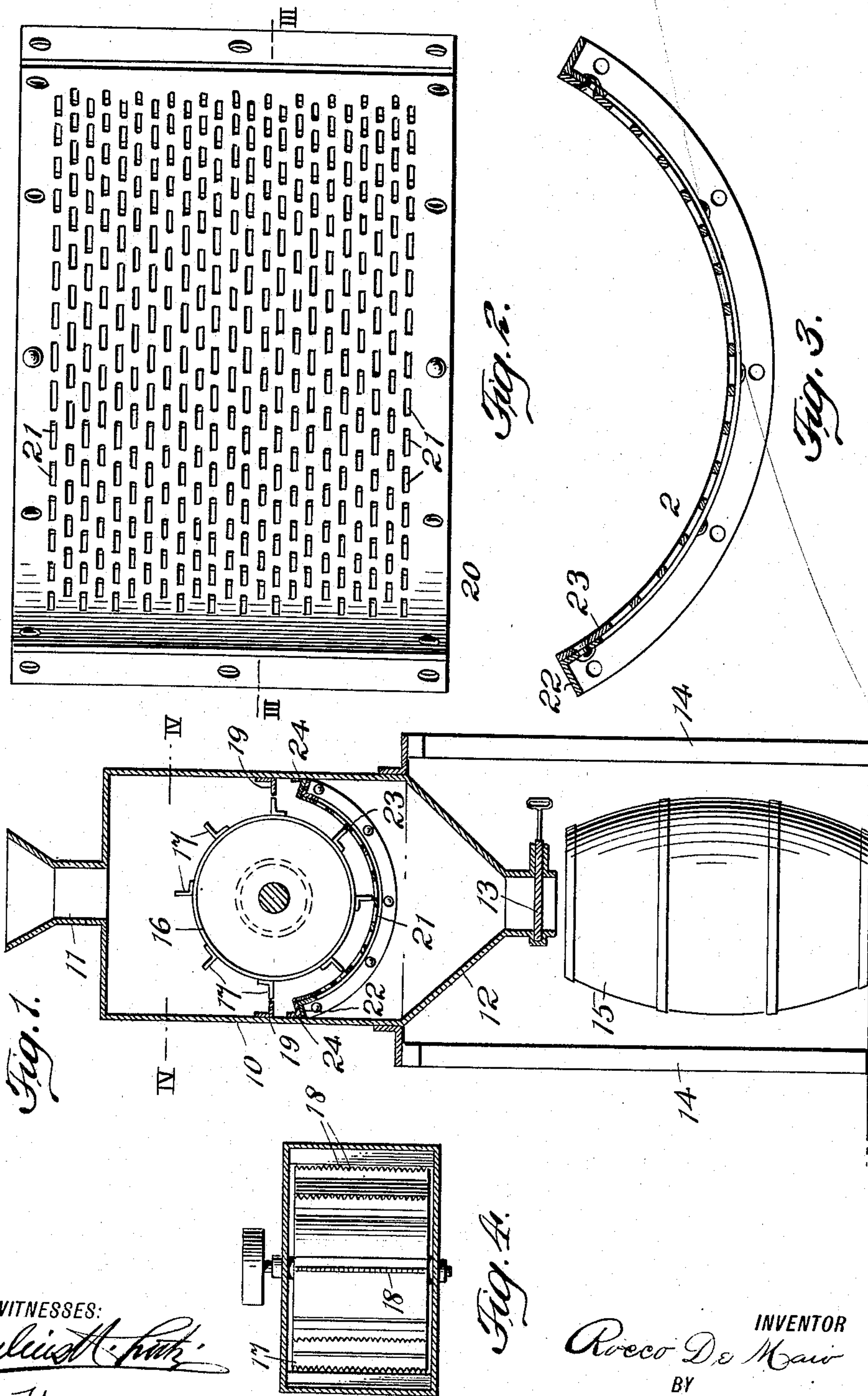


R. DE MAIO.
GRINDING MILL.
APPLICATION FILED MAY 15, 1908.

930,742.

Patented Aug. 10, 1909.



WITNESSES:
Julius A. Smith
C. Krancer

Fig. 4.

INVENTOR
Rocco De Maio
BY
Crawford & Griswell
ATTORNEYS

UNITED STATES PATENT OFFICE.

