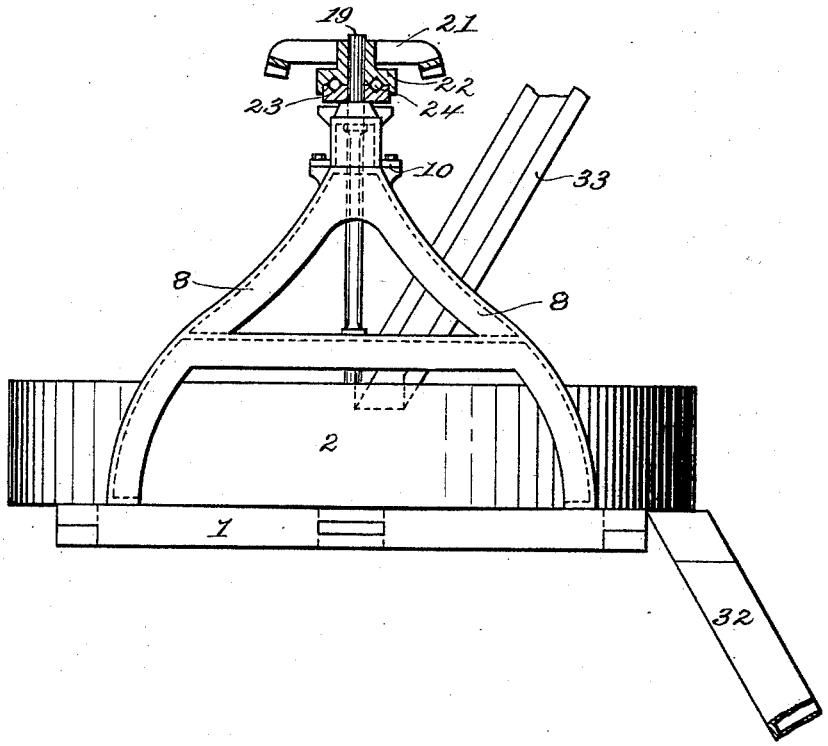
(No Model.) 3 Sheets—Sheet 1.

E. R. DUDLEY.

CENTRIFUGAL SCREEN.

No. 526,618. Patented Sept. 25, 1894.

Fig. 1.



WITNESSES:
Geo. E. Crouse.
Herbert Bradley.

INVENTOR
Elliott R. Dudley.
BY Knight Bros.
ATTORNEYS.

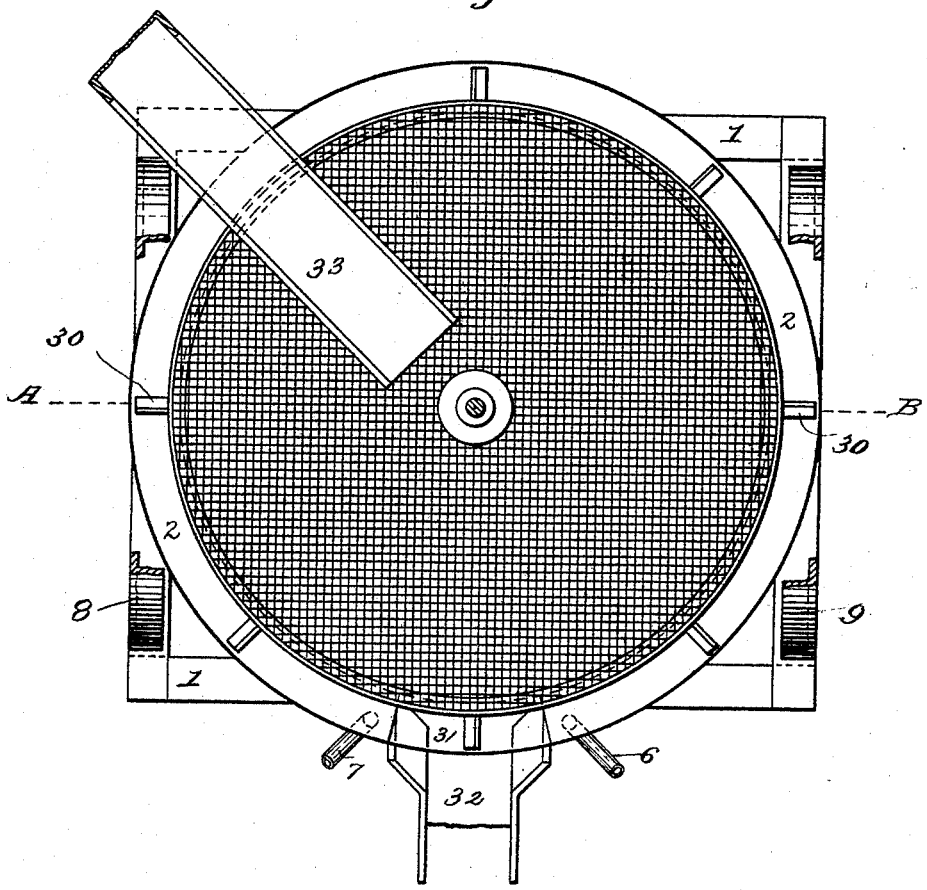
(No Model.) 3 Sheets—Sheet 2.

