J. C. BOWMAN

Revolving Screen.

No. 211,694. Patented Jan. 28, 1879.

Fig. 1.

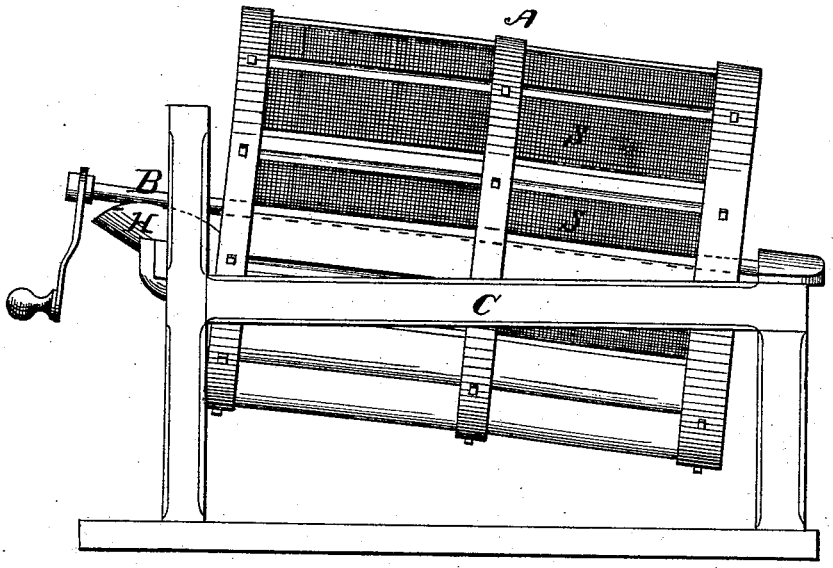


Fig. 3.

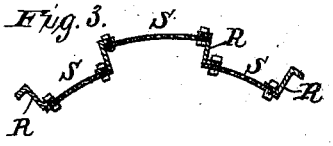
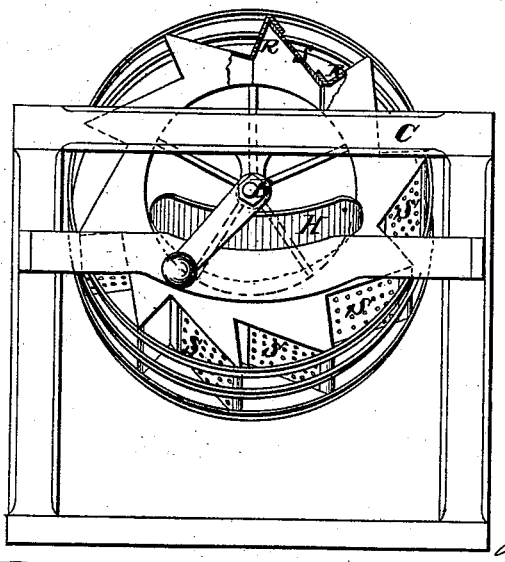


Fig. 2.



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UNITED STATES PATENT OFFICE.

JACOB C. BOWMAN, OF PROVIDENCE, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN F. SHUYDER, OF SCRANTON, PENNSYLVANIA.

IMPROVEMENT IN REVOLVING SCREENS.

Specification forming part of Letters Patent No. **211,694**, dated January 28, 1879; application filed August 18, 1877.

To all whom it may concern:

Be it known that I, JACOB C. BOWMAN, of Providence, in the county of Luzerne and State of Pennsylvania, have invented a certain new and useful Improvement in Revolving Screens; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a side elevation of my improved screen; Fig. 2, an end elevation of the same, partly in section; and Fig. 3, a detail view of a modification.

Similar letters of reference in the accompanying drawing indicate the same parts.

My invention relates to that class of revolving sieves, screens, or bolts in which the inner or concave surface is provided with a series of longitudinal pockets that receive the material to be screened, raise it with the revolution of the reel, and drop it from such a height that it will fall upon the screen-surface below with a considerable force, thereby keeping the meshes clearer, and also more effectually screening the material; and the invention consists in constructing said pockets from plates of screen material and plates of Z-shaped angle-iron, alternating with each other, as hereinafter described, whereby the construction is rendered simple, convenient, and inexpensive, and the screens or bolts are rendered strong and durable, and can readily be taken apart for repairs or other purpose.

In the drawings, A represents a screen revolving on or with a shaft, B, having bearings in a frame, C, the screen being inclined to feed the coal, sand, grain, or other material forward from the end adjacent to the hopper or chute H.

The periphery of the screen is composed of alternate sections, S, of wire-cloth, perforated plate, or other suitable metal or material adapted to the nature of the substance to be screened, and connecting-plates R, of sheet or plate metal, struck up or formed into double-flanged angle-iron, with the flanges extending in opposite directions, or, in other words, Z-shaped angle-iron, as shown in the cross-sections, Figs. 2 and 3. These Z-iron plates are each arranged so that the body of the plate is nearly or quite coincident with a radial line extending from the axis of rotation, and each screen-section is either fastened at both ends to the outer or the inner flange of the Z-iron, as shown in Fig. 3, or else at one end to the outer flange and at the other end to the inner flange of said Z-iron, as shown in Fig. 2—the former mode producing nearly rectangular, and the latter triangular, pockets, as clearly shown in said figures. The flanges are in each case bent to the particular angle required for the rectangular or triangular pockets, said angle depending on the size of the screen and size and number of screen-sections and Z-irons.

Any suitable metal may be substituted for iron.

By using the Z-iron plates in building up the structure of the reel or screen, I attain not only a great economy of material and labor, but I produce a structure of great strength and durability, and of neater appearance than any pocket-screen heretofore in public use.

This screen is particularly adapted by its shape, strength, and durability to the separation of pure coal from culm; and it can also be used for screening sand, plaster, quartz, grains, and other similar substances, and, if provided with screen-sections clothed with bolting-cloth, may be employed in flour-mills with satisfactory results.

Having thus described my invention, I claim as new—

A revolving screen having peripheral pockets or internal recesses constructed by the combination of alternate screen-sections and Z-iron plates, the screen-sections being secured at their edges to the flanges of the iron plates, substantially as described.

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