

No. 782,581.

PATENTED FEB. 14, 1905.

I. H. ROSS.
CLAY SCREEN.

APPLICATION FILED AUG. 25, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

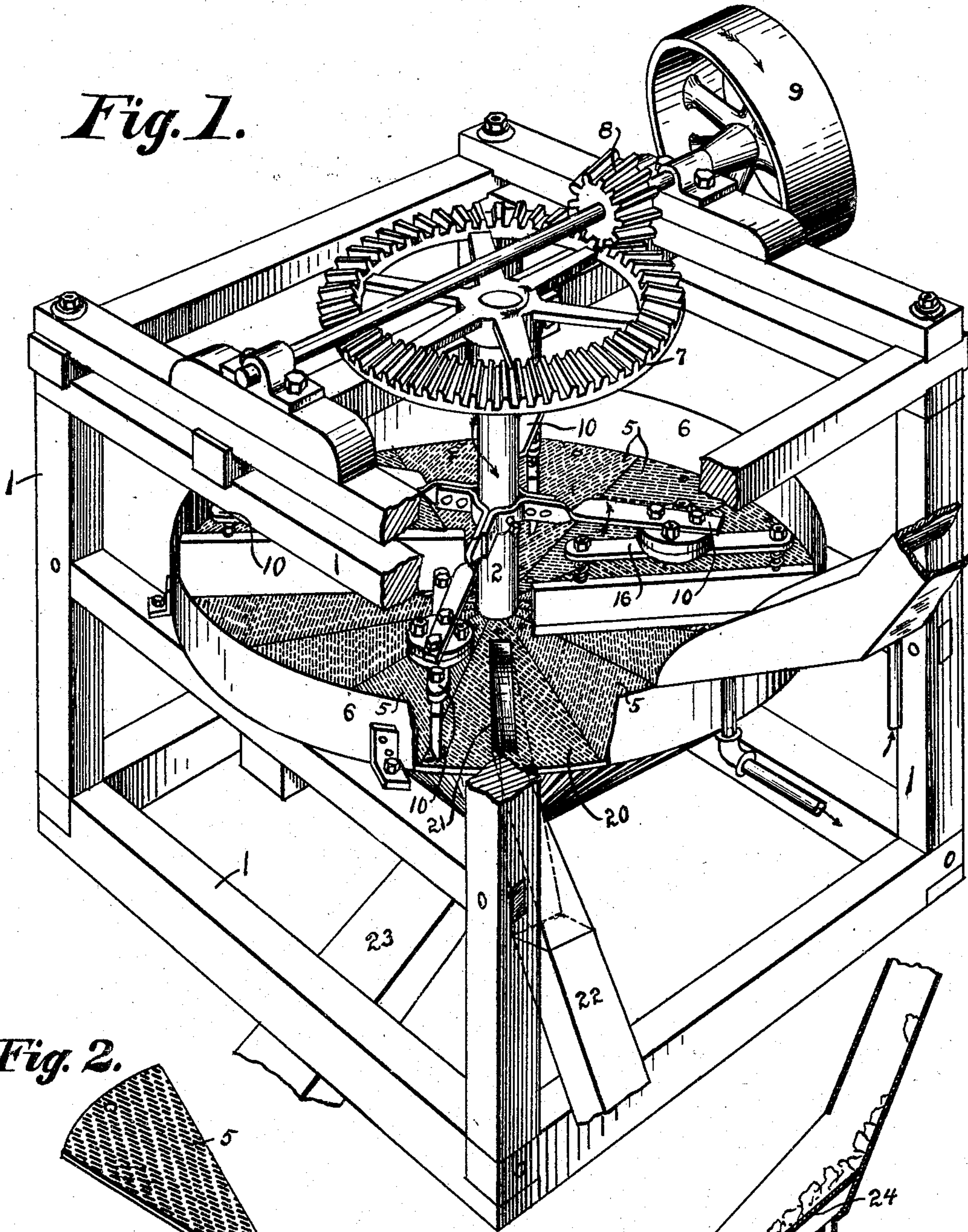
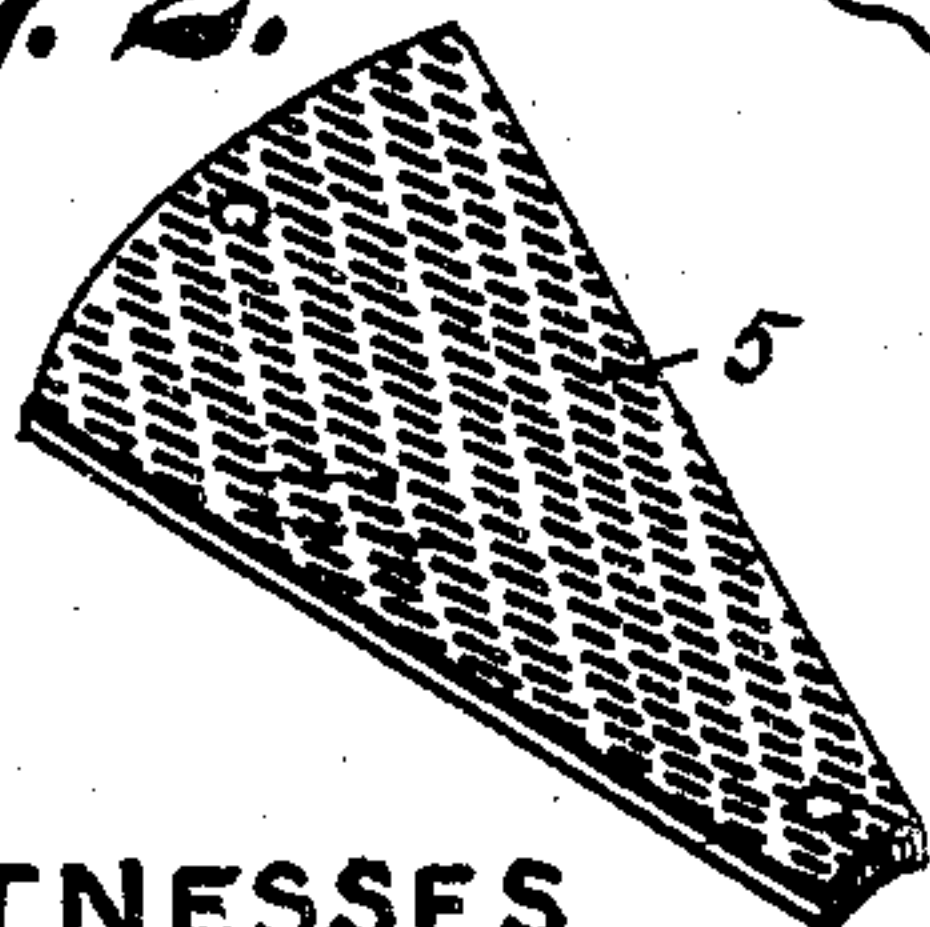


