, and I therefore do not limit myself to the exact details of construction herein set forth nor to anything less than the whole of my invention limited only by the appended claims.

What is claimed as new:—

1. A triturator comprising a rotatable drum adapted to contain the material to be triturated, a hollow member within said drum having inlet and outlet openings therein, and blades carried by said hollow member for picking up and dropping the material to be triturated.

2. A triturator comprising a rotatable drum adapted to contain the material to be triturated, a hollow member opening to the exterior of said drum, a partition within said

hollow member, said hollow member having openings therein on opposite sides of said partition for the inlet of a forced draft of air in said drum and for the escape of the same, and radially extending blades carried by said hollow member for picking up and dropping the material to be triturated.

3. A triturator comprising a rotatable drum adapted to contain the material to be triturated, a hollow member opening to the exterior of said drum, a partition within said hollow member, said hollow member having openings therein on opposite sides of said partition for the inlet of a forced draft of air in said drum and for the escape of the same, radially extending blades carried by said hollow member, and oppositely disposed wings on said blades for picking up and dropping the material to be triturated.

4. A triturator comprising a rotatable mounted drum having pebbles therein and adapted to contain the material to be triturated, a hollow member rotatable with said drum, said hollow member having two compartments each of which has openings therein opening into the interior of said drum, a feed pipe connected to one end of said hollow member, an exhaust pipe connected to the other end of said hollow member, radially extending blades carried by said hollow member, and wings extending from opposite sides of one of the edges of the blades for lifting and dropping the pebbles and material to be triturated.

5. A triturator comprising a rotatable drum, a hollow member mounted within said drum axially thereof, the walls of said hollow member being flared in opposite directions toward the transverse center of said drum, a transverse partition within said hollow member in alignment with the meeting ends of the flared walls, said flared walls having openings therein on opposite sides of said partition, blades extending radially from said hollow member, and oppositely extending wings formed on said blades, substantially as and for the purpose specified.

In testimony whereof I hereby affix my signature.

PAUL BALLETT.