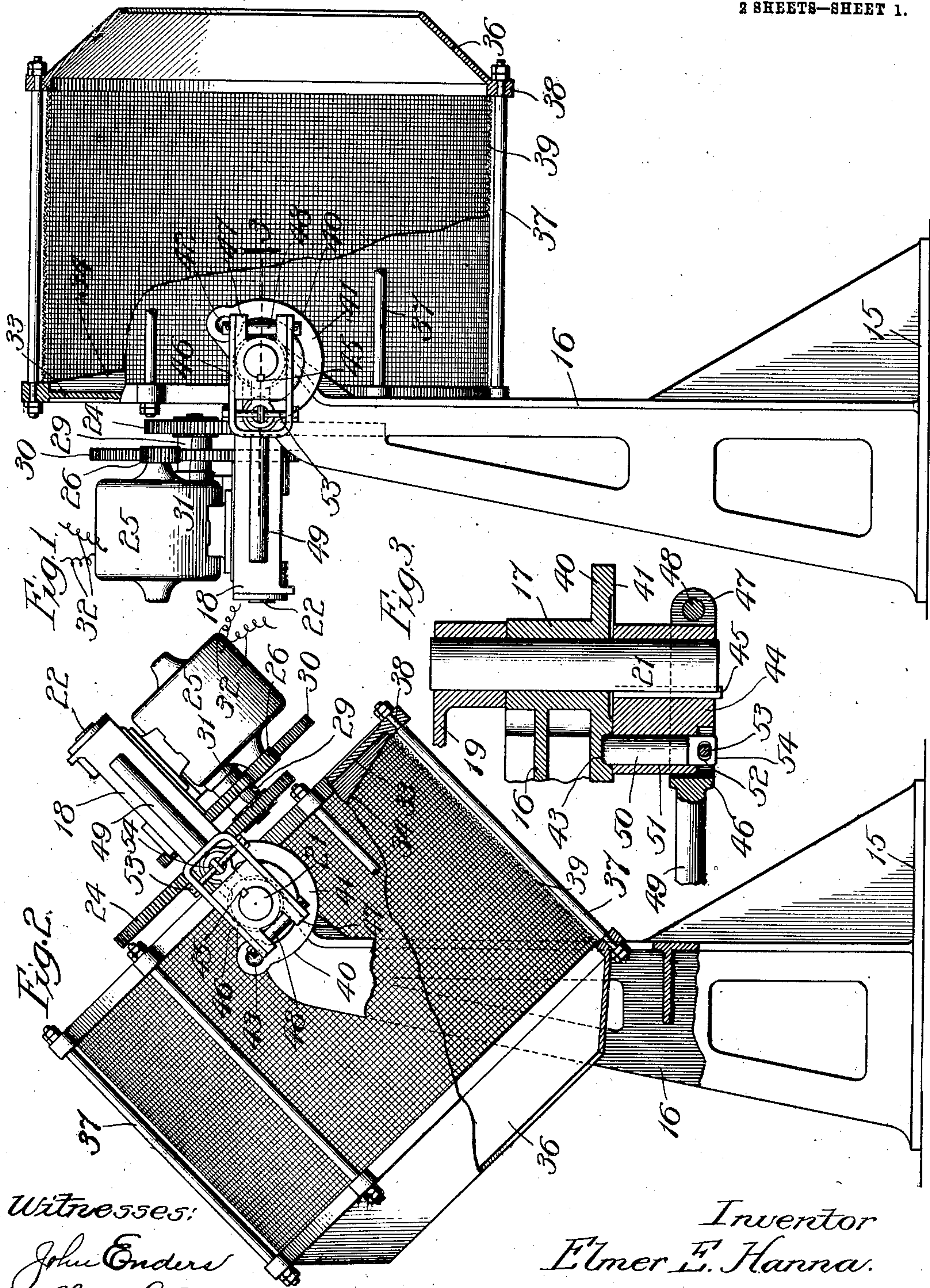


E. E. HANNA.
 REVOLVING SIFTING SCREEN.
 APPLICATION FILED JUNE 1, 1908.

928,965.

