(No Model.)

P. RICHARDS.

REVOLVING COAL SCREEN.

No. 361,185. Patented Apr. 12, 1887.

Fig. 1.

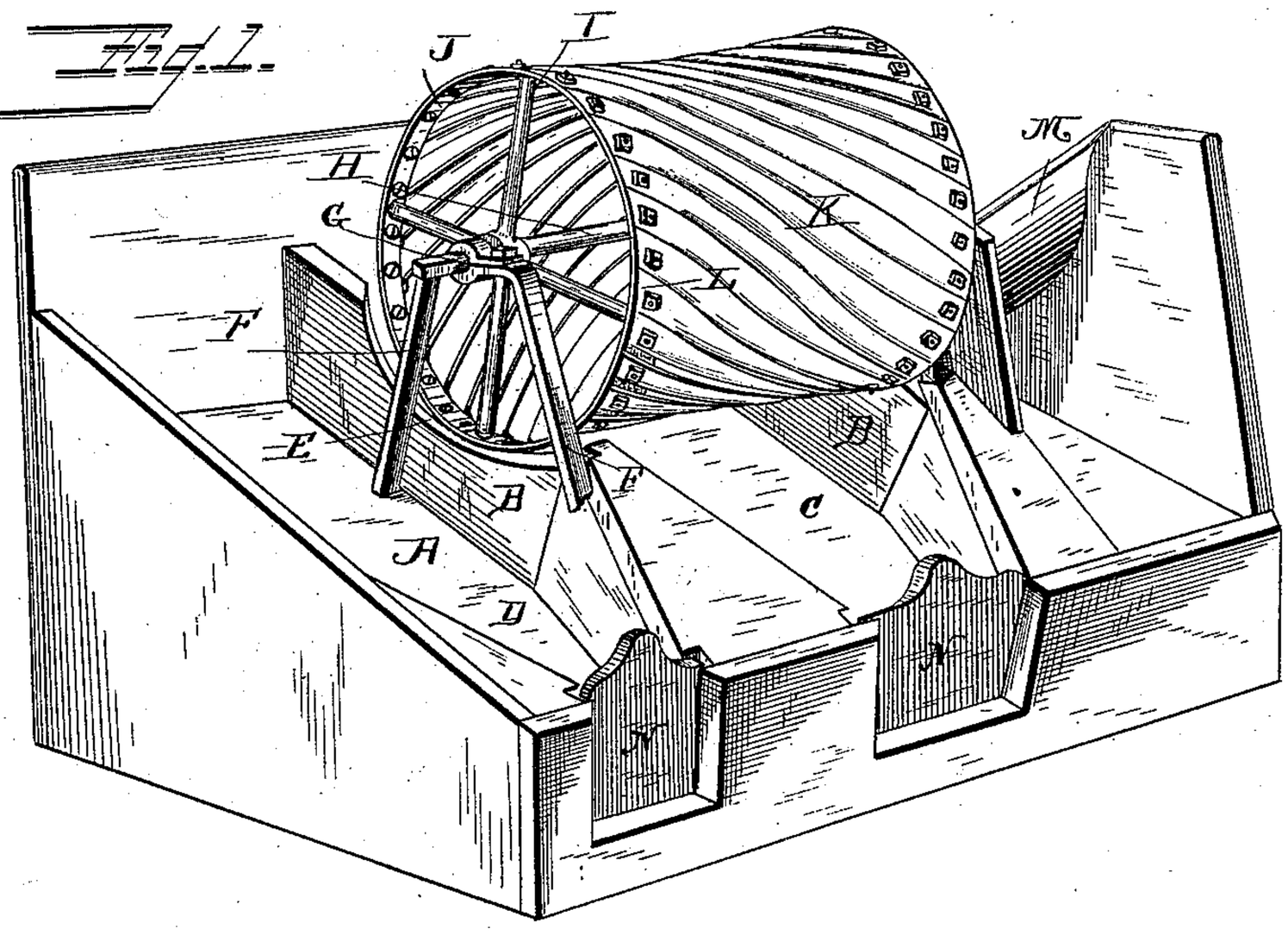
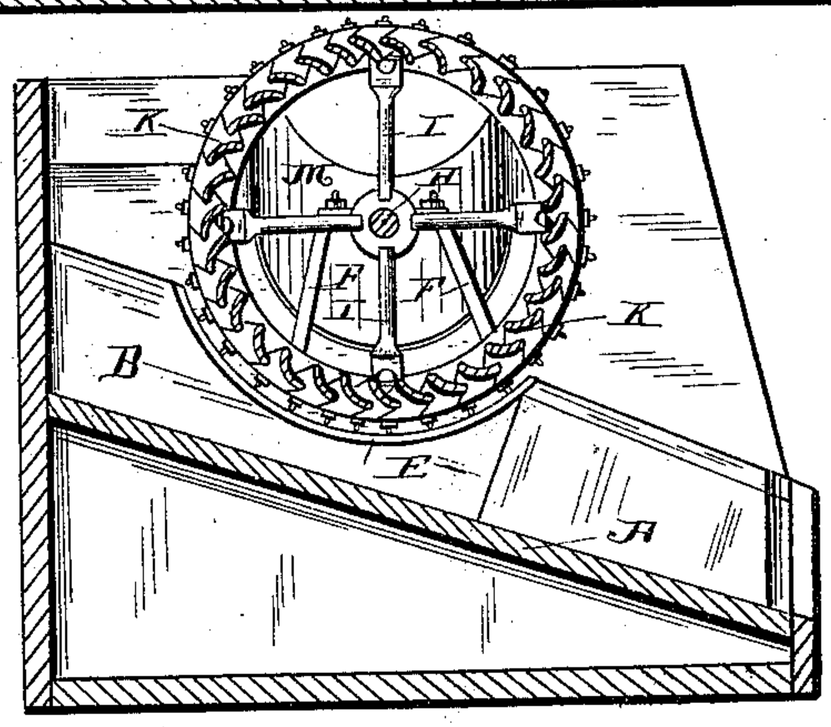


