W. H. STEPP.

REVOLVING SCREEN,

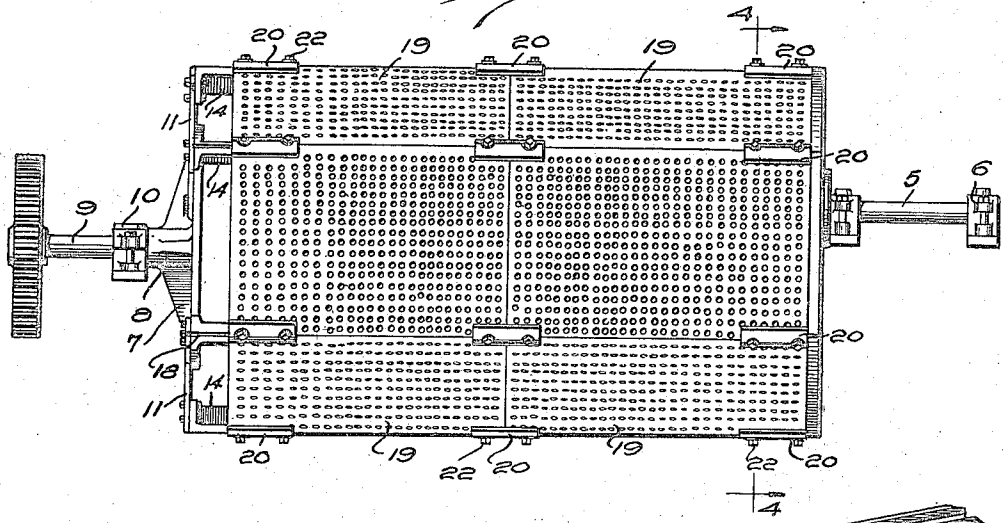
APPLICATION FILED OCT. 27, 1921.

1,427,031.

Patented Aug. 22, 1922.

2 SHEETS—SHEET 1.

Fig. 1.



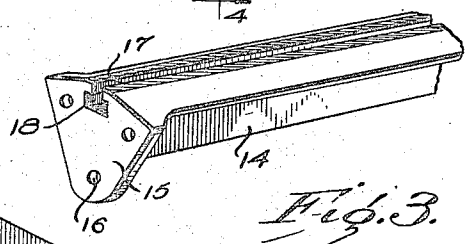


Fig. 3.

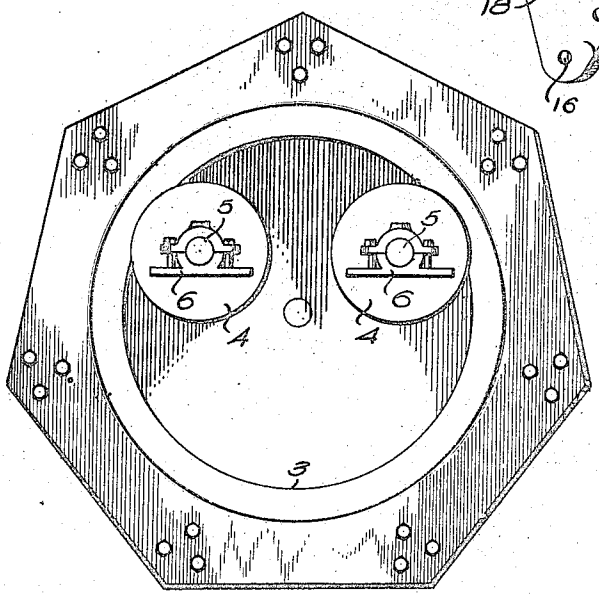


Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 4.

