

No. 885,708.

PATENTED APR. 28, 1908.

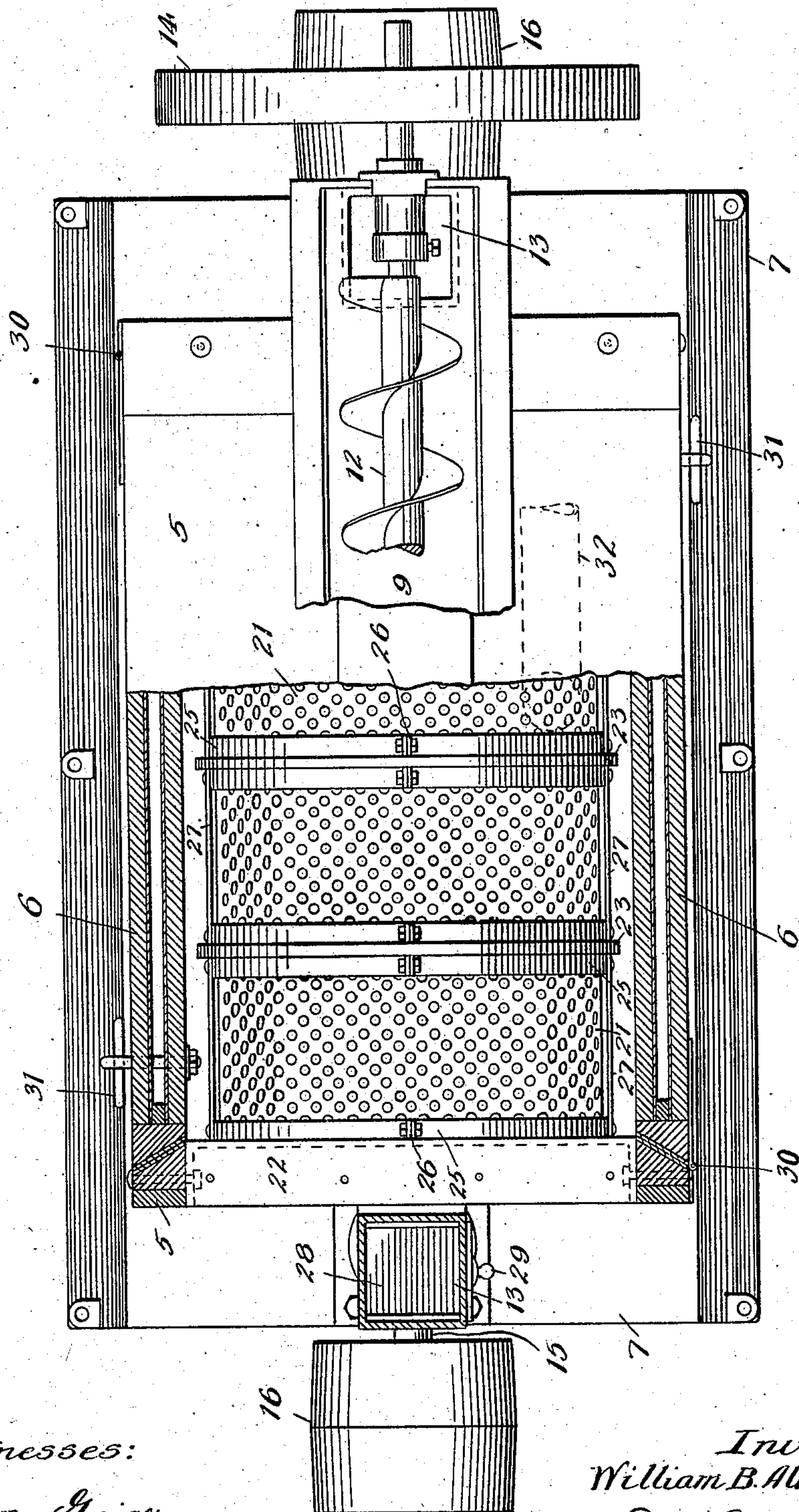
W. B. ALLBRIGHT.

APPARATUS FOR REDUCING SOAP MATERIALS TO POWDER.

