

(No Model.)

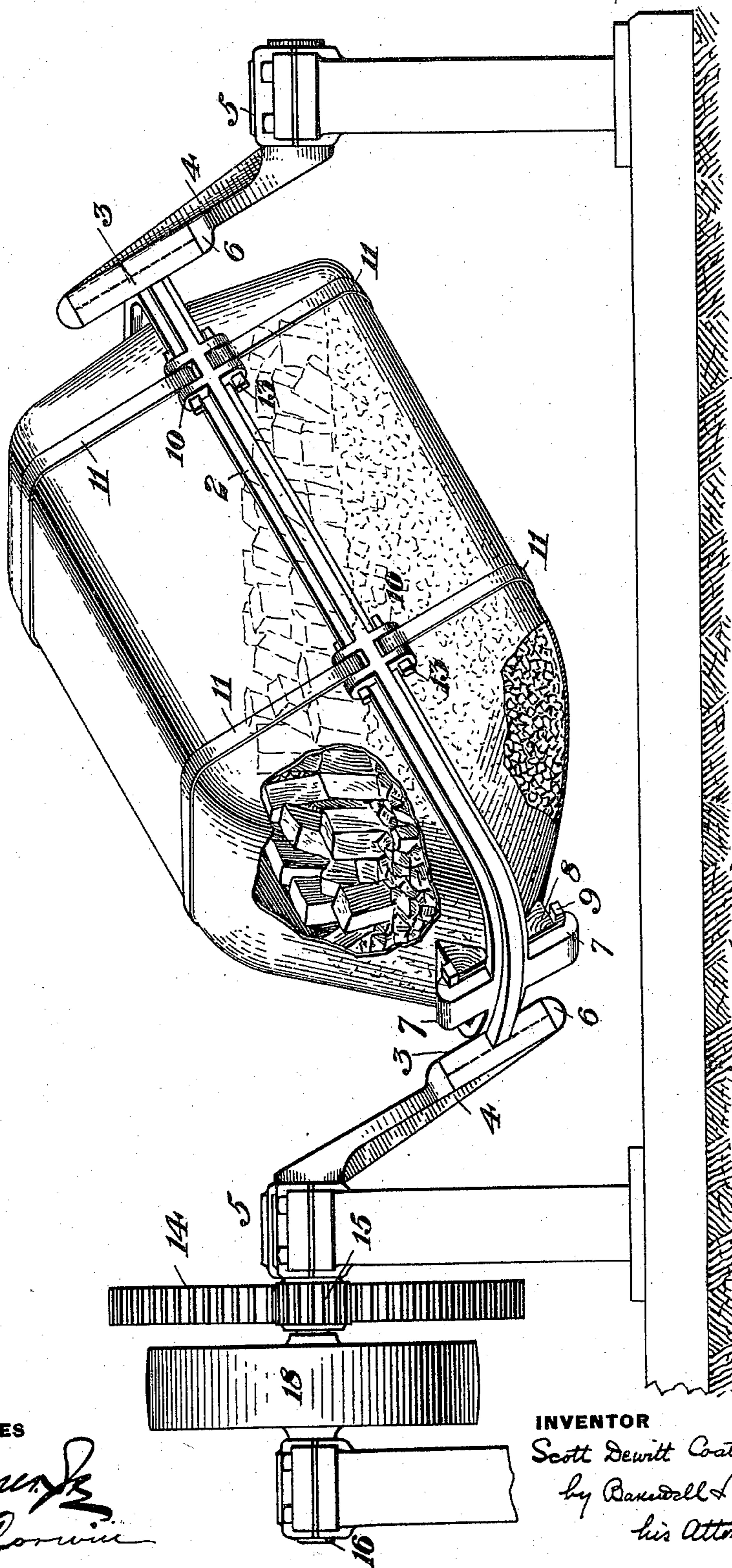
2. Sheets—Sheet 1.

S. D. COATES.  
GRINDING AND SCOURING APPARATUS.

No. 578,969.

Patented Mar. 16, 1897.

Fig. 1.