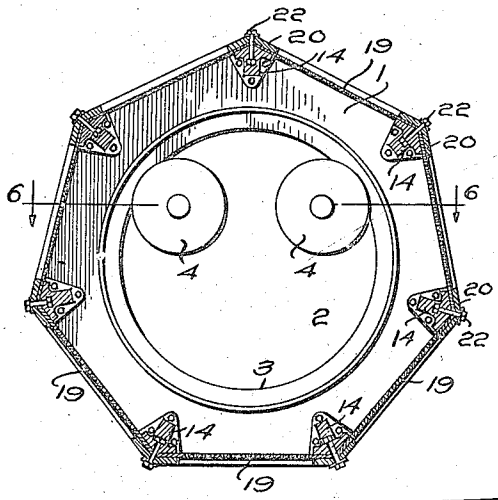


Fig. 5.

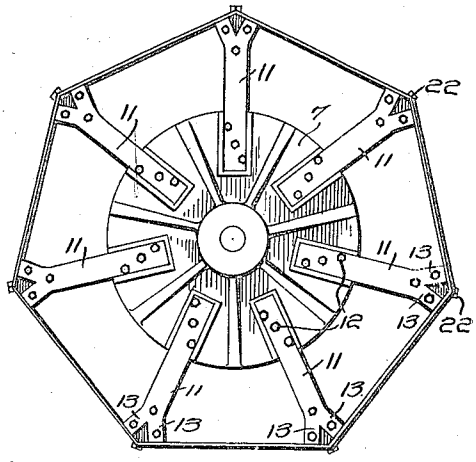
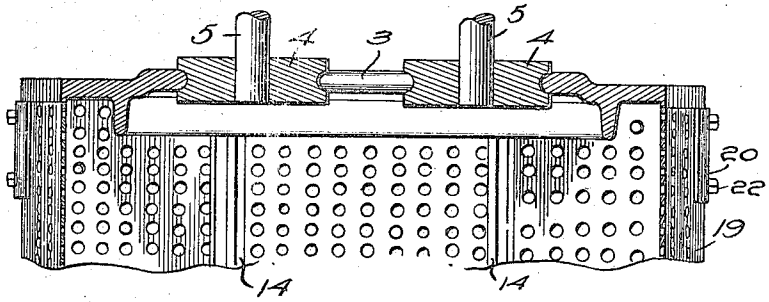


Fig. 6.



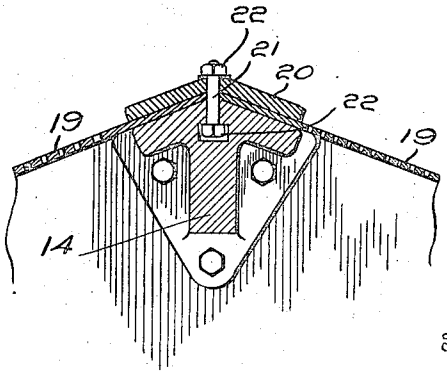


Fig. 7.

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UNITED STATES PATENT OFFICE.

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REVOLVING SCREEN.

1,427,031. Specification of Letters Patent. Patented Aug. 22, 1922.

Application filed October 27, 1921. Serial No. 510,747.

To all whom it may concern:

Be it known that I, WALTER H. STEPP, a citizen of the United States, residing at Douthat, in the county of Ottawa and State of Oklahoma, have invented certain new and useful Improvements in Revolving Screens, of which the following is a specification.

This invention relates to rotary screens and it comprises a screen having its walls formed of sectional perforated plates, any of which may be removed and replaced individually.

An object of the invention is the provision of a rotary screen having a center inlet opening not obstructed by shafting or the like.

A further object is the provision of supporting members extending longitudinally of the screen to which the perforated wall may be secured. These members are preferably T-shaped in cross section and are provided with grooves in their outer faces adapted to receive the heads of projecting bolts by means of which the perforated plates are retained in position.

In the accompanying drawings I have shown one embodiment of the invention. In this showing:

Figure 1 is a side elevation,

Figure 2 is an end elevation from the inlet end of the machine,

Figure 3 is a detail view of one of the supporting members,

Figure 4 is a vertical transverse sectional view on line 4—4 of Figure 1,

Figure 5 is an end elevation of the discharge end of the machine,

Figure 6 is a horizontal sectional view on line 6—6 of Figure 4, and,

Figure 7 is an enlarged detail view of a portion of the screen wall.