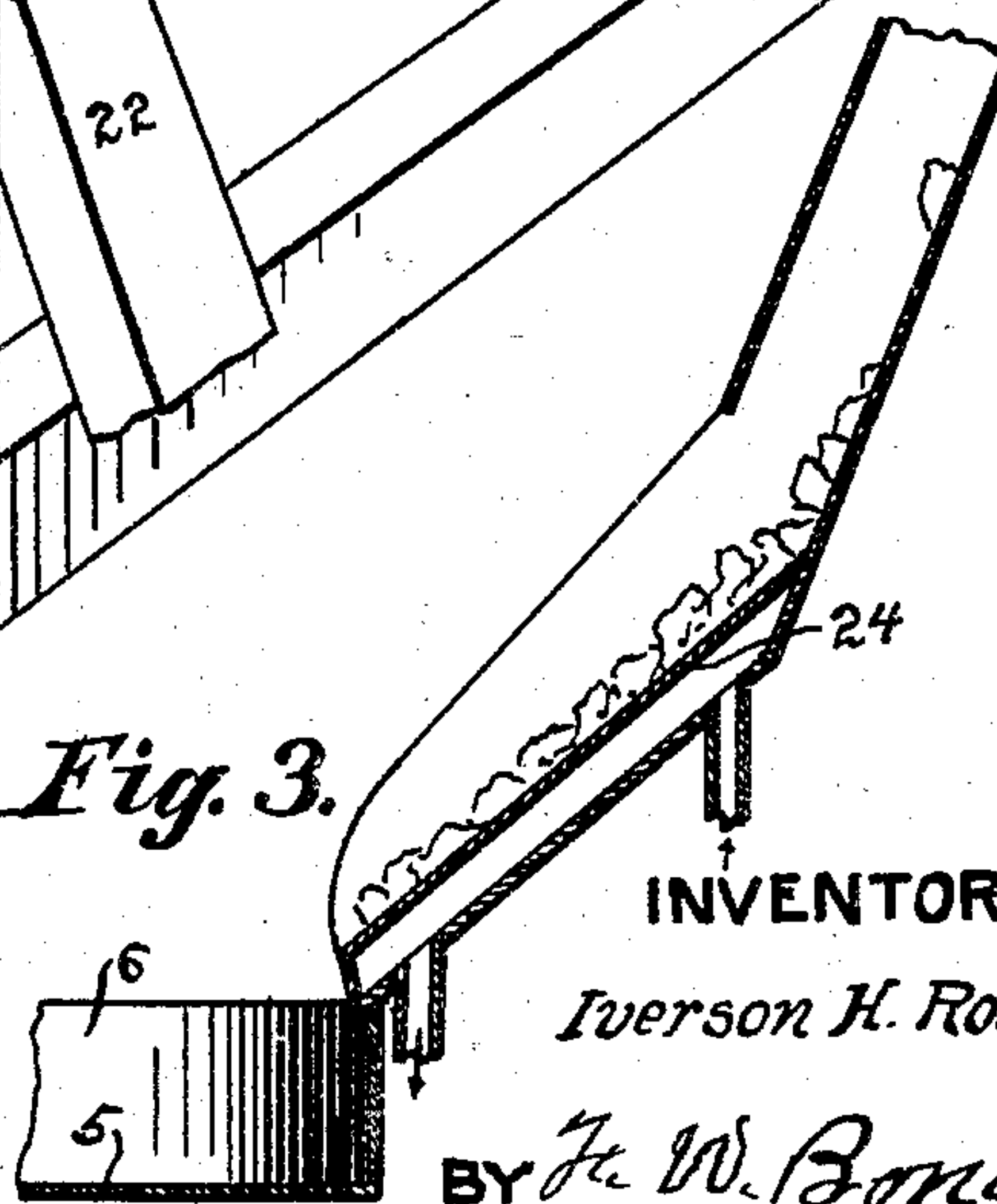
Fig. 2.



