Snell & Deihm,

Coal Screen.

No. 33,268. Patented Sep. 10, 1861.

Fig. 3.

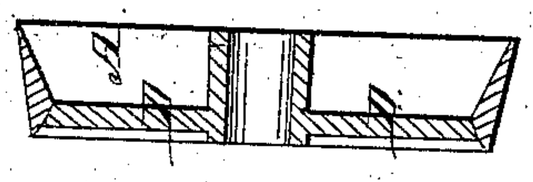


Fig. 2.

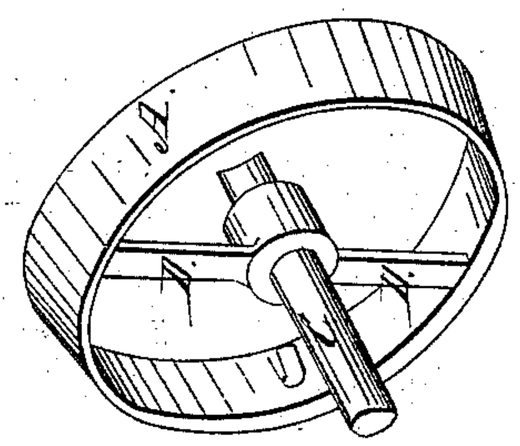
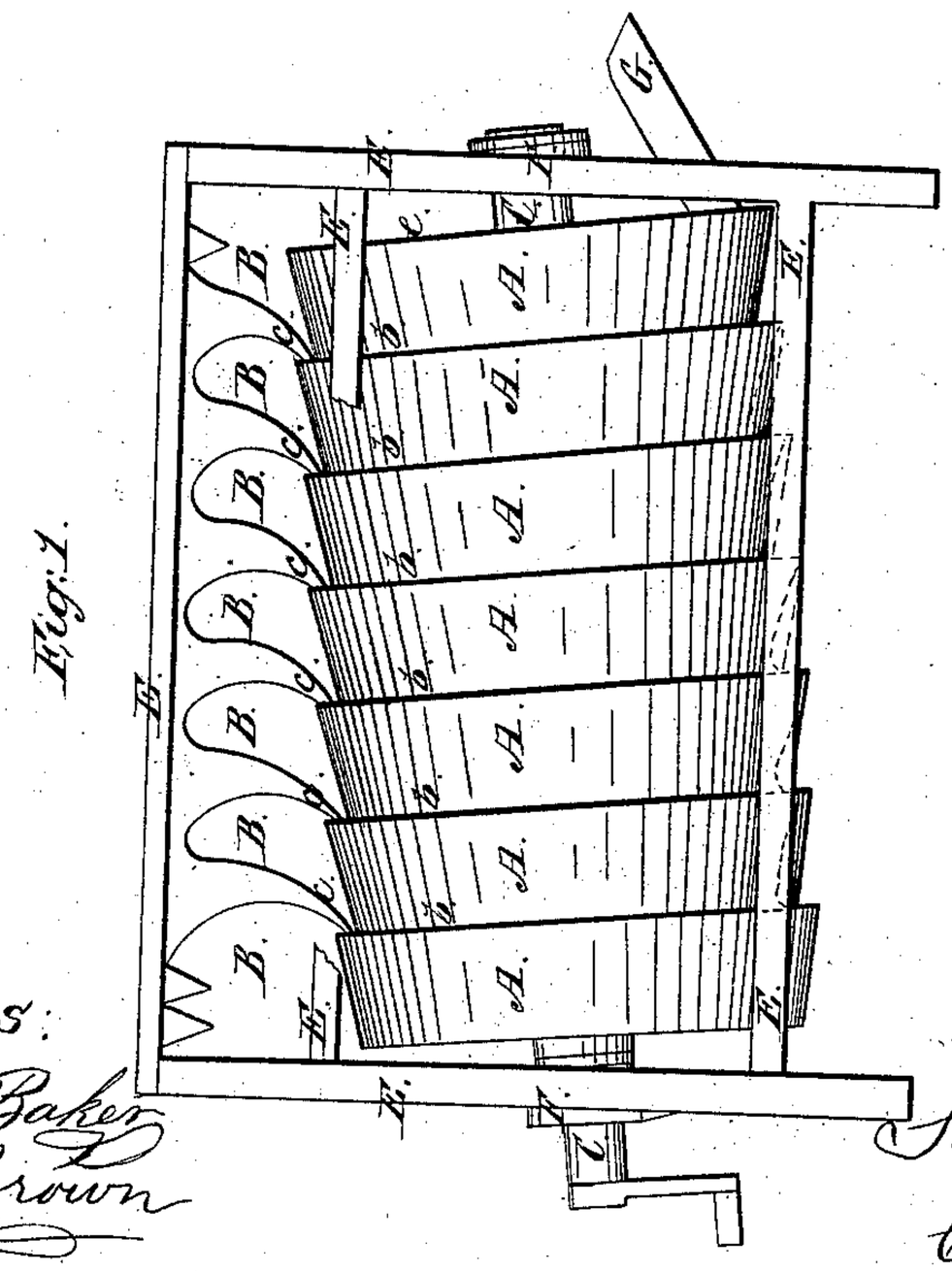


