

No. 656,804.

Patented Aug. 28, 1900.

L. C. BONNOT.
STONE SEPARATOR.

(Application filed Apr. 25, 1900.)

(No Model.)

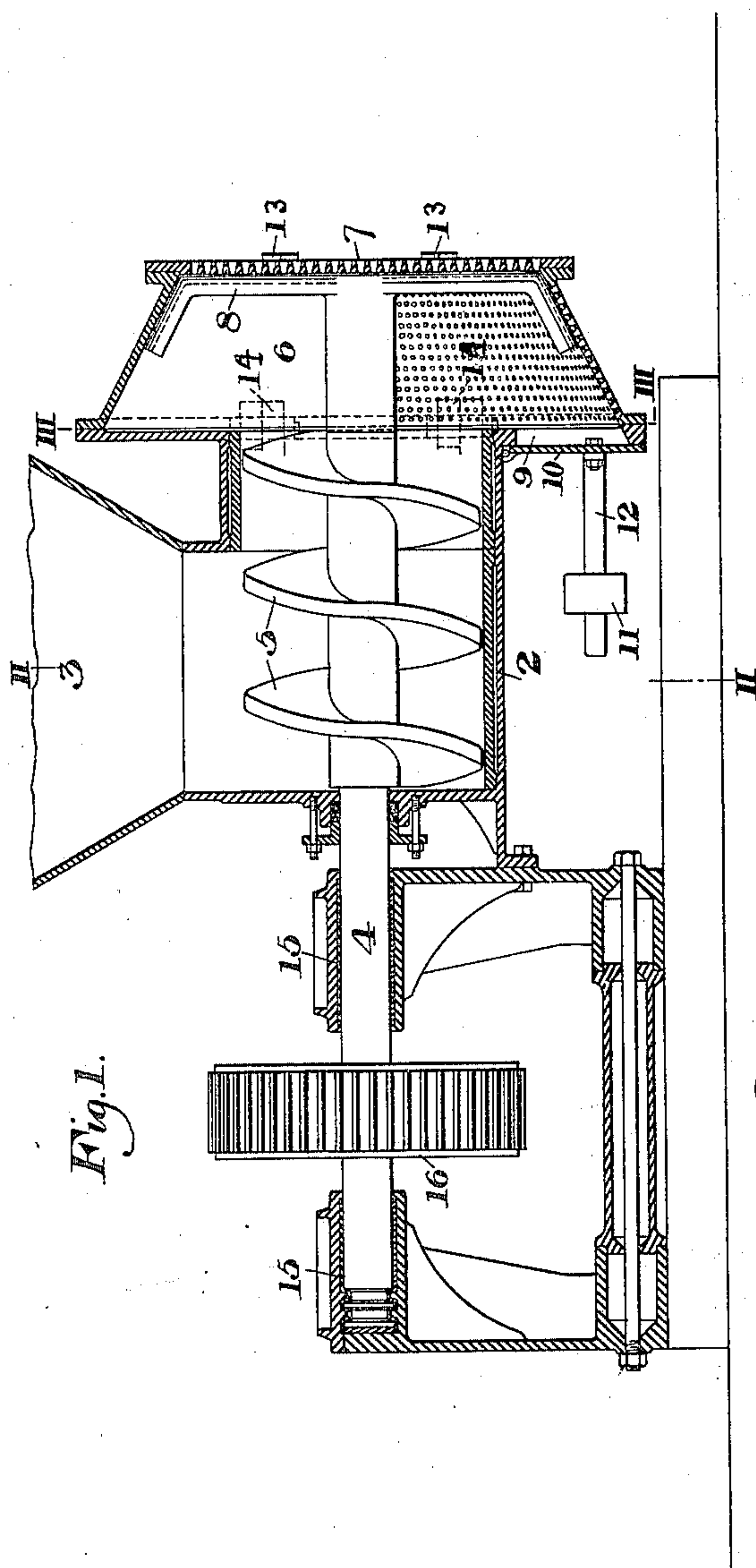


Fig. 1.