Patented July 27, 1909.

2 SHEETS—SHEET 1.



Witnesses:
 John Enders
 Chas. H. Bull

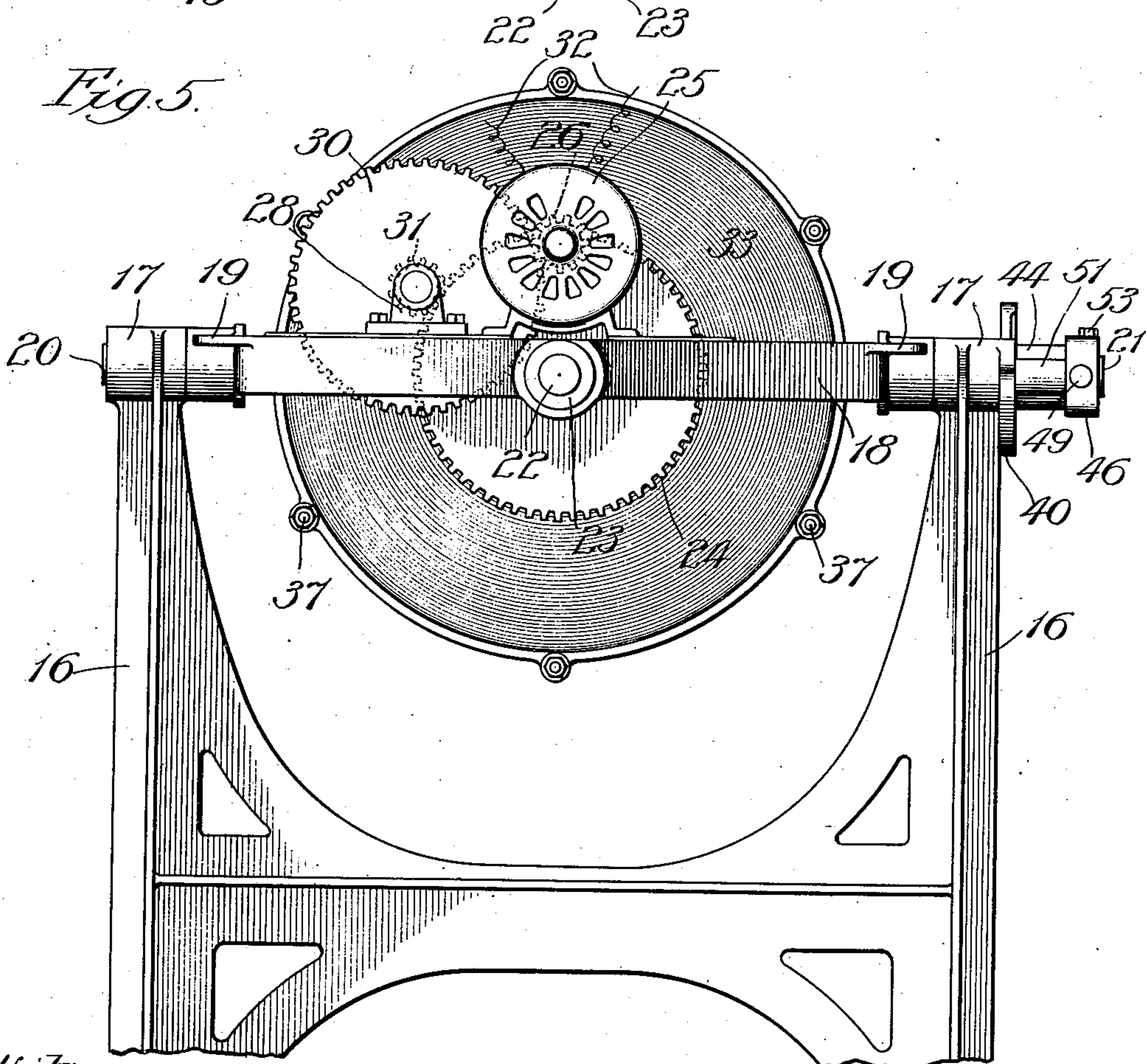