WITNESSES

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Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

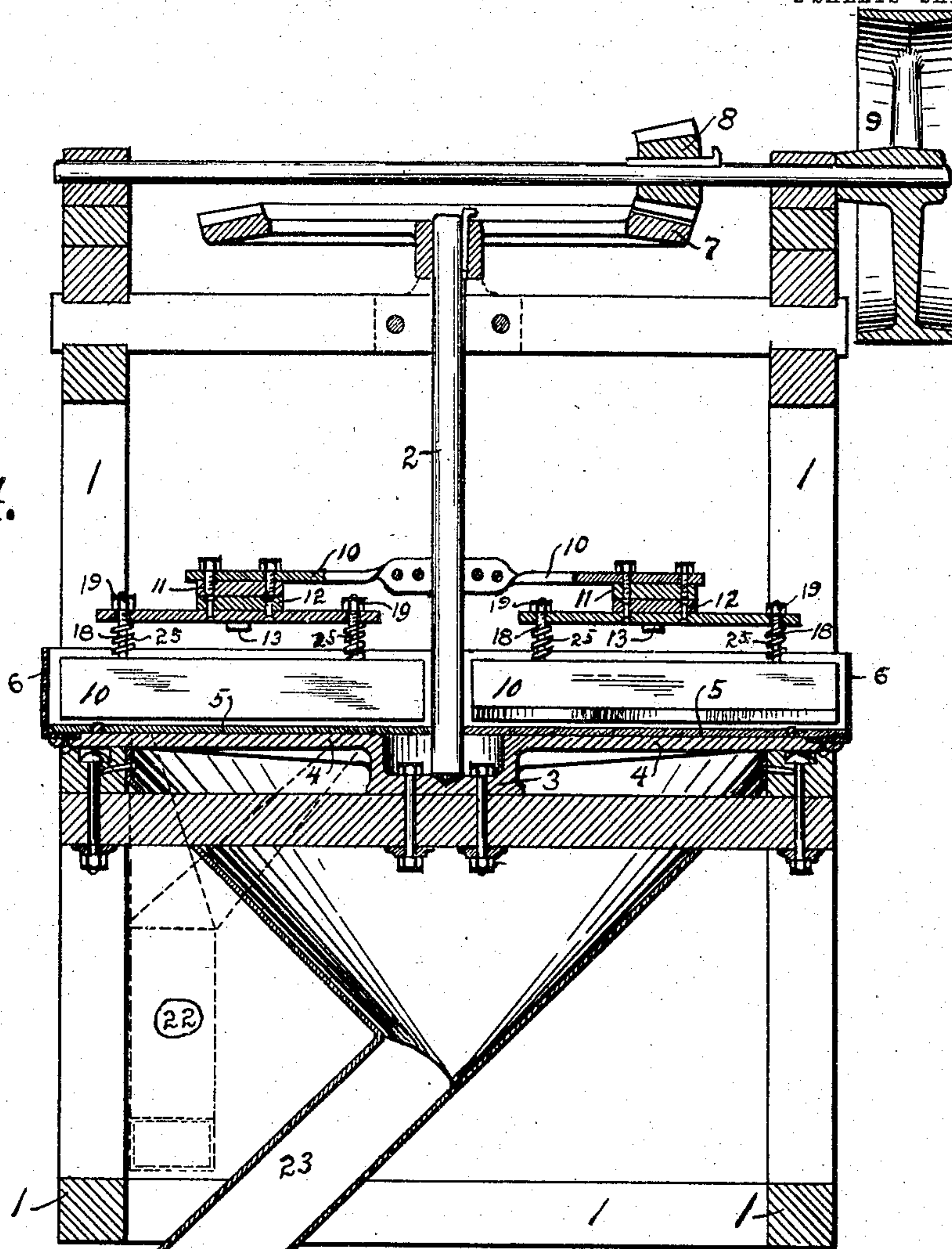


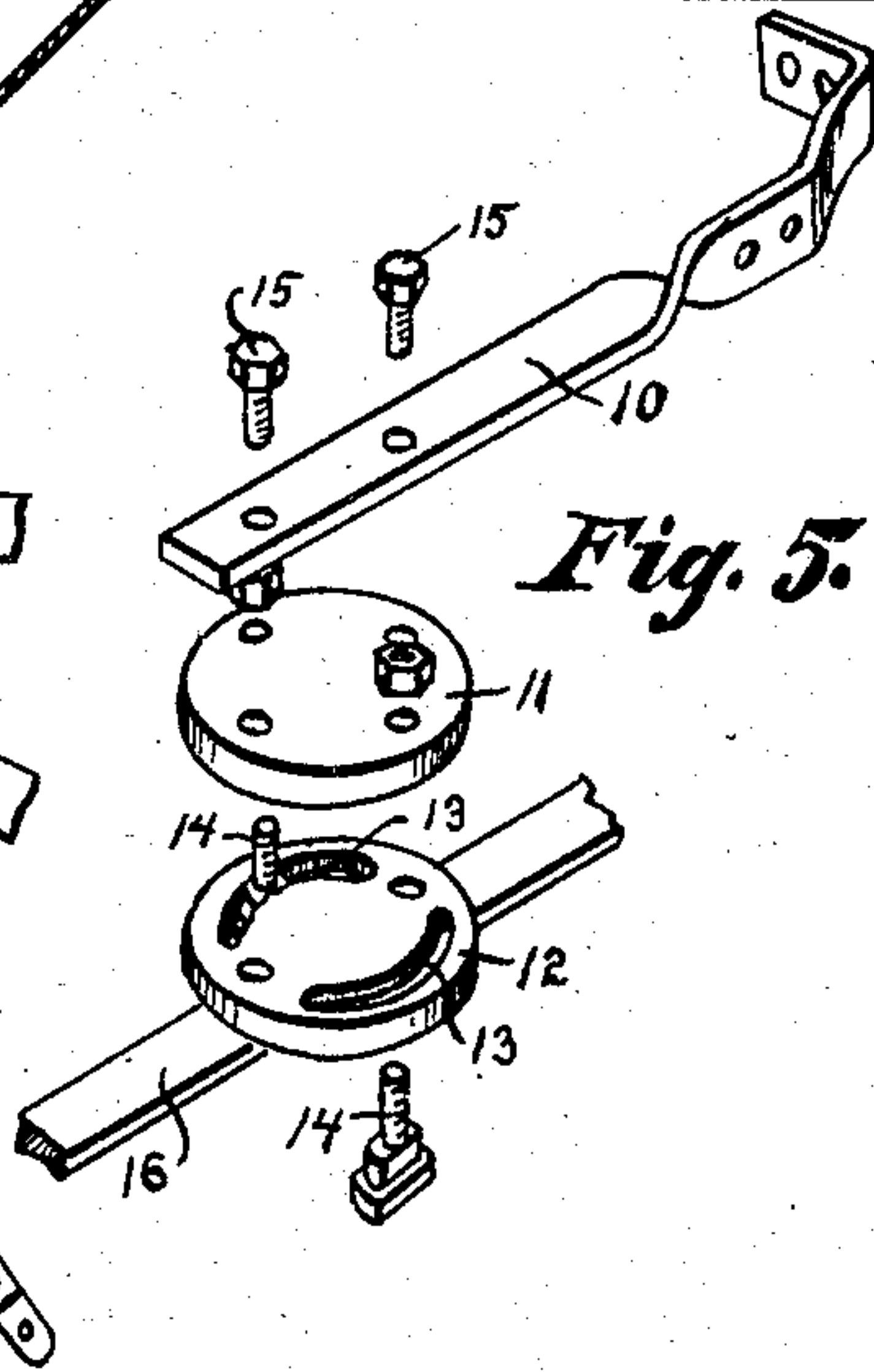
Fig. 6.