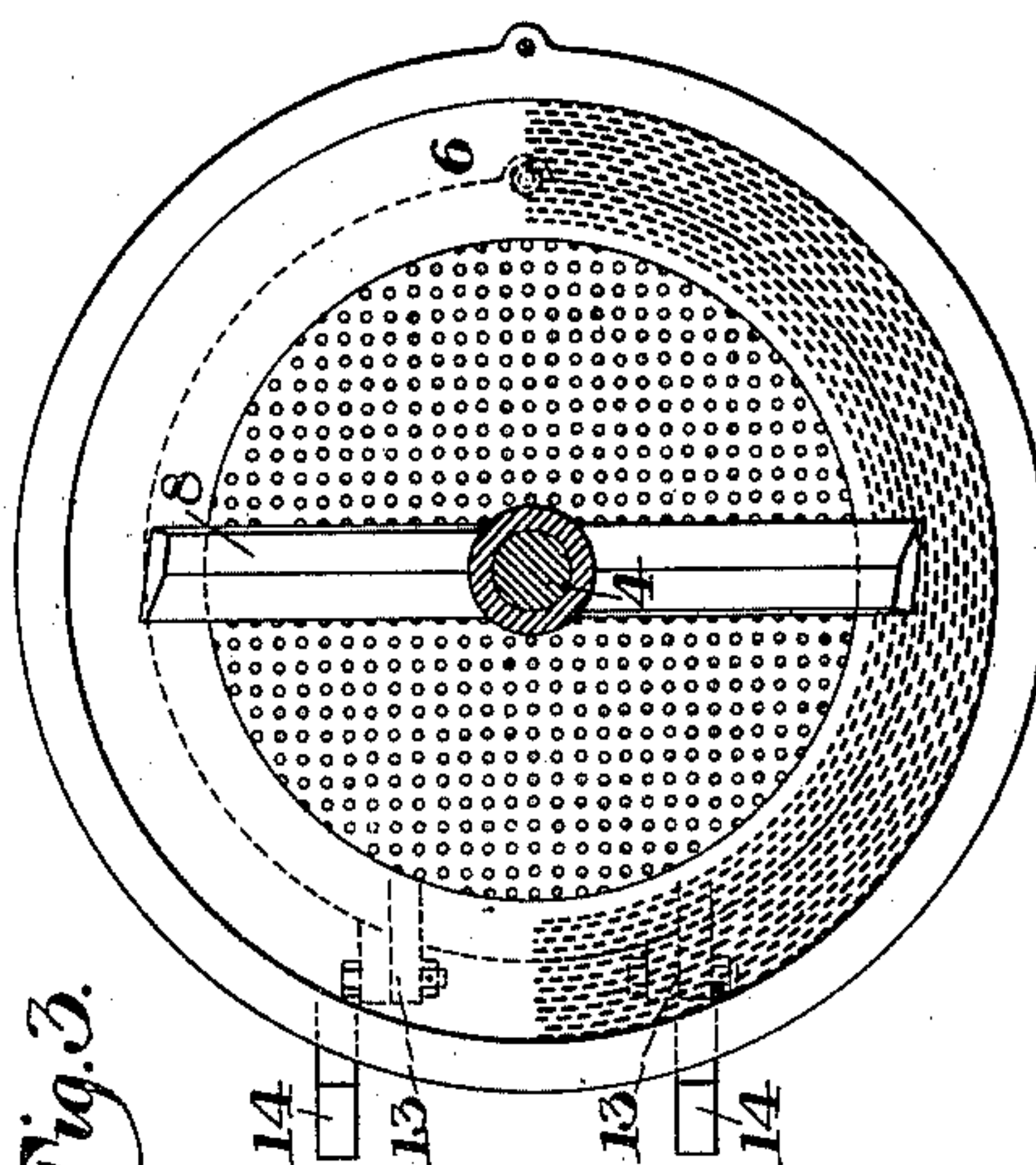


Fig. 3.

