

H. PRICE & A. N. HOOD.  
EXTRACTOR.  
APPLICATION FILED JAN. 25, 1907.

932,900.

Patented Aug. 31, 1909.

Fig. 1.

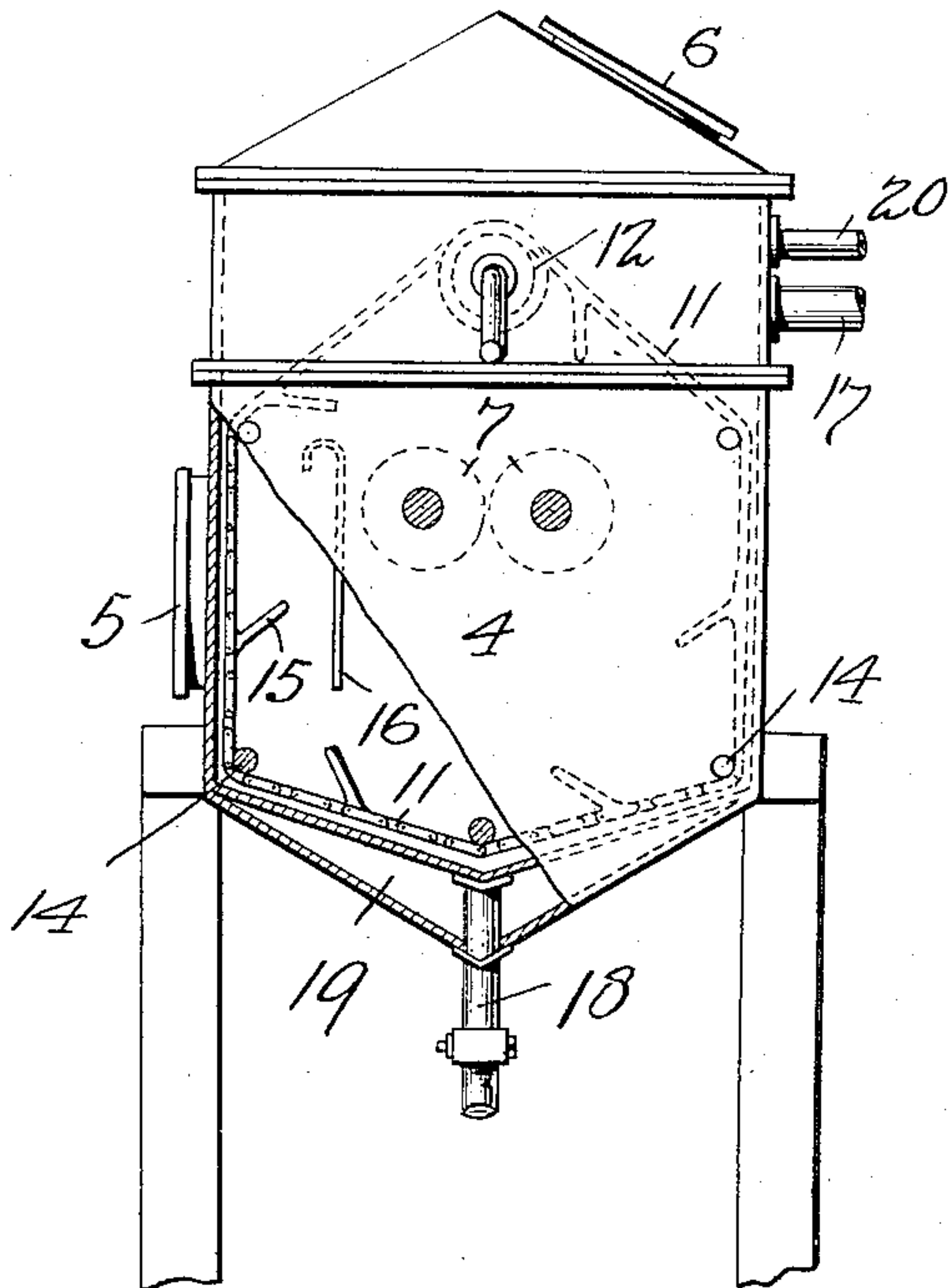


Fig. 2.

