(No Model.)

G. W. CROSS.

COAL SCREEN.

No. 528,289. Patented Oct. 30, 1894.

Fig 1

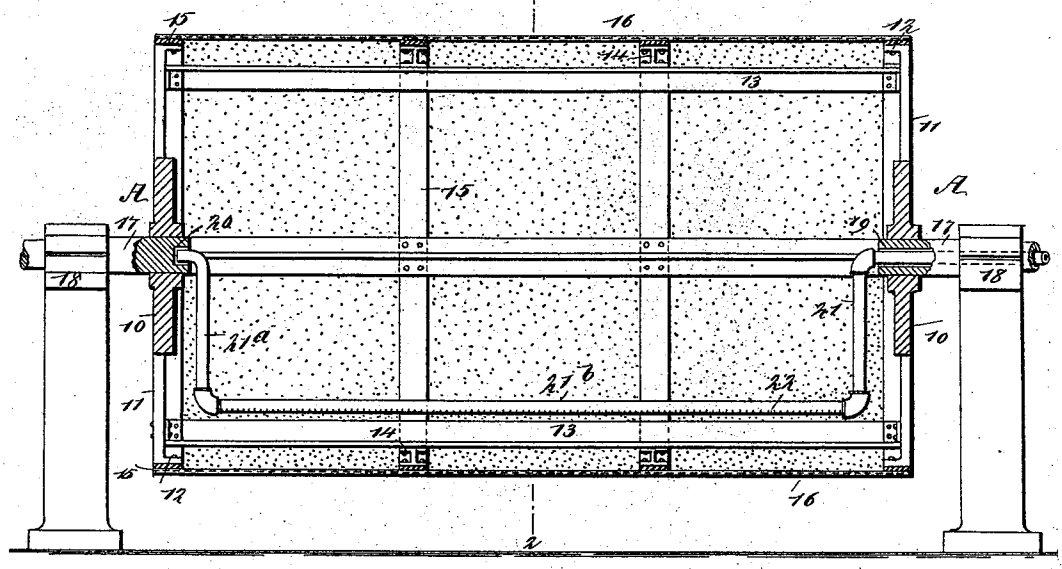
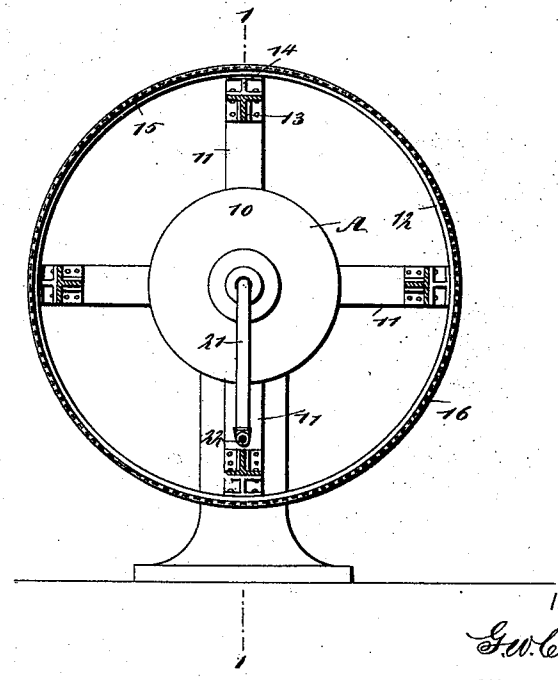


Fig 2



WITNESSES:
H. Walker
C. Bedgwick

INVENTOR
G. W. Cross
BY
Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE W. CROSS, OF PITTSTON, PENNSYLVANIA.

COAL-SCREEN.

SPECIFICATION forming part of Letters Patent No. 528,289, dated October 30, 1894.

Application filed May 22, 1893. Renewed September 26, 1894. Serial No. 524,166. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. CROSS, of Pittston, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Coal-Screen, of which the following is a full, clear, and exact description.

My invention is an improvement in the class of rotatable screens having a spray pipe for introducing water.

The improvement is embodied in the construction, arrangement and combination of parts hereinafter specified.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical longitudinal section through the screen, taken practically on the line 1—1 of Fig. 2; and Fig. 2 is a vertical transverse section, taken essentially on the line 2—2 of Fig. 1.

In carrying out the invention the frame of the screen consists of two heads A. Each of the heads comprises a hub 10, spokes 11, radiating from the hub, and a band 12, which may be attached to the spokes or may be integral with them, the band being of such width that it extends beyond the inner sides of the spokes, as shown best in Fig. 1. The spokes of the heads are connected by angle irons 13, the length of the irons defining practically the length of the screen. The angle irons 13, are preferably of the T-pattern, as illustrated in Fig. 2, and the said longitudinal angle irons 13, are adapted to support angle blocks 14, which blocks are made preferably of I-iron, as illustrated in both Figs. 1 and 2, the I-blocks being located upon the outer faces of the T-irons. The I-blocks are connected with bands 15, located intermediate of the heads, and a like band is made to encircle the peripheral portion of each head. The inner bands and the I-blocks are firmly bolted together, and the said I-blocks and the longitudinal T-irons 13, are correspondingly secured, while the outer bands are in similar manner secured to the band sections of the heads.

The screen material 16, is made to extend entirely around each of the heads and cover the space intervening them, the screen material being secured to all of the rings 15. This screen material may be of any desired character. Ordinarily, however, woven wire is employed, of a more or less coarse or fine mesh.

A rotary screen constructed as above described is adapted to be revolved by any suitable means in bearings of any character. Therefore each of its heads at its hub portion is provided with a trunnion 17, and these trunnions are adapted to turn in suitable boxes 18, or other form of bearing. One of the trunnions 17, is tubular, being provided with an inner chamber 19, extending through from end to end, while the other trunnion has produced in its inner end a recess 20. A water supply pipe 21, is passed into the screen through the hollow trunnion, as shown in Fig. 1, and the portion of the pipe within the screen is given essentially a U-formation, and is supported by entering one of its ends in the recess 20, of one of the trunnions, as is likewise shown in Fig. 1; and that portion of the pipe entering the recess 20, which may be designated 21^a, is preferably made solid, while the lengthy or horizontal section 21^b of the pipe, which extends practically from head to head of the screen, and is located a predetermined distance from the screen material, is provided with a series of apertures 22 in its face opposing the screen material, so that as the screen is revolved the water is admitted into the pipe 21 and the pipe will remain stationary and spray water upon the material being sifted, the material presented to the action of the water being constantly shifted owing to the rotary movement of the screen.

A screen constructed as above described is exceedingly simple, it is durable and it is economic, and it will effectually screen any coal that may be placed within it to be treated, and as the heads of the screen are more or less open the coal may be put in at one head and discharged at the other.

Having thus described my invention, I

claim as new and desire to secure by Letters Patent—

The combination of the cylindrical coal screen, adapted to rotate on trunnions in fixed bearings, and the essentially U-shaped water spray pipe, which is stationary but arranged in said trunnions and depends within the screen, its horizontal portion, 21^b, having discharge apertures, as shown and described.

GEORGE W. CROSS.

Witnesses:
W. H. YOUNG,
P. H. BROWN.