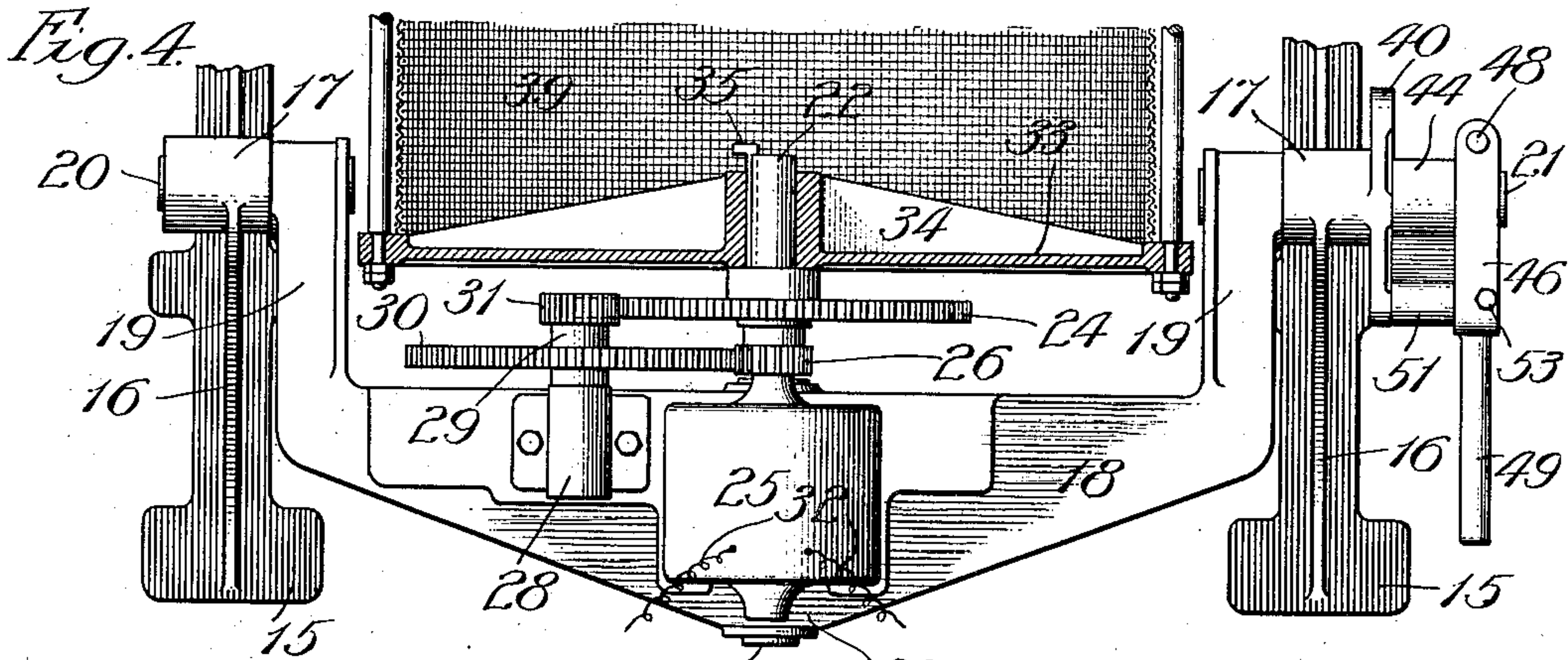
Inventor
 Elmer E. Hanna.
 By Sheridan & Wilkinson
 Attys. #