WITNESSES

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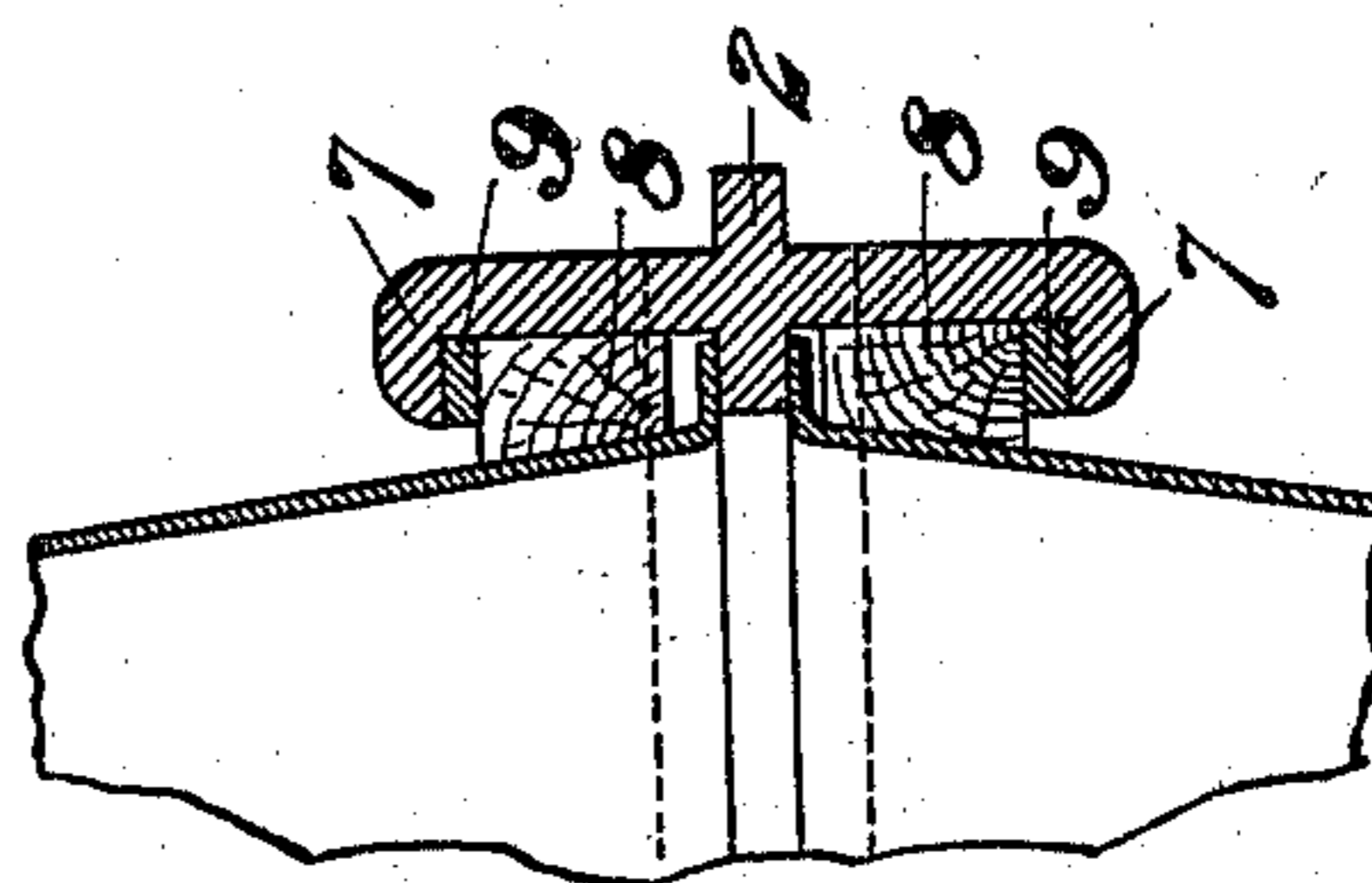