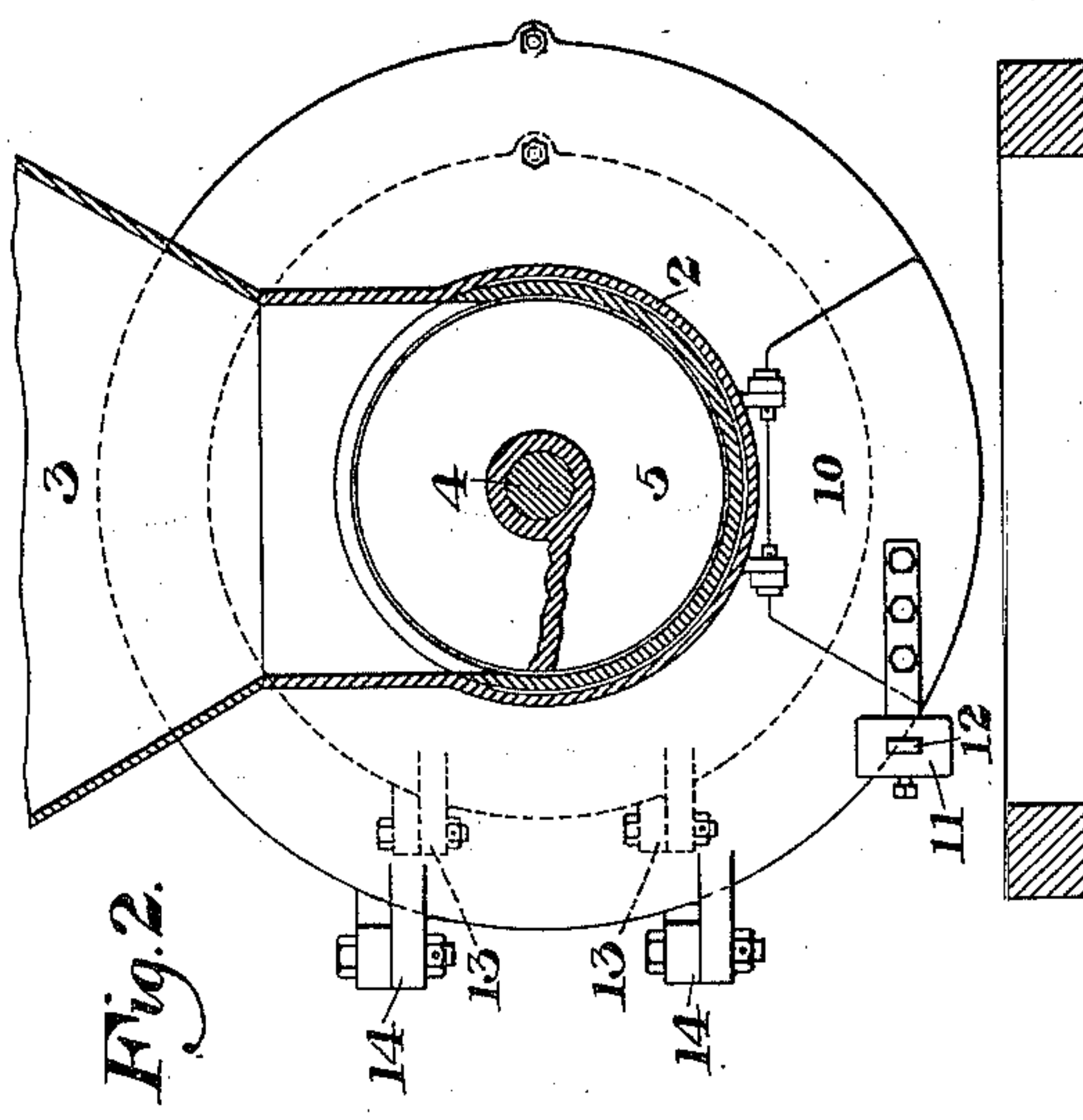


Fig. 2.

WITNESSES

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UNITED STATES PATENT OFFICE.

LOUIS C. BONNOT, OF CANTON, OHIO.

STONE-SEPARATOR.

SPECIFICATION forming part of Letters Patent No. 656,804, dated August 28, 1900.

Application filed April 25, 1900. Serial No. 14,284. (No model.)