ROCCO DE MAIO, OF NEW YORK, N. Y.

GRINDING-MILL.

No. 930,742.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed May 15, 1908. Serial No. 433,069.

To all whom it may concern:

Be it known that I, ROCCO DE MAIO, a citizen of the United States, and a resident of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Grinding-Mills, of which the following is a full, clear, and exact description.

This invention relates more particularly to a mill for making soap powder.

The primary object of the invention is to provide simple and efficient means whereby lumps of material for making soap powder may be broken up into small particles, and these particles made to pass through a device in such a way as to produce a fine powder which may be deposited direct into a containing package, thus overcoming the objection in the manufacture of soap powder of employing two or more machines for reducing the powder to its proper marketable condition.

A further object of the invention is to provide a simple and efficient device which may be arranged within the mill in such a way that the material as it is forced there-through by a rotating drum will reduce the material to a very fine powder.

With these and other objects in view, the invention will be hereinafter more particularly described with reference to the accompanying drawings which form a part of this specification, and will then be pointed out in the claims at the end of the description.

In the drawings, Figure 1 is a vertical section, partly in elevation, of one form of machine embodying my invention. Fig. 2 is a detail plan view of the comminuting device. Fig. 3 is a section taken on the line III—III of Fig. 2; and Fig. 4 is a sectional plan view taken on the line IV—IV of Fig. 1.

The casing 10 may be of any suitable construction, and at the upper part thereof may be provided with a hopper 11 or other means through which the material to be made into a powder may be deposited, and extending beneath the casing 10 may be a chute 12 in which may be arranged a gate or door 13 for closing the lower end of said chute to prevent the powdered material from passing therethrough. The casing or receptacle 10 may be supported in any desired way, and may be arranged so as to be held on the standards or uprights 14, and under the chute 12 may be placed a barrel 15 or other

container which is adapted to receive the material as it passes from the chute 12. A drum 16 is rotatably held within the casing and arranged around the periphery of the drum are a plurality of ribs or devices 17, the outer edge of which are serrated, as at 18, so as to more readily cut the material, and on each side of the casing 10 is a bar 19, which has its inner edge close to the plane of rotation of the toothed devices 17, all of which may be of the usual or of any preferred construction. The inner edges of the bars 19 are so disposed that if the arc of a circle in which the curved plate 20 is disposed were continued it would touch the inner edges of said bars 19.

To cause the material to be reduced to a very fine powder ready for the containing package, I arrange under the drum a curved plate or comminuting device 20. This device 20 is curved so as to follow the curvature of the drum and extends the length and width of the casing 10, and in the curved portion of said device are arranged a plurality of slots or openings 21. These openings 21 form narrow slits in the body of the device 20, and are narrower in proportion to the length than that shown in the drawings which are thus made to more clearly illustrate the position of the openings. An angle plate 22 may be arranged to support the body portion 23 containing the slots or openings 21, and said device may be held to the casing by means of the angle plates or bars 24. As the drum 16 rotates, the devices 17 pass the bars 19 which will break the material, and the broken material will be cut up and forced by the devices 17 through the slots or openings 21 in the device 20 in the form of a very fine powder, and the powder as it is made is directed by means of the chute into the barrel 15 or other container provided therefor.

From the foregoing it will be seen that a simple and efficient mill is provided in which soap or like material may be ground into a very fine powder ready for use, thereby dispensing with two or more machines usually employed for this purpose; and that simple means is provided in connection with a rotary drum for reducing the material to a fine powder.

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

The combination with a casing, of a rotary

drum, toothed devices extending lengthwise
of said drum around the periphery thereof,
a curved plate having narrow elongated
slots therethrough arranged in said casing
5 beneath said drum adjacent the path of
movement thereof, angle bars secured to op-
posite sides of the interior of said casing
adapted to support said curved plate, and
angle bars secured to opposite sides of said
10 casing above said first mentioned angle bars
and the inner edges of said last mentioned

bars so disposed that if the arc of a circle in
which the curved plate is disposed were con-
tinued it would touch the said inner edges
of the last mentioned angle bars.

This specification signed and witnessed
this 9th day of May A. D. 1908.

ROCCO DE MAIO.

Witnesses:

W. A. TOWNER, Jr.,
E. W. DASO.