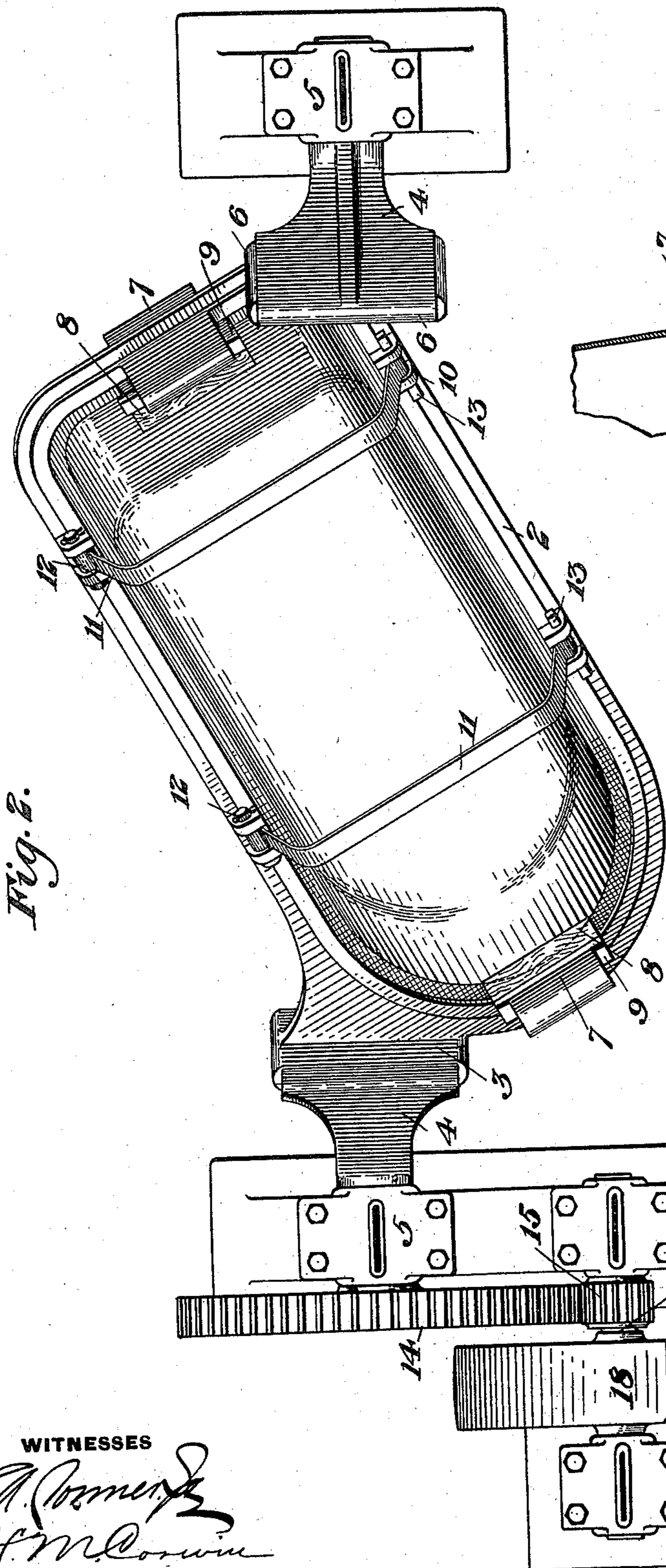
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# UNITED STATES PATENT OFFICE.