WITNESSES

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Fig. 5.



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UNITED STATES PATENT OFFICE.

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CLAY-SCREEN.

SPECIFICATION forming part of Letters Patent No. 782,581, dated February 14, 1905.

Application filed August 25, 1904. Serial No. 222,039.

To all whom it may concern:

Be it known that I, IVERSON H. ROSS, a citizen of the United States, residing at Wadsworth, in the county of Medina and State of Ohio, have invented certain new and useful Improvements in Clay-Screens; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a perspective view showing parts broken away. Fig. 2 is a detached view of one of the segmental screen-plates. Fig. 3 is a vertical section of the feed-spout and also showing the drying-plate and illustrating a portion of the clay-holding flange. Fig. 4 is a vertical section. Fig. 5 is a view showing the different parts of the scraper-arm detached from each other. Fig. 6 is a top view of the scraper-shaft support and the screen-plate-supporting arms or bars.

The present invention has relation to clay-screens designed to separate the coarse particles contained in the unscreened clay and to deliver said coarse particles into a separate receptacle from the screened clay.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the frame proper, which is designed to support the various parts of the machinery hereinafter described. The frame 1 may be of the form shown or it may be of any other desired form, as the only object is to provide suitable framework to support and connect the various parts of the screen proper.

The screen-shaft 2 is held in vertical position and its lower end properly journaled in the socket-bearing 3, which socket-bearing is held in fixed position upon the proper part of the frame 1. The upper end of the screen-shaft 2 is properly journaled to a proper part of said frame 1.

The frame herein shown is simply conventional, and I do not desire to be confined to any particular form or style of frame, except to so form the frame that the various parts of the screen proper and the mechanism pertain-

ing thereto can be arranged and connected in proper relation one part to another.

The socket-bearing 3 is provided with any desired number of arms 4, which arms form suitable supports for the segmental screen-plates 5, which segmental screen-plates are located with reference to each other, substantially as shown in Fig. 1, and, as shown, they constitute the bottom of the stationary pin, which is of course provided with the ordinary vertical flange 6, which flange is connected to the outer ends of the arms 4, or it may be differently connected, as the only object of said flange is to prevent the material from leaving the screen-plates during the time said material is carried around and over the screen-plates 5.

