

No. 842,599.

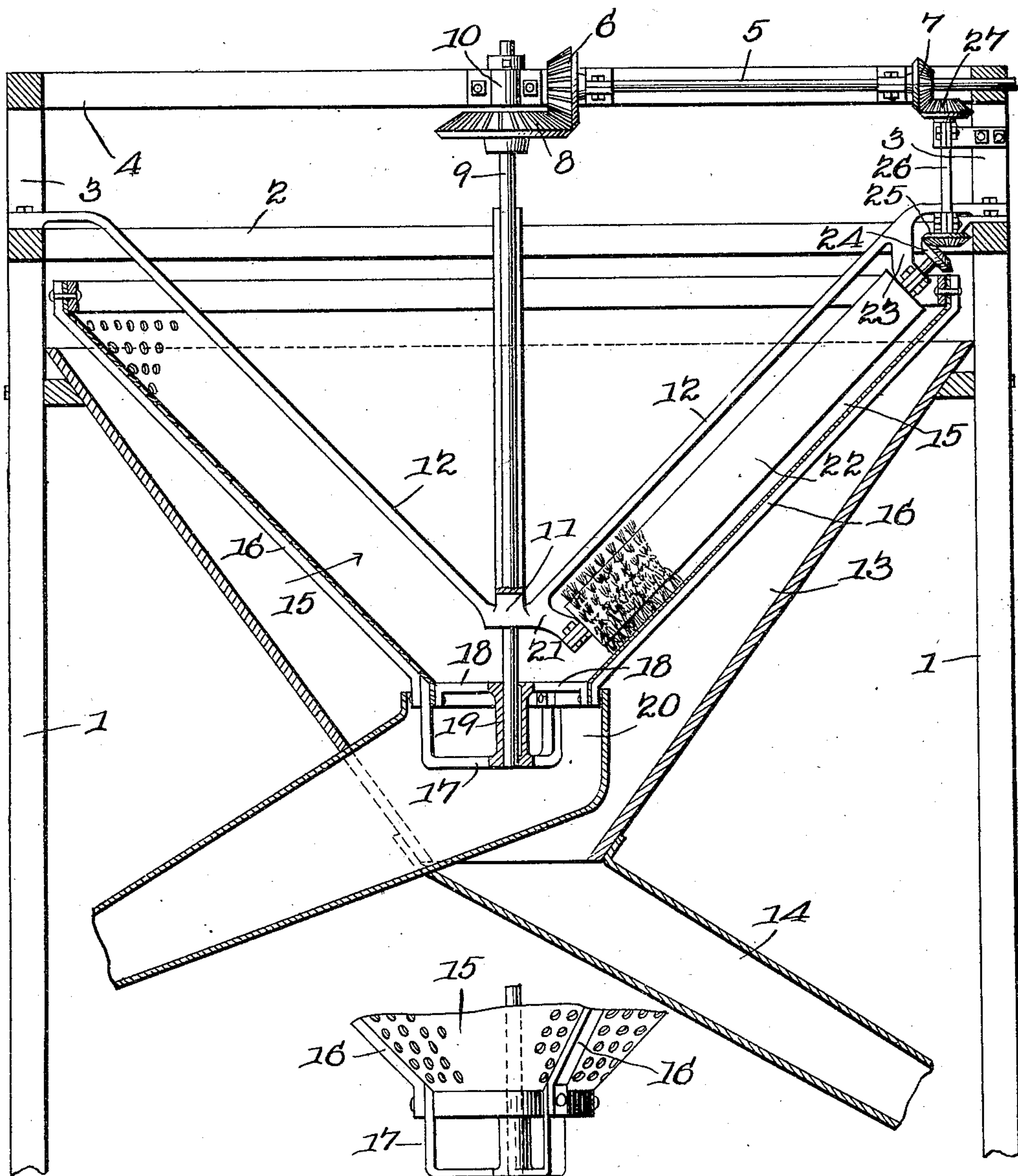
PATENTED JAN. 29, 1907.

J. B. WILLIAMSON,
CLAY SCREEN.

APPLICATION FILED APR. 17, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



John B. Williamson,
INVENTOR,

WITNESSES:

E. H. Stewart
Herbert D. Lawson

By

C. A. Snow & Co.
ATTORNEYS

No. 842,599.

PATENTED JAN. 29, 1907.

J. B. WILLIAMSON.

CLAY SCREEN.

APPLICATION FILED APR. 17, 1906.