E. R. DUDLEY.

CENTRIFUGAL SCREEN.

No. 526,618. Patented Sept. 25, 1894.

Fig. 2.



WITNESSES:
Geo. C. Crosse.
Herbert Bradley

INVENTOR
Elliott R. Dudley,
BY Knight Bros.
ATTORNEYS.

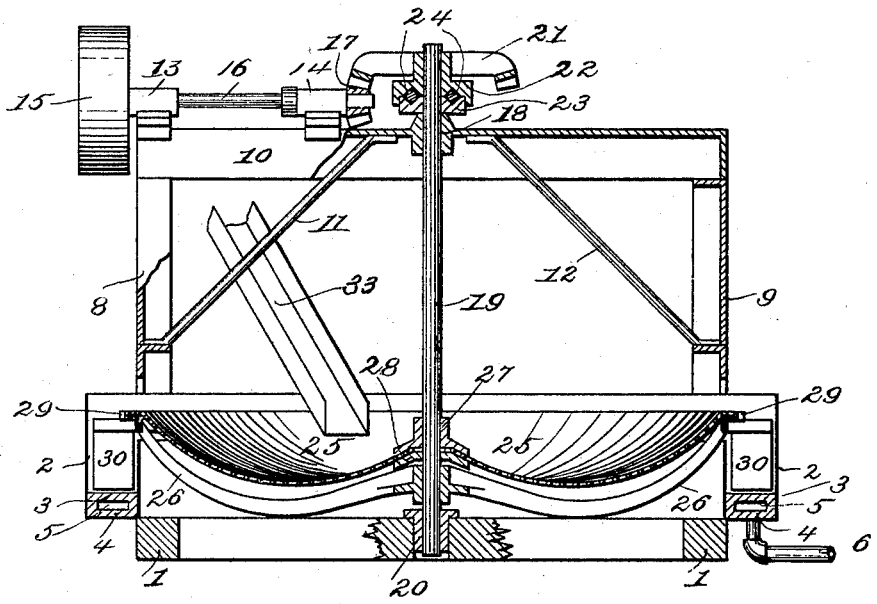
(No Model.) 3 Sheets—Sheet 3.

E. R. DUDLEY.

CENTRIFUGAL SCREEN.

No. 526,618. Patented Sept. 25, 1894.

Fig. 3.



WITNESSES:

Geo. E. Crowe

Herbert Bradley

INVENTOR

Elliott R. Dudley.

BY Knight Bros.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ELLIOTT R. DUDLEY, OF LEWIS RUN, ASSIGNOR TO PULASKI B. BROUGHTON, OF BRADFORD, PENNSYLVANIA.

CENTRIFUGAL SCREEN.

SPECIFICATION forming part of Letters Patent No. 526,618, dated September 25, 1894.

Application filed March 24, 1894. Serial No. 504,976. (No model.)