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## GRINDING AND SCOURING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 578,969, dated March 16, 1897.

Application filed November 27, 1896. Serial No. 613,503. (No model.)

*To all whom it may concern:*

Be it known that I, SCOTT DEWITT COATES, of Ellwood City, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Grinding and Scouring Apparatus, 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 side elevation, partly broken away, of my improved grinding and scouring apparatus. Fig. 2 is a top plan view of the same, and Fig. 3 is a sectional detail showing the clamping means.

My invention relates to the grinding or scouring of the inner surfaces of bath-tubs or other articles of a similar character which can be clamped to a movable frame in such a way as to form in and of themselves a receptacle for the grinding or scouring material.

To that end it consists in a frame having means for securing thereto either one or a pair of the articles to be scoured, this frame being provided with means for moving the same in such a way that the material contained within the article will slide over its inner surface and grind or scour the same.

It also consists in the above combination, wherein the frame is so mounted that the article or articles are tipped endwise during the movement of the frame, so as to cause the grinding material to slide back and forth, as well as in the construction and arrangement of the parts, as hereinafter more fully described, and set forth in the claims.

In the drawings, in which I show my invention as applied to the scouring of a pair of bath-tubs simultaneously, 2 represents a rim or frame of general rectangular outline, it being of such shape as to conform to the upper edge of the bath-tubs to be scoured. This frame is provided at diagonally opposite corners with blocks 3 3, which are removably held within recesses in a pair of oppositely-extending inclined arms 4 4, which are provided with trunnions carried in suitable bearings 5 5. The blocks and arms are provided with interfitting lips 6 6 to hold the blocks of the frame in proper position in the arms, and at each end of the frame are provided later-

ally-projecting hooked lugs 7 7, between the hooked ends of which and the surface of the tub are placed wooden blocks 8 8, these being held in place by keys 9 9, driven in between the blocks and the lugs, as shown in Fig. 3. The edges of the bath-tubs rest upon the hollow frame or rim, and in addition to the end clamps I provide the frame upon each side with pairs of lugs 10 10, which project laterally and are arranged to receive between them the end loops of securing-bands 11 11, these bands being held in place by cotter-bolts 12 and keys 13, driven through holes in the lugs and through the loops of the bands. The trunnion of one of the arms extends through its bearing and is provided with a gear-wheel 14, intermeshing with a pinion 15 upon a shaft 16, which is driven by a belt-pulley 18 or any other similar means.

The operation of the device is apparent. The bath-tubs being clamped in place, with the grinding or scouring material in the lower tub, the frame is rotated, and in its motion the pair of tubs is rotated and at the same time tipped endwise, so that the grinding material slides back and forth over the inner surfaces of the tubs and effectually grinds and scours them. After the operation is finished the upper tub being removed another may be secured in its place, and a half-rotation being given to the frame and tubs the grinding material is thus dumped into the unground tub and the other is then removed and a second unground tub secured in its place, after which the operation is repeated, no handling of the grinding material being necessary.

The advantages of my invention will be obvious to those skilled in the art, since bath-tubs or any similar hollow articles are effectually ground and scoured rapidly and without hand labor.

The device is simple and of few parts and in operation has been found to perform its work very effectively.

It is evident that one tub may be clamped to the frame and a cover-plate secured so as to hold the material in the tub, so that one tub may be ground at a time; that tubs shorter than the frame may be ground by the apparatus by putting a strip between the ends of these short tubs, and that two tubs of un-

equal length may be ground and scoured at the same time; and many other variations will suggest themselves to those skilled in the art without departing from my invention, since

5 I claim—

1. In apparatus for grinding or scouring hollow open-top articles, a frame having means for securing the article thereto, means for clamping in place a closure for the open top  
10 of the article, and means for moving the frame to cause the grinding material to move over the inner surface of the article.

2. In apparatus for grinding or scouring hollow open-top articles, a frame having means  
15 for securing the article thereto, means for clamping in place a closure for the open top of the article, arms upon which the frame is mounted, and means for moving the arms to cause the grinding material to move over the  
20 inner surface of the article.

3. In apparatus for grinding or scouring hollow open-top articles, a frame arranged to fit the edge of the open-top article, means for clamping the article thereto, and means for moving the frame so as to cause the grinding material to move over the inner surface of the article.

4. In apparatus for grinding or scouring hollow open-top articles, a frame provided with clamps for securing two open-top articles face to face thereto, whereby each acts as a closure for the other, and means for moving the frame to cause the grinding material to move over the inner surfaces of the article.

In testimony whereof I have hereunto set my hand.

SCOTT DEWITT COATES.

Witnesses:

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JOS. F. RYAN.