2 SHEETS—SHEET 2.

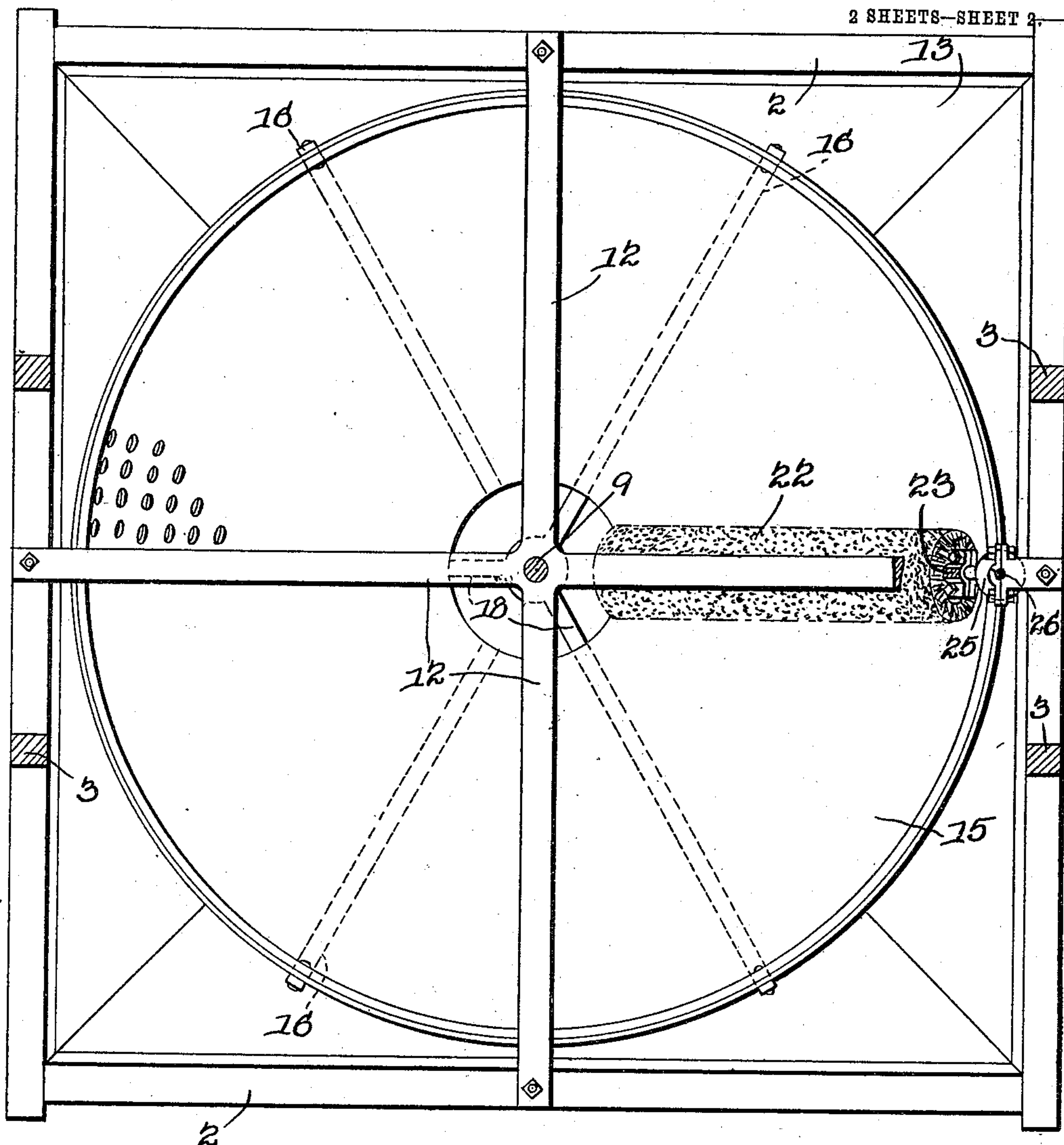


Fig. 2.

WITNESSES:

E. J. Stewart
Herbert D. Lawson

John B. Williamson,
INVENTOR,

By

C. A. Snow & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN B. WILLIAMSON, OF MARIETTA, OHIO, ASSIGNOR OF ONE-HALF TO
WILLIAM J. WARK, OF MARIETTA, OHIO.

CLAY-SCREEN.

No. 842,599.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed April 17, 1906. Serial No. 312,255.

To all whom it may concern:

Be it known that I, JOHN B. WILLIAMSON, a citizen of the United States, residing at Marietta, in the county of Washington and State of Ohio, have invented a new and useful Clay-Screen, of which the following is a specification.

This invention relates to clay-screens; and its object is to provide a device of this character which will quickly and thoroughly screen clay preparatory to molding bricks therefrom, said screen being mounted in a peculiar manner whereby clogging of the outlet thereof by tailings will be prevented.

A still further object is to provide means within the screen for keeping the screen-openings clear, so that the action of the machine will be facilitated.