It will be of course understood that the vertical shaft 2 is to be rotated by means of gear-wheels, such as 7 and 8, and the power-wheel 9; but I do not desire to be confined to the exact arrangement of gearing herein shown, inasmuch as any other kind of gearing that will impart a rotary motion to the shaft 2 will answer the purpose.

To the shaft 2 are securely fixed in any well-known manner the scraper-carrying arms 10, to which scraper-carrying arms are connected the disks 11, and to said disks are connected the disks 12, which disks 12 are provided with the segmental slots 13, and the two disks coupled together by means of the clamping-bolts 14, the disks 11 being connected to the arms 10 by means of the bolts 15 or their equivalents.

To the disks 12 are attached or formed integral therewith the bars 16, which bars carry the scraper-blades 17, said scraper-blades being suspended from the bars 16 by means of the rods 18, which rods pass through non-screw-threaded apertures in the bars 16 and their upper ends provided with the screw-threaded nuts 19, by which arrangement the scraper-blade 17 can be adjusted to or from the upper surfaces of the screening-plates 5.

The plate 20 is provided with the large aperture 21, which aperture is for the purpose of allowing coarse particles to fall through said aperture and into the spout 22. This plate 20 is of the same general construction as the screen-plates 5 and is located in the

same horizontal plane, the only difference being that it is provided with the large aperture 21.

It will be understood that as the scrapers 17 are rotated in a horizontal plane over the screen-plates 5 the material will be carried by said scrapers and the finer particles will pass through the apertures formed in the screen-plates and into the spout 23, thereby dividing the finer particles from the coarse ones.

In order to better prepare the clay for screening purposes, the heating-plate 24 is provided, which plate is formed hollow, and live steam conveyed into the chamber of said plate, by which arrangement the clay is dried to a certain degree before it passes onto the screening-plate, so that it will be carried away from the aperture 21 by the scraper-blade 17; but of course as the scraper-blades complete their revolutions the coarser particles of the clay will be brought over the aperture 20 and allowed to fall through said aperture.

For the purpose of allowing the scrapers 17 to move upward and away from the screen-plates 5 the springs 25 are provided and are located around the rods 18 and between the bars 16 and said scrapers 17. The object of so connecting the scraper 17 is to provide against breakage.

It will be understood that in some instances it may be desired to have the scraper 17 located radially with reference to the shaft 2 and in other instances to have the scraper located at a different angle, and in order to provide for this the scrapers are pivotally connected to the bars 16.

By forming the pan-bottom in segmental sections new sections can be substituted for worn ones or different size screen-apertures can be provided for different plates, thereby varying the mesh of the screen proper.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a clay-screen, the combination of a clay-pan, a series of segmental screen-plates adapted to constitute the bottom of the clay-

pan, one of the screen-plates of the series provided with a large-sized aperture, a shaft adapted to rotate, said shaft provided with arms, disks carried by the arms, bars provided with disks, and the disks of the arms and bars pivotally connected together, scraper-blades carried by the bars, and springs interposed between the scraper-blades and arms fixed to said shaft and rotatable therewith, substantially as and for the purpose specified.

2. In a clay-screen, the combination of a clay-pan provided with a fixed perforated bottom, said bottom constituted of segmental sections and one of the sections provided with an aperture of a size greater than the size of the screen-apertures, scraper-blades adapted to rotate in a horizontal plane above the upper surface of the clay-pan bottom, said plates adjustably attached, and springs adapted to force the scraper-blades downward, means for adjusting the scraper-blades, at different radial angles, a shaft adapted to rotate the scraper-blades, and spouts located below the screen-plates and the larger aperture, substantially as and for the purpose specified.

3. In a clay-screen, the combination of a clay-pan, of a suitable frame, said pan provided with a screen-bottom formed in segments and one of the segments having an aperture larger than the screen-apertures, scraper-blades adapted to rotate in a horizontal plane and in close proximity to the upper surface of the screen-bottom, said blades adjustable to and from the screen-bottom, and springs adapted to hold the scraper-blades in lowered positions, a rotating shaft and arms secured to said shaft, and means for adjusting the scraper-blades at an angle to the shaft, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

IVERSON H. ROSS.

Witnesses:

CHAS. FARR,
STANTON FISCUS.