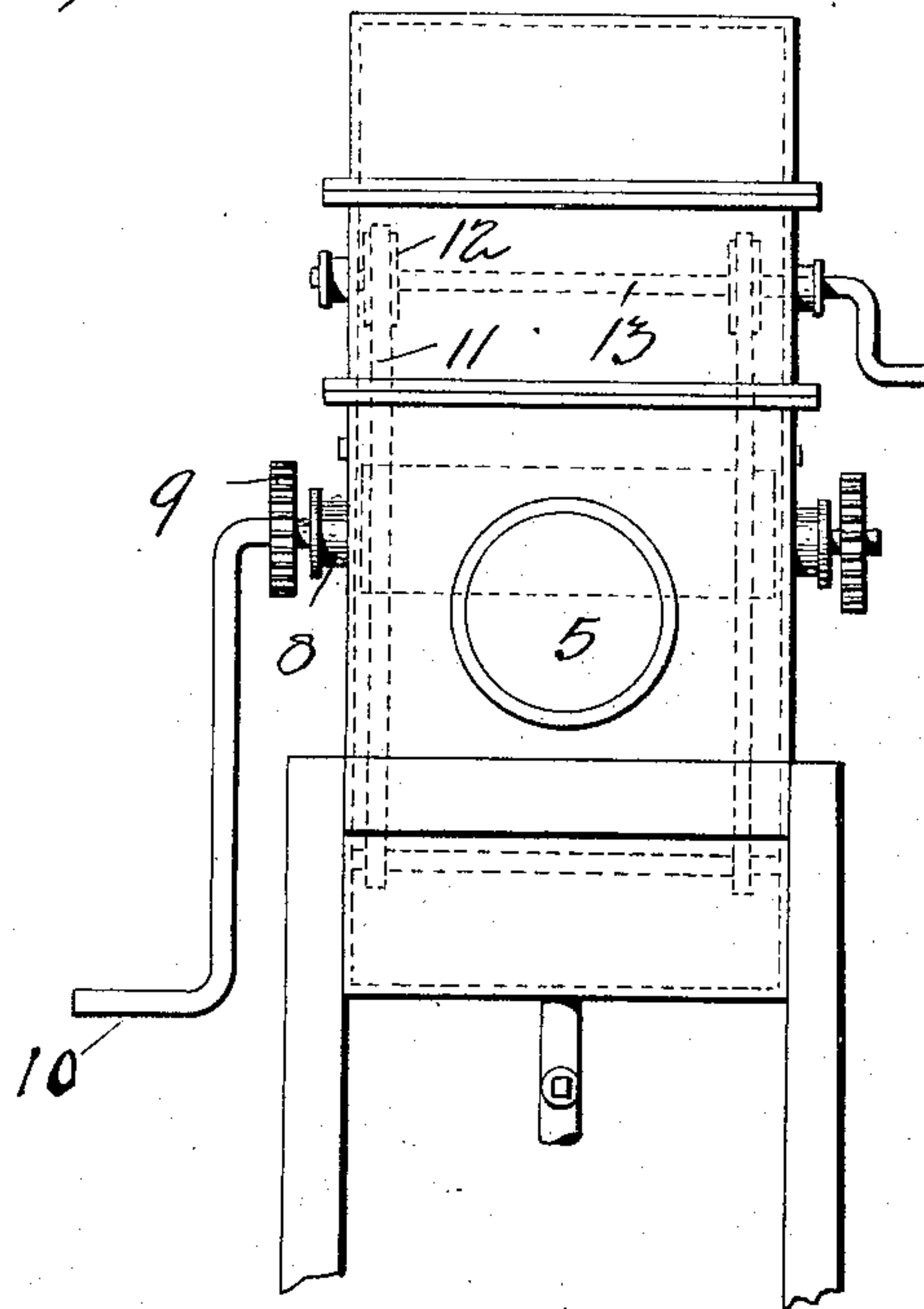