To all whom it may concern:

Be it known that I, ELLIOTT R. DUDLEY, a citizen of the United States, residing at Lewis Run, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Centrifugal Screens, of which the following is a specification.

My invention relates more particularly to screens for sifting clay used in the manufacture of pressed brick, which is generally dried and sifted, and its object is to overcome the objectionable features of the inclined reciprocating screens which are commonly used, and my invention consists broadly of a dish-shaped woven wire screen secured to a revolving shaft, and provided with scrapers at its outer periphery, which work in a trough, into which the tailings of the material to be sifted drop from the screen, and this trough, constructed preferably of metal, is provided with two bottoms and is adapted to have steam passed through them to keep the clay in it dry and prevent its sticking to the trough and to the scrapers while being removed from the said trough; and my invention further consists of certain novel features of construction that will be hereinafter fully described and specifically pointed out in the claim.

Referring to the accompanying drawings which form a part of this specification, Figure 1 is a side elevation of my improved screen. Fig. 2 is a plan view of the same, the driving mechanism being removed, and Fig. 3 is a vertical section taken on the line A—B, Fig. 2.

In the said drawings: 1 represents the base of the screen, which supports the trough 2. This trough is provided with the bottoms 3, 4, forming the space 5, through which steam is forced to keep the clay dry and to evaporate any moisture which may be in it, in order to prevent its sticking to the trough or scrapers which are carried by the screen. The steam is introduced into this space by means of the pipe 6 and exhausted through the pipe 7.

Secured to the base 1, and extending up over the screen are two A-shaped supports 8, 9, connected together at their tops by the cross-piece 10. These parts are further connected and supported by means of the braces 11, 12. This cross-piece 10 forms a support for the journals 13, 14, of the shaft 16 which carries the driving pulley 15 and also the pinion 17.

18 represents a journal opening in the cross-piece 10 for the upper end of the shaft 19, and which is journaled in a sleeve 20 at its lower end located in one of the cross-pieces of the base 1. This shaft carries the bevel wheel 21, which meshes with the pinion 17 on the driving shaft, and it is provided with the grooved collar 22 which rests on the grooved plate 23. Balls 24 are interposed between the collar and plate, to form a frictionless bearing between them.

25 represents the woven-wire dish-shaped screen, which is carried by and supported at its outer periphery on the curved arms 26 mounted on the shaft 19. The screen is further secured at its outer periphery by means of the metal band 29 which rests on the flanged ends of the arms 26, and it is supported at its inner periphery by means of the flanged collars 27, 28, carried by the shaft 19, it being secured between them by means of rivets or bolts.

30 represents the scrapers also carried by the arms 26, and which work in the trough 2 to carry the tailings contained therein to an opening 31 in the trough and into a chute 32 which conveys them off to a crusher, from where they are again returned to the screen by means of the chute 33. The sifted material drops through the screen into a suitable receptacle (not shown) and from there conveyed to any desired point.

The objects in constructing the screen dish-shaped are as follows:—The chute 33 conveys the material to be sifted to a point near the center of the screen (as shown) the speed of which at this point is very much slower than at the outer periphery, and unless there was an incline to the screen the material would pile up at this point, and would not readily sift through. The particles that do not sift through the screen at this point are thrown from the center of the screen by the rotary movement thereof toward its periphery, and in order to retard the speed of these particles and prevent them being thrown off, the screen as it approaches its outer periphery is curved upward, which curve only allows the tailings

to fall into the trough 2, from which place they are removed by the scrapers 30.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

In a centrifugal screen, the combination of a suitable base, an annular trough supported on said base, driving mechanism mounted on supports extending upward from said base, a dish-shaped screen carried by a shaft journaled in said base and supports, and adapted to be driven by the driving mechanism, scrapers carried by said screen and working in the trough, said trough being provided with a suitable opening, and a double bottom through which steam is forced, substantially as shown and for the purpose set forth.

ELLIOTT R. DUDLEY.

Witnesses:
BEN R. HAGAR,
J. K. WILSON.