To all whom it may concern:

Be it known that I, LOUIS C. BONNOT, of Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Stone-Separators, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional side elevation of my improved stone-separator. Fig. 2 is a cross-section on the line II II of Fig. 1 looking toward the right-hand end, and Fig. 3 is a section on the line III III of Fig. 1 looking toward the right.

My invention relates to the separation of stones, roots, and other refuse in the preparation of marl and clay for the manufacture of cement and bricks, &c.; and it is designed to provide a machine which may operate continuously, the stones being removed without stoppage of the machine.

In the drawings, 2 represents a horizontal cylinder to which the material is fed through the hopper 3. A shaft 4 extends longitudinally through the center of the cylinder and is provided with a screw 5 within the cylinder, by which the marl and clay material are mixed and pulverized. At one end of the machine is a chamber 6, which is preferably in the form of the frustum of a cone, the cylinder opening directly into it, so that the material is forced into the chamber and through outlet-holes in its sides and in the head 7, secured at its outer end. To the end of the shaft 4 within this chamber is secured a knife-scraper 8, which is provided with bent end portions, so that as the shaft is revolved this scraper moves over the inner face of the head 7 and also over a portion of the tapering sides of the chamber, thus keeping the exit-holes free for the forcing out of the disintegrated material, and at the same time causing the stone and other solid refuse material to move downwardly and rearwardly toward an outlet-opening 9, which is normally closed by a swinging door 10. The door is yieldingly held in place by an adjustable weight 11, secured to a lever-arm 12, and when there is a sufficient collection of stones or refuse the attendant may swing open the door and allow the stones and roots to fall out and then re-

lease it, the weight returning and holding it in place. This door may also be automatically operated.

The front head 7 of the enlarged stone-collecting chamber is preferably mounted on hinges 13, and the entire chamber is also preferably mounted upon hinges 14, carried upon brackets at one side of the cylindrical body portion of the machine. The head is thus made easily accessible for cleaning or repairs.

The rear end of the shaft 4 extends through bearings 15, the rear one of which is a thrust-bearing of suitable form to receive the endwise thrust upon the shaft, and between these bearings the shaft is provided with a driving gear-wheel 16.

The operation of my device will be apparent to those skilled in the art, the material being fed into the hopper in the ordinary way and thence forced through the cylinder and the openings in the enlarged stone-collecting chamber. The stones and other refuse being too large to pass through the outlets drop into the lower rear end of the chamber and may be removed from time to time, as desired.

The advantages of my invention result from the automatic removal of the refuse without stoppage of the machine and from the peculiar construction of the stone-collecting chamber which prevents the refuse from clogging or interfering with the action of the machine.

Many changes may be made in the form and arrangement of the parts without departing from my invention, since

I claim—

1. In a stone-separator, the combination with a case, of a feed device arranged to force the material through the case, a larger perforated chamber into which the case discharges, said chamber having a downwardly-inclined portion leading to an opening in the chamber, and an outlet-door arranged to close the opening; substantially as described.

2. In a stone-separator, a cylinder containing a screw, an enlarged perforated chamber into which the cylinder opens and having an outer head screwed thereto, and a yielding discharge-door in the lower portion of the chamber-head; substantially as described.

3. In a stone-separator, a horizontal case, a horizontal screw therein, a stationary en-

larged funnel-shaped chamber into which the cylinder discharges, said chamber having perforations, scrapers arranged to rotate within the chamber, and an outlet-door in the lower portion of the larger head of the chamber; 5 substantially as described.

4. In a stone-separator, a case having a feed device, an enlarged funnel-shaped chamber at the end of the case, and having perfora- 10 tions in its outer head and sides, and scrapers secured to the shaft and arranged to move over the outer head and a portion of the sides, said chamber having a yielding outlet-door in the lower portion of its rear head; substan- 15 tially as described.

5. In a stone-separator, the combination with a case, of a feed device thereon arranged to force the material through the case, a larger perforated chamber of funnel form into which the case discharges, and an outlet-door in the 20 larger head of said chamber and to which the lower inclined side of the chamber leads; substantially as described.

In testimony whereof I have hereunto set my hand.

LOUIS C. BONNOT.

Witnesses:

C. T. OLDROYD,
A. A. OLDHAM.