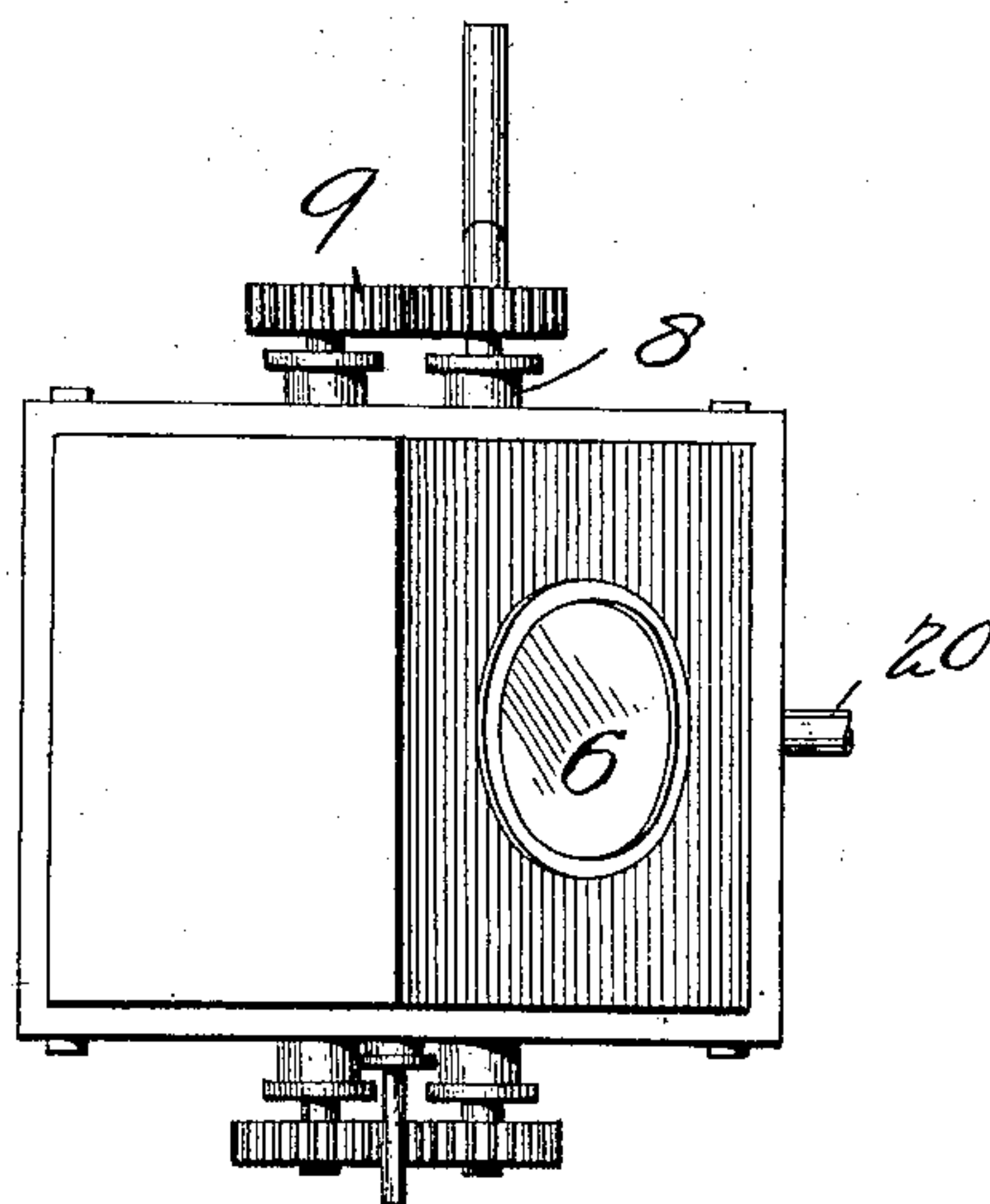


