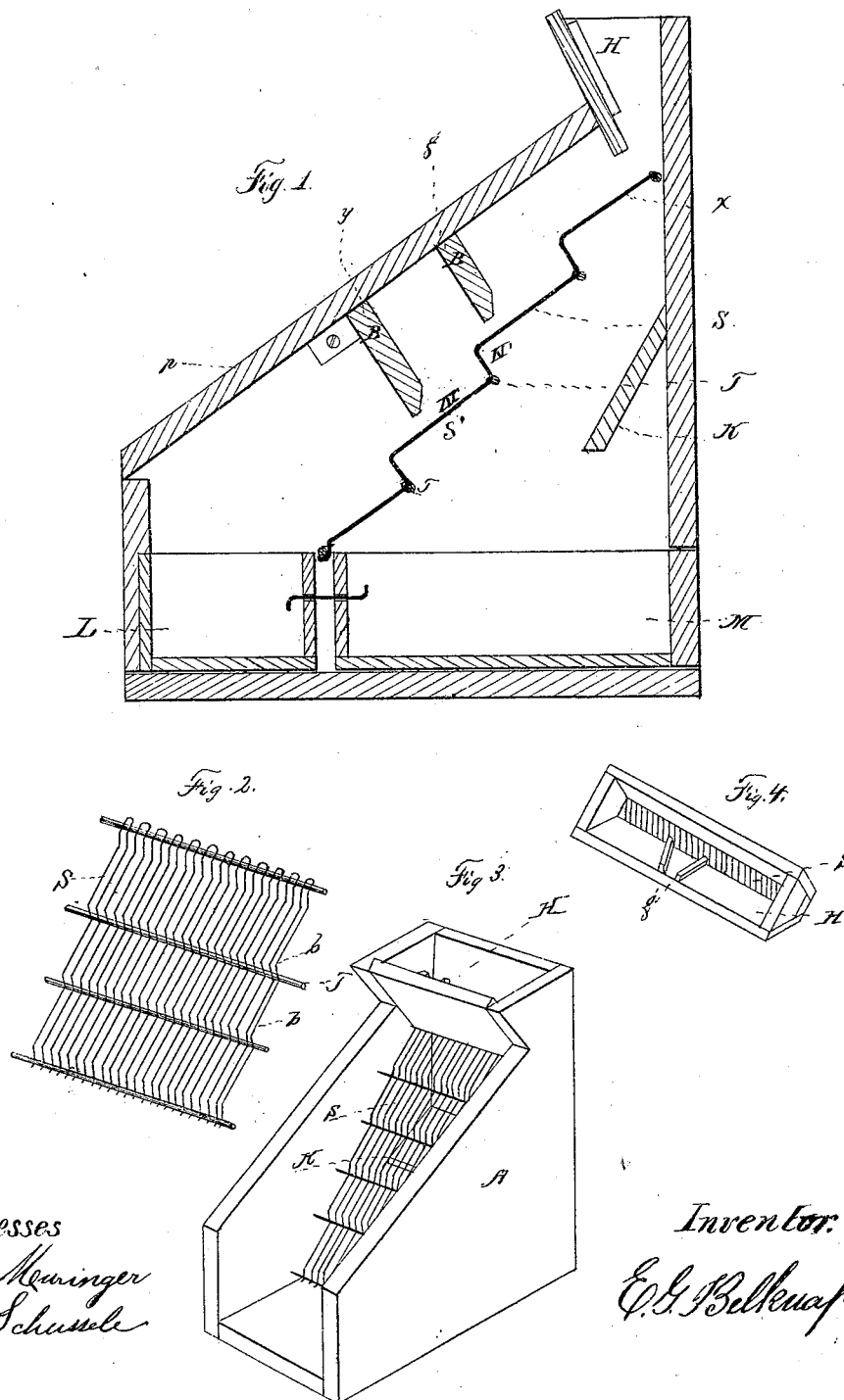


E. G. BELKNAP.  
Improvement in Coal-Screens.

No. 114,753.

Patented May 16, 1871.



Witnesses  
L. Meninger  
C. Schuele

Inventor:  
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# UNITED STATES PATENT OFFICE.

ELBRIDGE G. BELKNAP, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN COAL-SCREENS.

Specification forming part of Letters Patent No. **114,753**, dated May 16, 1871.

*To all whom it may concern:*

Be it known that I, ELBRIDGE G. BELKNAP, of the city of Philadelphia, in the State of Pennsylvania, have invented a new and Improved Screen; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference fixed thereon.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The screen-box A, Figure 1, is made of wood or metal, having a hopper constructed at its upper extremity, as shown at H, Figs. 1, 3, and 4.

Beneath the hopper, and placed at such an angle as that whatever falls upon it must either roll off or pass through it, is fixed the screen S, Figs. 1, 2, 3, and 4, made of metal, of any required strength, the bars of which it is constructed being bent, as shown in Fig. 2, at *b b*, or at any other angle. The ties for its support are placed at or about the lower angle, as shown at T, Figs. 1 and 2.

The brakes are strips of wood or metal, stretching across and above the screen, as shown at B B B, Fig. 1.

The brakes are here shown as attached to the top, *r*, Fig. 1. This is merely done for convenience' sake. They may be arranged in any other known way.

The guides G, Fig. 4, are intended to be set upon the inclined board of the hopper at such an angle as to aid in distributing the substances thrown into the hopper more equally upon the screen, and K, Figs. 1 and 3, to convey the screenings into box M, Fig. 1. L and M, Fig. 1, are ordinary boxes.

By placing the ties T, Figs. 1 and 2, in the position shown, they offer no obstruction to the passage of substances over the screen, while they may be of such form as to materially assist the deposit of the screenings into box M, Fig. 1.

It will be seen (Fig. 1) that a substance thrown into the hopper H must fall upon the screen at *x*, and if it be too large to pass between the bars it will glide over their surface. If, however, it moves with great velocity, it might pass over the next lower section of the screen almost without touching it. The brake *g*, however, would arrest it, and direct it again upon the screen, to move on and be similarly treated by brake *y*. Finally, it would pass from the screen into box L, while the smaller particles, shaken and knocked off by its passage over the screen and by the blows from contact with the brakes, would fall into the box M.

What I claim as my improvement in coal-screens is—

1. The construction and arrangement of the upright bars, by which an open screen is formed in both angles N N, as shown and described.

2. In combination with the screen, as described, the brakes B B and K, guides *g g*, hopper H, drawers L and M, and screen-box A, all constructed as shown and described.

ELBRIDGE G. BELKNAP.

Witnesses:

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