Fig. 1.



Witnesses:

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UNITED STATES PATENT OFFICE.

JASPER SNELL AND JOHN R. DEIHM, OF POTTSVILLE, PENNSYLVANIA.

IMPROVEMENT IN COAL-SCREENS.

Specification forming part of Letters Patent No. **33,268**, dated September 10, 1861.

To all whom it may concern:

Be it known that we, JASPER SNELL and JOHN R. DEIHM, of Pottsville, Schuylkill county, and State of Pennsylvania, have invented a new and useful Improved Coal-Screen; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which the like letters refer to the same parts.

Figure 1 is a side elevation. Fig. 2 is a section of one of the rings. Fig. 3 is the ring in section through its center.

To enable others skilled in the art to make and use our invention, we will describe its construction and operation.

In the construction of our invention we use any material best adapted to that purpose which we may prefer. The screen is formed into a cylinder composed of rings A, with spaces *b* between the rings A in which teeth *c* of the comb B operate to prevent said spaces *b* from being choked or filled up by the refuse which passes out at said openings. This cylinder A is attached to a shaft C by means of braces D, attached to each ring A. These braces extend across the inner portion of the rings and have an eye in the center to slip on the shaft C. When thus constructed, we form a cylinder of any length or diameter we desire. It will be seen that the outer surfaces of the rings are conical, tapering from the front end to the rear, making the base of the cone the front end of the ring, while the inner surfaces of the rings are beveled, being made conical from the points where the braces are attached to the rings, having the wide end or base of the inner cone to the front end of the machine, thus allowing the slate, stone, and other refuse to escape from the screen reversely from where the coal escapes. The braces supporting the rings are slipped onto the shaft and keyed in any desirable way, so as to make them fast and immovable on the shaft. When the cylinder is thus completed, it is hung to the frame E, with the bearings F slightly inclining downward at the discharge end of the cylinder, where the coal is let off, and the openings between the rings where the slate and stone are discharged are lower than the inner ridge of said rings, so that while the coal will pass over these ridges down through the whole length of the cylinder, the slate and stone, being thinner, will find their way out between the rings and discharge reversely from the coal. The comb B, which is firmly attached to the cross-bar of frame E, has teeth *c* fitting into the openings *b* between the rings, and as the cylinder revolves these teeth *c* completely comb these spaces at every revolution of the cylinder, thus keeping said spaces open.

G is a guide to direct the coal into the cylinder, and the ring *e* on the front ring is to prevent the coal from falling out of the cylinder as it revolves. The cylinder A may be made conical by each consecutive ring being made smaller.

In the operation of our invention the cylinder is put in motion by means of any power attached to the crank in any ordinary way. The coal enters at the front end, which is slightly elevated, and as it revolves the coal by its gravity works to the rear end to be discharged; but the elevations on the inside and rear ends of the rings give to the coal a lifting upward motion, tending to separate it from the thin slate and stone and refuse particles when they fall on the reverse incline plane of each ring and give to them a reverse motion as the cylinder revolves, causing them to pass out of the cylinder at each opening between the rings, thus continuing the operation of separating the coal through the entire length of the cylinder.

Having thus described the construction and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The revolving cylinder made of sections or rings A, with spaces *b* between said rings, operating as set forth, and for the purposes described.

2. The comb B, with teeth *c*, operating in the continuous spaces *b* between the rings A of the revolving cylinder, for the purposes set forth.

JASPER SNELL.
JOHN R. DEIHM.

Witnesses:
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