Fig. 3.



Attest:

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# UNITED STATES PATENT OFFICE.

HUBERT PRICE AND ARTHUR N. HOOD, OF BOSTON, MASSACHUSETTS.

## EXTRACTOR.

932,900.

Specification of Letters Patent. Patented Aug. 31, 1909.

Application filed January 25, 1907. Serial No. 354,047.

*To all whom it may concern:*

Be it known that we, HUBERT PRICE, a subject of the King of Great Britain, and ARTHUR N. HOOD, a citizen of the United States, residing at 99 Bedford street, Boston, Massachusetts, have invented certain new and useful Improvements in Extractors, of which the following is a specification.

Our present invention relates to improvements in apparatus for removing materials such as sand bark, albumens, acids, alkalies, resins and the like, from crude rubber, gums and similar substances.

Among the objects of this invention are to provide a simple, economical and durable form of extractor by which these materials may be easily removed in a much shorter time than has been possible by the apparatus heretofore in use, and a much superior product secured.

The invention includes the novel features of construction hereinafter described and particularly pointed out in the appended claims.

An extractor constructed in accordance with this invention is illustrated in the accompanying drawings in which:

Figure 1 is a side elevation partly broken away. Fig. 2 is an end elevation and Fig. 3 is a plan view.

Referring by reference characters to the drawing, the numeral 4 designates an extractor chamber which is hermetically closed and which may be of any suitable size and shape. It is provided with a door 5 through which the material to be treated may be inserted, and another door 6 through which the material is to be taken out, and these doors, or any other part of the extractor, may conveniently be provided with glass covered openings through which the extraction process may be watched. A convenient manner of forming the chamber is to provide both doors 5 and 6 with glass covered openings so that opportunity is afforded for light and observation both at the side and top. Within the chamber are located two coacting rollers 7, which have their ends or shafts suitably journaled in the side walls of the chamber. The shafts extend through suitable stuffing boxes 8 in the walls and carry intermeshing gears 9 whereby the rollers are caused to rotate in unison and one of the rollers is provided with means for operating it, a crank 10

being shown in the drawing as representative of any suitable means for transmitting manual or mechanical power to the rollers.

An endless conveyer of suitable form is provided within the chamber which may conveniently be formed by endless chains or belts 11 passing over drive wheels 12 carried by a shaft 13 at the upper part of the receptacle, and over suitable guides such as rollers 14 at the sides and bottom; such chains or belts carrying blades or buckets 15.

The shaft 13 is extended through suitable stuffing boxes in the walls of the chamber and provided with means for imparting power thereto, a hand crank being shown as representative of any suitable means.

The function of the conveyer is to lift the material under treatment from the bottom of the chamber and deliver it in position to be drawn through between the rolls during their rotation and in order to insure of its being delivered in proper position, a guard or deflector 16 is provided between the rolls and the conveyer. A supply pipe 17 connects with the chamber for supplying solvent thereto, and an outlet pipe 18 at the bottom enables the liquid with the extracted materials to be drawn off, the bottom being sloped toward the outlet and arranged to permit the draining of the chamber. This bottom is provided with a steam jacket 19 to which steam may be supplied from any suitable source for heating the contents of the extractor chamber. An air vent pipe as shown at 20 is also provided.

In using the extractor above described the gum or other material which has been run into comparatively thin sheets, is put into the extractor chamber which is then filled with liquid to about the height of the bottom of the rolls. Steam is then turned on gently so as to bring the liquid slowly up nearly to the boiling point where it is kept for a suitable length of time. During this period the conveyer is given a slight reciprocating movement to agitate the contents of the chamber. The liquid with the extracted materials is then drawn off and may be treated in the usual manner in a suitable evaporator while a fresh supply of liquid is introduced into the extractor chamber and heated and the substance subjected to the action thereof, the conveyer being operated to agitate the contents of the chamber more



violently. After a suitable interval the liquid is again drained off for evaporation and condensation, and a fresh supply of liquid added to the chamber. This fresh  
5 liquid is likewise heated for the desired length of time during which at desired intervals the conveyer is operated to raise the gum and deliver it upon the rolls, which are rotated to compress or knead the gum  
10 whereby the materials remaining in the gum are more readily subjected to the liquid and its complete solution or separation more readily effected. If desired or found necessary this operation may be repeated with  
15 fresh liquid, or if the nature of the gum is such as to make it desirable, the rolls may be brought into action earlier in the process.

Having thus described our invention, what we claim is:

20 1. In an apparatus for extracting resins and the like from rubber gums, a closed chamber having means for feeding solvent thereto and withdrawing it therefrom, a pair of rolls located within the chamber  
25 above the bottom thereof, and an endless chain conveyer passing along the bottom of the tank and to a point above the rolls, and blades carried by said conveyer for agit-

ing the material and carrying it up to the rolls, substantially as described. 30

2. An extractor chamber having a plurality of rolls for working rubber gum and the like located near the center of the chamber, and an endless conveyer traveling in proximity to the sides of said chamber and  
35 serving to convey the gum from the bottom and deliver it to the rolls substantially as described.

3. An extractor chamber having a plurality of rolls for working rubber gum and the like, located near the center of the chamber, and an endless conveyer traveling in proximity to the sides of said chamber and serving to convey the gum from the bottom and deliver it to the rolls, and a deflector  
45 between the rolls and conveyer at the delivery side substantially as described.

HUBERT PRICE.  
ARTHUR N. HOOD.

Witnesses to Hubert Price:

GEO. E. CHAMBERLIN,  
JAS. P. SISSON.

Witnesses to Arthur N. Hood:

C. A. ROCHE,  
W. G. PAGE.