Fig. 2.

Fig. 3.



WITNESSES

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PHILIP RICHARDS, OF PLYMOUTH, PENNSYLVANIA, ASSIGNOR OF THREE-FOURTHS TO JOHN H. RICHARDS, JOSEPH RODGER, AND JOHN ALFRED HAWK, ALL OF SAME PLACE.

REVOLVING COAL-SCREEN.

SPECIFICATION forming part of Letters Patent No. 361,185, dated April 12, 1887.

Application filed September 10, 1886. Serial No. 213,225. (No model.)

To all whom it may concern:

Be it known that I, PHILIP RICHARDS, of Plymouth, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Revolving Coal-Screens; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved revolving coal-screen. Fig. 2 is a longitudinal vertical sectional view of the same, and Fig. 3 is a transverse sectional view.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to that class of revolving coal-screens in which the coal passes through a revolving drum, dropping all the dirt through the apertures in the sides of the screen and emptying the perfect coal at its end; and it consists in the improved construction of such a screen, in which the sides of the revolving drum are formed by flat twisted bars or slats having slightly-curved inner edges, between which the dirt may fall, and in which the coal may likewise have the slate screened out by having the bars placed at greater distances from each other, thus forming a combined coal-screen and slate-separator, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates an inclined floor having walls B, secured transversely upon it and forming compartments, respectively, for the dirt, as shown at C, and for the cleaned coal, as shown at D. The walls of the dirt-dump are formed with segmental notches or cut-out portions E, and brackets F F are secured over these cut-out portions and formed with bearings G G at their upper ends, and a longitudinal shaft, H, is journaled at its ends in these bearings. This shaft is provided inside of the bearings with radiating arms I, having rings or hoops J J secured to their ends, and the bars K, which form the screening-surface of the cylinder, have their ends secured to these hoops.

The flat bars or slats are made of metal, and have their inner edges, L, curved slightly inward and overlapped by the outer edges of the adjoining slats, and the said bars are secured obliquely around the periphery of the drum, having each a spiral twist transverse to the axis of about one-fourth of the circumference of the drum.

A trough or chute, M, has its inclined inner end projecting into one end of the drum, and it will be seen that when coal is filled into the drum through this chute and the former is revolved the curved edges of the bars will catch the dirt, which will fall out between the slats, while the coal will pass out of the rear end of the drum, being too large to pass through the spaces of the screen, and the said curved edges will cause the coal to slide along them on account of their twist and will catch the dirt and shake the coal during the revolution of the drum, cleaning the coal more effectually than a screen having the common perforated sides.

By securing the bars or slats with larger spaces between them the slate may be picked or screened from the coal, the inwardly-curved edges of the slats or bars engaging the flat edges of the slate and allowing it to drop out through the spaces, while the rounder sides of the lumps of coal will roll over the edges and pass down through the cylinder or drum.

This screen may likewise be used for separating coal into different sizes by having the bars arranged with different-sized spaces between them, the smaller coal dropping out though the smaller spaces and the larger coal passing along to the rear end of the screen, the inwardly-curved edges of the slats and their twist serving to more thoroughly screen the coal than screens having simple perforations.

The bins or compartments into which the coal and dirt fall are preferably provided with slides N at their lower ends, allowing the contents to be removed from them in the desired quantities.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

A drum-shaped rotary coal-screen comprising hoops or rings forming its heads or ends, and a series of spirally-set bars forming its perimeter or screening-surface, said bars being arranged to partially overlap one another and having their overlapped edges slightly curved inward, substantially as described.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

PHILIP RICHARDS.

Witnesses:
D. W. EVANS,
J. A. OPP.