E. E. HANNA.
REVOLVING SIFTING SCREEN.
APPLICATION FILED JUNE 1, 1908.

928,965.

Patented July 27, 1909.

2 SHEETS—SHEET 2.



Witnesses:
John Enders
Chas. H. Buell

Inventor
Elmer E. Hanna.
By Sheridan & Wilkinson
Attys.

UNITED STATES PATENT OFFICE.

ELMER E. HANNA, OF CHICAGO, ILLINOIS, ASSIGNOR TO HANNA ENGINEERING WORKS, A CORPORATION OF ILLINOIS.

REVOLVING SIFTING-SCREEN.

No. 928,965.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed June 1, 1908. Serial No. 436,017.

To all whom it may concern:

Be it known that I, ELMER E. HANNA, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Revolving Sifting-Screens, of which the following is a specification.

The object of my invention is to provide an improved sifting screen of the rotary type.

A further object of my invention is to provide such a sifting screen adapted to have the coarse residue dumped with facility.

These and various other objects of my invention will be made apparent in the following specification and claims, taken in connection with the accompanying drawings in which—

Figure 1 is a side elevation partly in section showing my device in normal operating position. Fig. 2 is a corresponding view showing the device in dumping position. Fig. 3 is a section taken on the line 3 of Fig. 1 showing a detail of construction. Fig. 4 is a top plan view partly in section, and Fig. 5 is an end elevation, the direction of view being at right angles to that of Fig. 1.

From the base 15 the standards 16 rise terminating at their upper ends in journal boxes 17. The base 15 and the standard 16 constitute a supporting frame. Another frame 18 with arms 19 carries short shafts 20 and 21 at the ends of these arms, and these shafts are respectively journaled in the bearings 17. The frame 18 is a tilting frame rotatably mounted in the supporting frame 15—16. In the center of the frame 18 is a journal bearing 23 which carries a rotatable shaft 22 on which the gear wheel 24 is fixed. An electric motor 25 is mounted on the frame 18, its rotor shaft carrying a gear pinion 26. The bracket 28 mounted on the frame 18 on one side of the motor 25 constitutes a journal bearing for a shaft 29 which carries the gear wheel 30 and the gear pinion 31. Thus the rotations of the rotor of the motor 25 are twice reduced through the gear train 26—30—31—24 and thus communicated to rotate the shaft 22. The conductors for conveying electric current to drive the motor 25 are indicated by the reference numeral 32. The shaft 22 has attached to it a head 33 supported by radial ribs 34 and fastened in place by the key 35. Opposed to the circular head 33 is a frusto-conical

shell 36, the two members being fixed relatively to each other by the rods 37 which have their ends somewhat reduced in size and passing through lugs 38 and secured by nuts. Between the head 33 and the shell 36 is the perforated screen 39 having the shape of a circular cylindrical surface.

As a part of one of the standards 16 there is a sector shaped guide 40 around the adjacent bearing 17. This has a track 41 terminated at the ends by shallow depressions 42 and 43. The block 44 is fastened to the shaft 21 by means of the key 45. A yoke 46 embraces the block 44 and has a pivotal engagement therewith by means of the pin 48 through the lugs 47 on the block 44. The yoke 46 terminates in a handle 49. The block 44 has a cylindrical chamber or slot 51 in which a bolt or plunger 50 is located. The end 54 of this plunger 50 has a transverse hole 52 through which the bolt 53 carried by the yoke 46 extends.

In normal operation the device will appear as in Fig. 1, the current supplied to the electric motor 25 through the conductors 32 rotating the sifting drum 33—39—36 by means of the reducing gearing. A workman can shovel the material to be sifted in through the opening in the shell 36 and the finer particles will pass through the screen and fall down upon the ground or into a vessel placed beneath, as for example, a wheel-barrow. When it is desired to empty the screen drum of the residue of coarser particles the operator seizes the handle 49 and pulls it out horizontally so as to disengage the bolt 50 from the depression 43. Then by means of the same handle 49 he rotates the drum upwardly and around through an arc of about 225 degrees to the position shown in Fig. 2. This being done with a fair degree of quickness the coarse residue which at the commencement of the movement lay on the lower side of the sifting drum will be carried upwardly and over and thrown out when the drum reaches the position shown in Fig. 2. All the time the electric motor 25 may continue to rotate the drum or if desired the current can be shut off and the drum be stopped. Having thrown out the coarse residue, as just explained, a reverse movement of the handle 49 restores the device to the position shown in Fig. 1 ready to have more material to be sifted shoveled in at the open end. It will be

noticed that the device drops the fine material on one side of the frame 16 and that it discharges the coarse residue on the opposite side of this frame. The entire apparatus can be readily moved to any place where its use may be desired. It can be started at any time by merely turning the current into the electric motor 25. It is arranged to receive material to be sifted in a convenient way, to deliver the fine material which passes through the screen so that it can be conveniently gathered, and to dump the coarse residue entirely apart. The process of dumping requires only a few seconds and can be done by the same workman who is attending to the supply of material. The device has been found useful in foundry practice for sifting the molder's sand, but this is only one of many uses that it may have.