With the above and other objects in view the invention consists of an inverted frusto-conical screen having an outlet at its lower end, said screen being secured adjacent said end to a rotatable shaft adapted to be driven by any suitable mechanism and which hangs and is adapted to support the screen within a casing for receiving screened clay. An outlet-shaft surrounds the outlet-opening of the screen for the purpose of receiving tailings. A rotatable brush is disposed within the screen and parallel with the wall thereof and is provided with mechanism whereby it can be revolved in a direction opposite to that of the screen, so as to keep the screen-openings normally clear.

The invention also consists of certain other novel features of construction and combinations of parts, which will be hereinafter more fully described, and pointed out in the claim.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings, Figure 1 is a vertical section through the machine. Fig. 2 is a plan view thereof, the drive mechanism being removed. Fig. 3 is an elevation of the lower portion of the screen.

Referring to the figures by characters of reference, 1 1 are uprights supporting a preferably rectangular frame 2, on which are arranged standards 3, which constitute supports for a cross-beam 4 with a drive-shaft 5 mounted thereon and having oppositely-disposed beveled gears 6 and 7 rotatable therewith. Gear 6 meshes with and rotates a gear 8, secured to a shaft 9, which is rotata-

bly mounted within and suspended from a bearing 10 on the cross-beam 4. Another bearing 11 is arranged upon the shaft near its lower end, and this bearing is connected to the frame 2 by means of a plurality of inclined diverging arms 12, which extend from the bearing and are bolted or otherwise secured to the frame 2. Shaft 9 is suspended within an inverted frusto-conical casing 13, having an outlet-spout 14 at its lower end.

An inverted frusto-conical screen 15 is arranged within the casing 13 and is provided with a plurality of reinforcing-strips 16 along the outer face thereof, which are bolted or otherwise secured at their lower ends to a cylindrical skeleton frame 17, open at the sides and bottom and having cross-arms 18 therein, which are formed integral with a sleeve 19, keyed or otherwise fastened to the lower end of shaft 9. The screen 15 is thus rigidly fastened to the shaft, and by reason of its peculiar connection with shaft 9 it will be held at all times in proper relation to the shaft and will not sag. The cylindrical skeleton frame 17 is surrounded by the inlet end of spout 20, which extends through one side of casing 13 and constitutes a discharge for tailings.

The bearing 11 has a depending bracket 21, in which is journaled one end of a cylindrical brush 22, the other end of said brush being journaled in a hanger 23, connected to the frame 2. A gear 24 rotates with brush 22 and meshes with a gear 25 on a shaft 26, journaled in bearings on frame 2 and standards 3 and provided at its upper end with a gear 27, which meshes with gear 7.

It is believed that the operation of the device will be thoroughly understood in view of the foregoing description when read in connection with the accompanying drawings. Drive-shaft 5 is adapted to be rotated in any suitable manner, and the gears thereon will rotate shafts 9 and 26 in opposite directions. As sleeve 9 is secured to the shaft 9 the screen 15 will be rotated therewith, the shaft 9 being supported and held rigid by the two bearings 10 and 11. The screen can be rotated in this manner at any desired speed, and clay deposited therein will be thrown outwardly by centrifugal force and through the openings in the screen, after which it will collect within the casing 13 and discharge through the spout 14.

The rotation of shaft 26 will cause the

brush 22 to revolve in its bearings in a direction opposite to that of the screen 15, and any of the clay which may cling to the screen will be removed by this brush, so as to prevent the openings from becoming clogged. 5 Any of the material which will not pass through the screen-openings will gradually work down to the outlet of the screen and will be discharged through the cylindrical skeleton frame 17 into spout 20. 10 With a device of this character a screen of considerable proportions can be formed, there is practically no danger of the tailings becoming clogged in the outlet-opening, and the rotatable brush prevents the screen-openings from becoming stopped, and thereby greatly facilitates the screening operation. 15

Considerable importance is attached to the use of a brush rotating in a direction opposite 20 to that of the screen, because the results thus obtained are very desirable and the life of the brush is greatly prolonged.

What is claimed is—

In a machine of the character described 25 the combination with a frame, a stationary

casing supported thereby and having an outlet, and a spout within and extending from the casing; of a rotatable shaft suspended from the frame and extending into the casing, a skeleton frame secured to and rotatable 30 with the lower end of the suspended shaft, a bearing for said shaft suspended from the frame and disposed adjacent and above the skeleton frame, an inverted frusto-conical screen having an outlet, said skeleton frame 35 being rigidly secured within the outlet, a cylindrical brush journaled at one end within the suspended bearing and disposed within and adapted to contact with the screen, mechanism for rotating the shaft and screen, 40 and means for transmitting rotary motion from said mechanism to the cylindrical brush.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 45 the presence of two witnesses.

JOHN B. WILLIAMSON.

Witnesses:

J. C. BRENAN,
HARRY SMITH.