APPLICATION FILED OCT. 25, 1907.

3 SHEETS—SHEET 1.

Fig. 1



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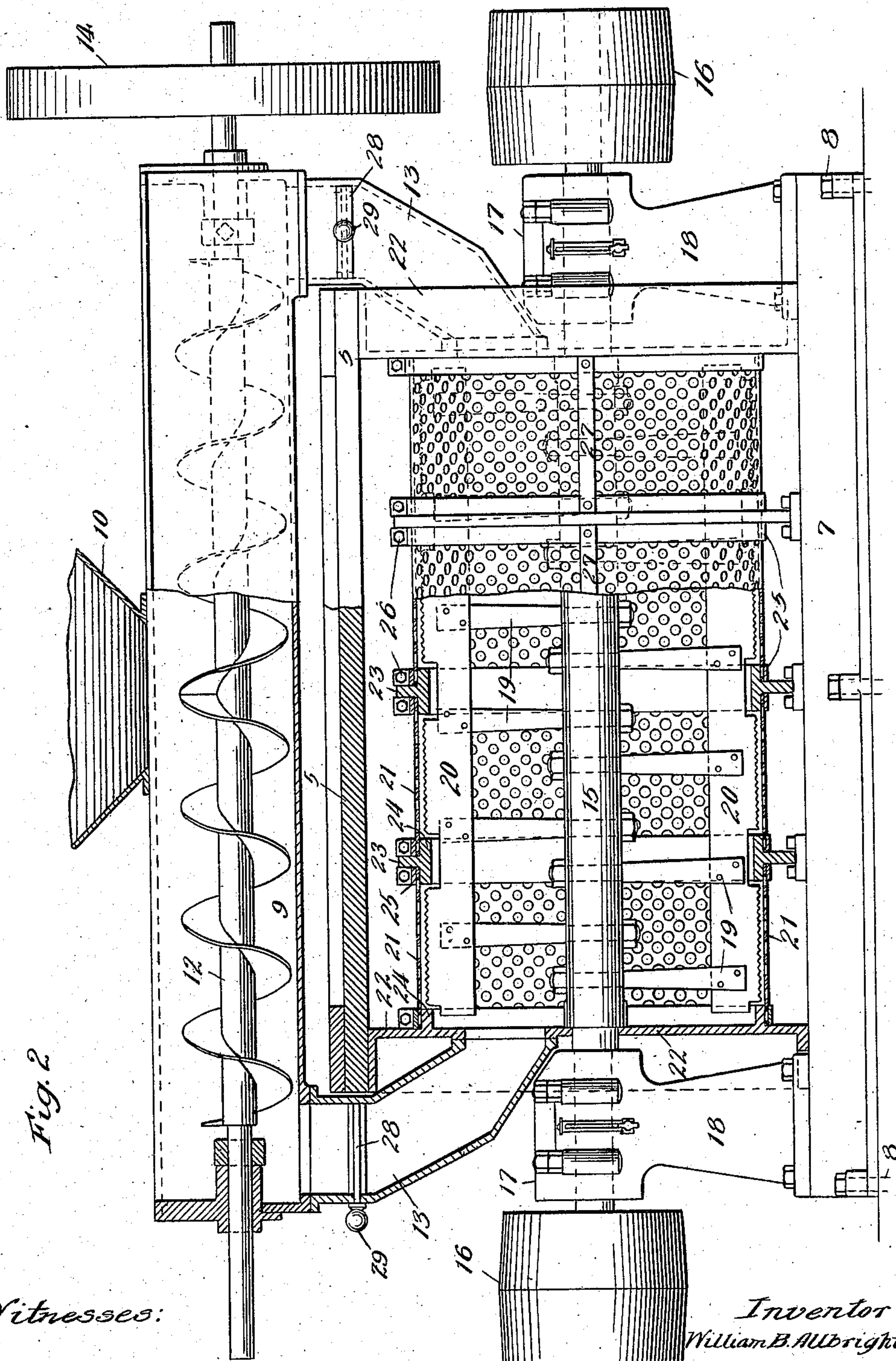
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3 SHEETS—SHEET 2.