Referring to the drawings, the reference numeral 1 designates a plate arranged at the inlet end of the machine. This plate is provided with a central opening 2 through which the material to be screened is adapted to be passed. The edge of the opening is curved in cross-section as at 3, and is adapted to be received in grooves formed on the periphery of rollers 4. These rollers are mounted on shafts 5 arranged in bearings 6 mounted on suitable supports. As shown in Figures 2 and 4 of the drawings, the rollers are arranged above the center of the machine and thus do not interfere with the introduction of material into the screen. The opposite end of the screen is supported by a spider comprising a plate 7 having a hub 8 formed thereon. This hub is adapted to receive drive shaft 9 mounted in suitable bearings 10. A plurality of arms 11 are secured to the plate 7 by suitable fastening means 12. The outer ends of the arms are forked providing a pair of supporting members 13. As shown, the supporting members are arranged with their outer faces parallel to the corresponding faces of the plate 1.

A plurality of longitudinal supporting members 14 are secured to the ends of the arms 13 and to the plate1. As shown, the supporting members are T-shaped in cross section and are provided with end webs 15 having openings 16 for the reception of fastening elements. The upper face of the T-shaped supporting members are provided with slots 17 extending the full length of the screen. The bottom of these slots are enlarged as at 18.

The wall of the screen is formed of a plurality of perforated plates 19. These plates are adapted to rest on the faces of the T-shaped supporting members and are retained in position by means of angular plates 20. Bolts 21 are secured in the slots of the T-shaped supporting members. The heads 22 of the bolts being arranged in the enlarged portion at the bottom of the slot and nuts 22′ are arranged on the bolts to retain the parts in position.

In the use of the screen constructed as disclosed in the present application, the plates 19 may be individually replaced when worn. As shown the screen is in the form of a seven-sided body and each of the sides are formed of separate plates. The plates may also be divided longitudinally, as shown in Figure 1, and a portion of one side may be removed and replaced as desired. Any number of sections may be employed in the construction of each side of the screen, the fastening elements shown in Figure 7 of the drawings being used at the meeting edges of the different sections.

The construction is further advantageous in that center shafting is eliminated at the inlet opening and the material may be more readily introduced into the screen.

The operation is substantially the same as in similar devices heretofore employed. The material to be screened is introduced at the inlet end of the machine and the finer particles passed through the openings in plates

19 by the revolution of the screen. The particles that are too large to pass through these openings are discharged at the outlet opening.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having described my invention, I claim:

1. A rotary screen comprising a pair of end plates, longitudinal supporting members secured to said end plates, said members being provided with longitudinally extending grooves, fastening elements mounted in said grooves, and perforated plates mounted on said supporting members and retained in position by said fastening elements.

2. A rotary screen comprising a pair of end plates, T-shaped supporting members secured to said plates and extending longitudinally, said supporting members being provided with grooves having enlarged portions at the bottom, bolts arranged in said grooves, the heads of the bolts being received in the enlarged portions, and perforated plates mounted on said supporting members and retained in position by said bolts.

3. A rotary screen comprising a pair of end plates, longitudinally extending supporting members secured to said end plates, said supporting members being provided with grooves on their outer faces, fastening members mounted in said grooves and extending outwardly, a plurality of perforated plates arranged on said supporting members forming the walls of the screen, and angular plates arranged over said perforated plates and retained in position by said bolts.

4. A rotary screen comprising a pair of end plates, one of said plates being provided with a central opening, the other of said plates being of smaller diameter and provided with a hub for the reception of a drive shaft, a plurality of arms secured to said second end plate and extending radially, supporting members having one end secured to said first end plate and the other ends secured to said arms, a plurality of perforated plates arranged on said supporting elements and forming the walls of the screen, and means for retaining said plates in position.

In testimony whereof I affix my signature in presence of two witnesses.

WALTER H. STEPP.

Witnesses:

K. C. EARNSHAW,

ETHEL WRIGHT.