I claim:

1. A sifting screen comprising a supporting frame, a tilting frame rotatably mounted on the supporting frame, a sifting drum rotatably mounted on the tilting frame, the drum being at one side of the tilting frame and the axis of the drum being at a right angle to the tilting axis, and co-acting stops on the supporting frame and the tilting frame, said stops being adapted to hold the frame with the axis of the drum horizontal in one position or with the axis inclined downward in another position, said two positions being on opposite sides of the supporting frame.

2. A sifting screen comprising a supporting frame, a tilting frame rotatably mounted on said supporting frame, a sifting drum mounted to rotate on said tilting frame, co-acting stops on the two frames adapted to support the drum with its axis horizontal, and other co-acting stops adapted to hold the drum with its axis inclined downward, the range of movement of the drum between said stops being more than 180 degrees.

3. A sifting screen comprising a fixed support, a frame journaled in said support, a rotatable sifting drum carried by said frame, a handle pivoted to the frame, a stud attached to said handle, and a guide attached to the fixed support alongside said stud, said guide having recesses at its ends to engage the stud and thereby lock the frame in either of two different positions.

4. A sifting screen comprising a fixed support, a tilting frame rotatably mounted on a horizontal axis on said support, a cylindrical sifting drum mounted rotatably on the tilting frame on an axis at a right angle to the tilting axis, said drum projecting to one side of the tilting frame, a pair of stops on the support and tilting frame adapted to prevent rotation of the frame in a direction to throw the axis of the drum below a horizontal line on one side of the supporting frame, and a pair of stops adapted to prevent rotation of

the tilting frame beyond a position with the axis of the drum downwardly inclined on the opposite side of the supporting frame, said tilting frame and the drum carried thereby being rotatable upwardly between the two limiting positions thereof.

5. A sifting screen comprising a supporting frame, a tilting frame rotatably mounted on said supporting frame, a sifting drum mounted to rotate on said tilting frame, a motor also mounted on said tilting frame and connected to drive said drum, coacting stops on the two frames adapted to support the drum with its axis horizontal, and other coacting stops adapted to hold the drum with its axis inclined downward, the range of movement of the drum between said stops being more than 180 degrees.

6. A sifting screen comprising a supporting frame, a tilting frame rotatably mounted on said supporting frame, a sifting drum mounted to rotate on said tilting frame, a motor also mounted on said tilting frame, reducing gearing connecting the motor to the drum, coacting stops on the two frames adapted to support the drum with its axis horizontal, and other coacting stops adapted to hold the drum with its axis inclined downward, the range of movement of the drum between said stops being more than 180 degrees.

7. A sifting screen comprising two supporting standards, a U-shaped tilting frame with its ends pivotally connected to said standards, a shaft mounted axially in said U-shaped frame, a sifting drum mounted on said shaft between the arms of said tilting frame, coacting stops on the two frames adapted to support the drum with its axis horizontal, and other coacting stops adapted to hold the drum with its axis inclined downward, the range of movement of the drum between said stops being more than 180 degrees.

8. A sifting screen comprising a supporting frame, a tilting frame rotatably mounted on said supporting frame, a shaft mounted to rotate on said tilting frame, a circular head attached to the end of said shaft, a cylindrical perforated wall adjacent to said head, a conical inwardly directed shell at the other end of the cylindrical wall, bolts clamping said wall between said head and shell, coacting stops on the two frames adapted to support the drum with its axis horizontal, and other coacting stops adapted to hold the drum with its axis inclined downward, the range of movement of the drum between said stops being more than 180 degrees.

In testimony whereof, I have subscribed my name.

ELMER E. HANNA.

Witnesses:

PHILETUS W. GATES,
THOMAS F. SHERIDAN.