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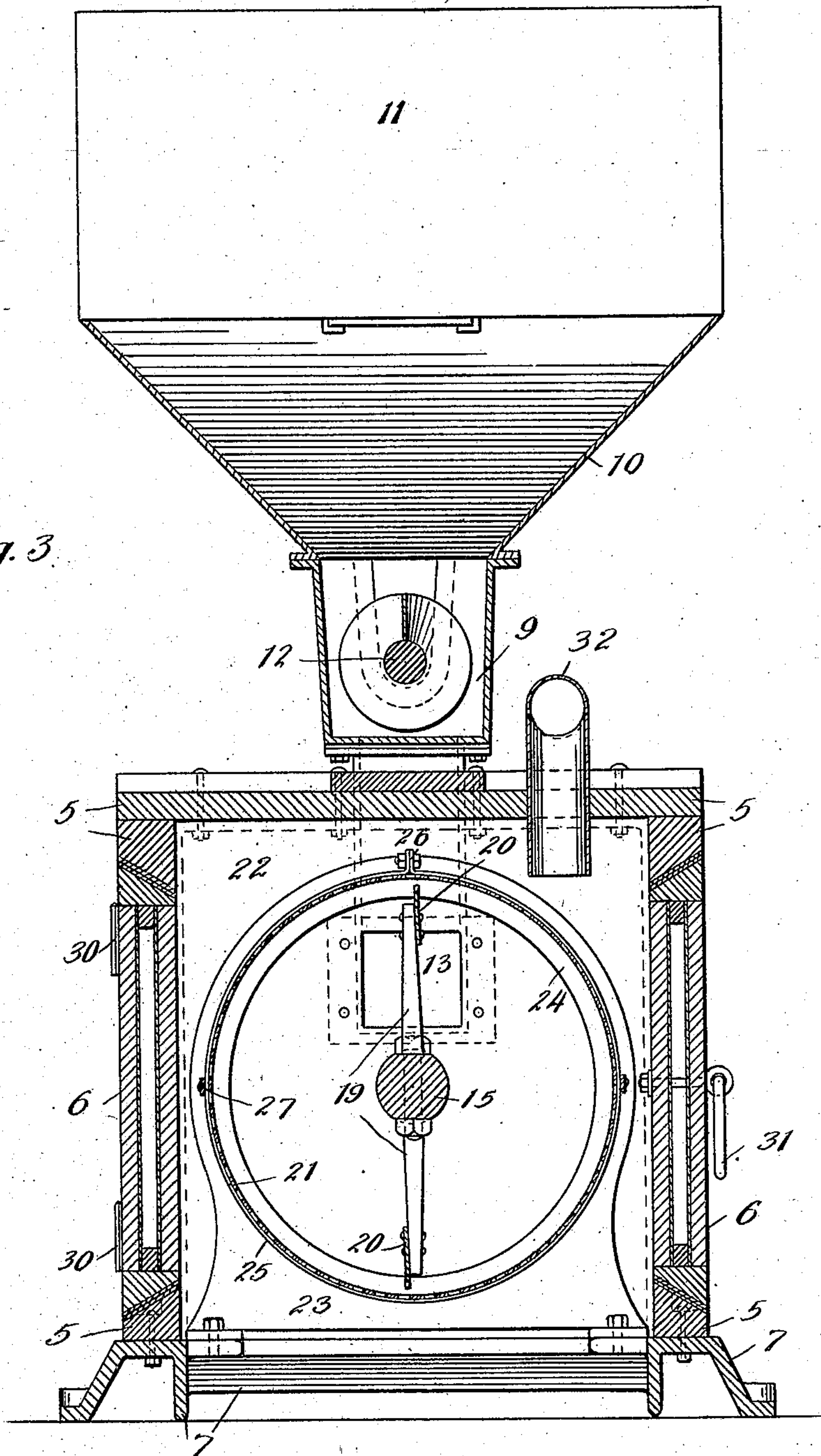
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3 SHEETS—SHEET 3.

Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR REDUCING SOAP MATERIALS TO POWDER.

No. 885,708.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed October 25, 1907. Serial No. 399,095.

*To all whom it may concern:*

Be it known that I, WILLIAM B. ALLBRIGHT, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Apparatus for Reducing Soap Materials to Powder, of which the following is a specification.

This invention relates to apparatus intended for use in reducing soap to the form of powder, and is an improvement upon apparatus previously used for that purpose.

The nature of the invention is fully disclosed below, and will also be understood from the accompanying drawings, in which—

Figure 1 is a plan of the invention partly in section, Fig. 2 is a longitudinal vertical section, and Fig. 3 is a transverse vertical section.

In said drawing, 5 represents a bottomless casing surrounding the mechanism of the invention, and having close fitting doors 6, 6, at each side.

7 is a base frame supporting the casing and to which it is bolted, said frame being secured to the floor by bolts 8. Above the casing is a trough 9 arranged longitudinally of the casing, and into this trough a hopper 10, located over its center, discharges the balls or lumps consisting of mixed liquid soap and soda ash, which are formed in the mixer 11 located immediately over the hopper. As the particular construction of this mixer forms no part of the present invention, I do not illustrate or describe it in detail. Suffice it to say, that it agitates the materials until they unite and form balls or lumps, in which form they are subjected to the action of the disintegrating mechanism described below.

In the trough 9 is a revolving conveyer shaft 12, constructed to feed in both directions from the hopper mouth, and thus to conduct the balls or lumps of the mixed materials to the conducting passages or chutes 13 at the ends of the casing 5, by which they are fed into the casing. The conveyer shaft is actuated by the belt pulley 14.

Extending through the casing is a rapidly driven shaft 15 driven by the pulleys 16, and supported in bearings 17 on the standards 18 located outside the casing. This shaft is provided with arms 19 carrying at their outer ends plates 20 with saw tooth outer edges adapted to disintegrate the lumpy ma-

terial, and outside of and in close proximity to the path of the toothed edges of the plates is a surrounding stationary screen made up of sections 21 of perforated metal. This screen is supported by end frames 22 and intermediate frames 23. All said frames have projecting flanges 24 around which the screen sections may be bent and confined by stiff metal bands 25, having their ends bent outward and bolted together as at 26, and the pair of bands at opposite edges of each screen section are tied together by strips 27. The frames 22 and 23 all extend down to and are supported on the base frame. The bands 25 abut closely against the frames, so that the screen forms a complete inclosure from which none of the material can escape except through the meshes of the screen. The ends of the casing are closed tight by said end frames 22, in which are formed openings for the inlets 13 and for the shaft 15.

The balls or lumps received from the mixer are confined by the screen within the field of action of the toothed beaters until they are reduced to powder, and the powder then passes through the screen into the outer part of the casing and falls through the bottom of the same into a suitable receptacle, or into the packages in which the same is to be marketed.

The dust developed by the reducing process described is given exit from the casing by the pipe 32 opening from its top. To prevent the feeding of the material faster than the disintegrating mechanism can reduce the same, I place a gate 28 in each of the feed passages 13, which can be adjusted whenever necessary by the handles 29. The casing doors are hinged at 30, and are provided with ring pulls 31 whereby they may be opened. The vent 32 by which the dust is allowed to escape from the casing is also very beneficial, particularly in damp weather, as it allows the moisture, as well as the dust, to escape.

I claim:

1. The apparatus for reducing soap balls or lumps to powder, embracing a mixer a conveyer feeding the balls from the mixer to the reducing mechanism, and reducing mechanism consisting of a casing, revolving sharp toothed beaters in the casing, and a screen surrounding the beaters, said casing having a dust outlet and an outlet for the powdered soap.

2. The apparatus for reducing soap balls  
or lumps to powder, embracing a mixer a  
conveyer feeding the balls from the mixer, a  
passage having a valve and extending from  
5 the conveyer to the reducing mechanism,  
and reducing mechanism consisting of a cas-  
ing, revolving sharp toothed beaters in the

casing, and a screen surrounding the beaters,  
said casing having a dust outlet and an out-  
let for the powdered soap.

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