

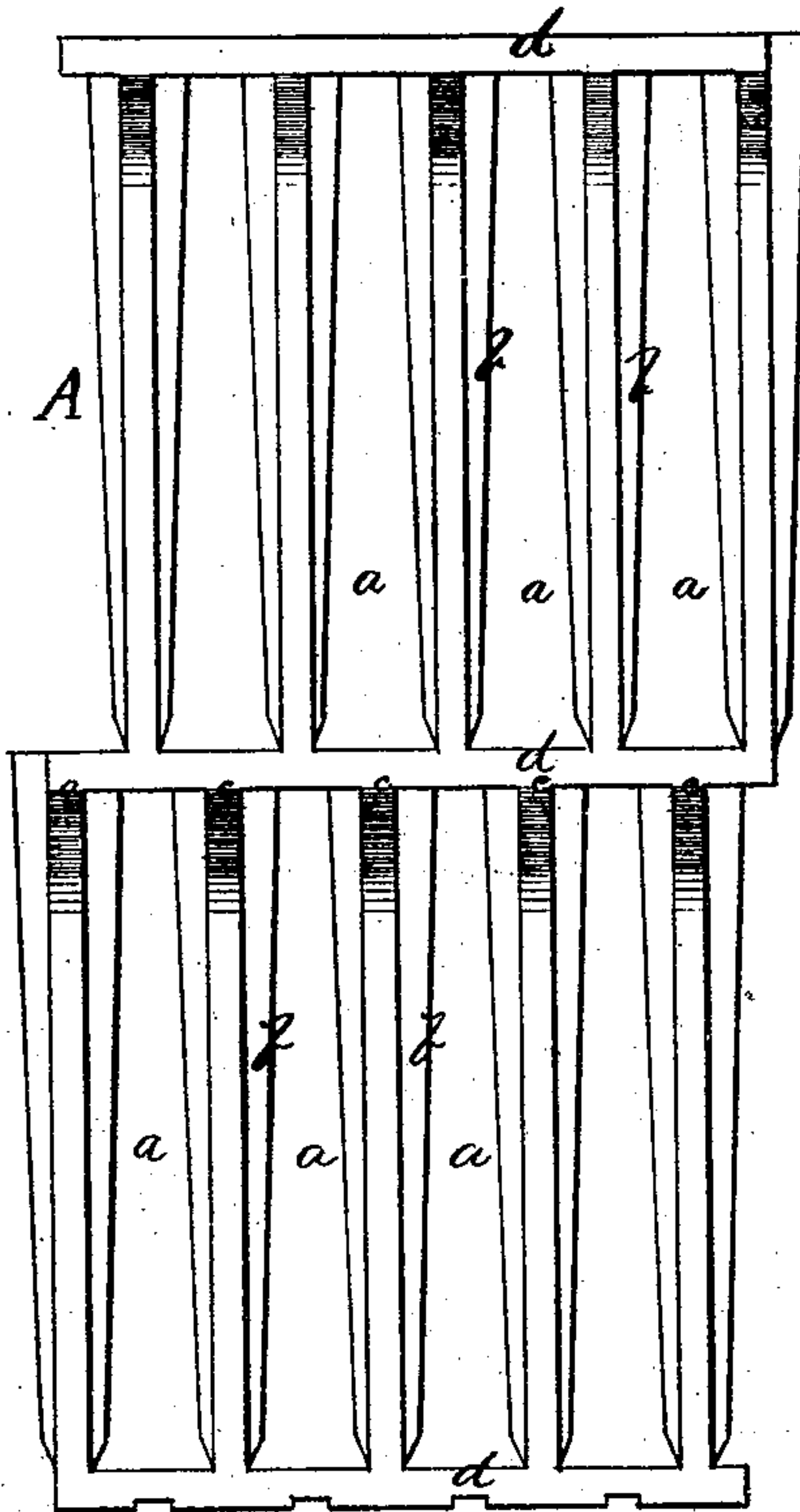
*E. Thomas,*

*Coal Screen.*

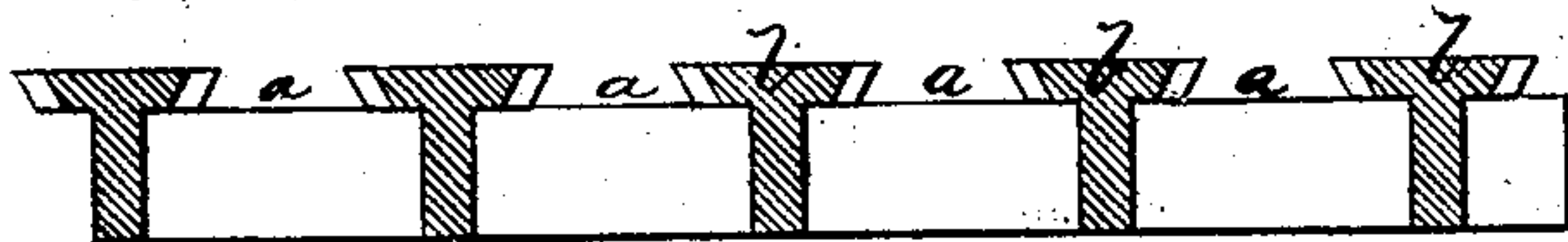
*No. 102,969.*

*Patented Dec. 6. 1870.*

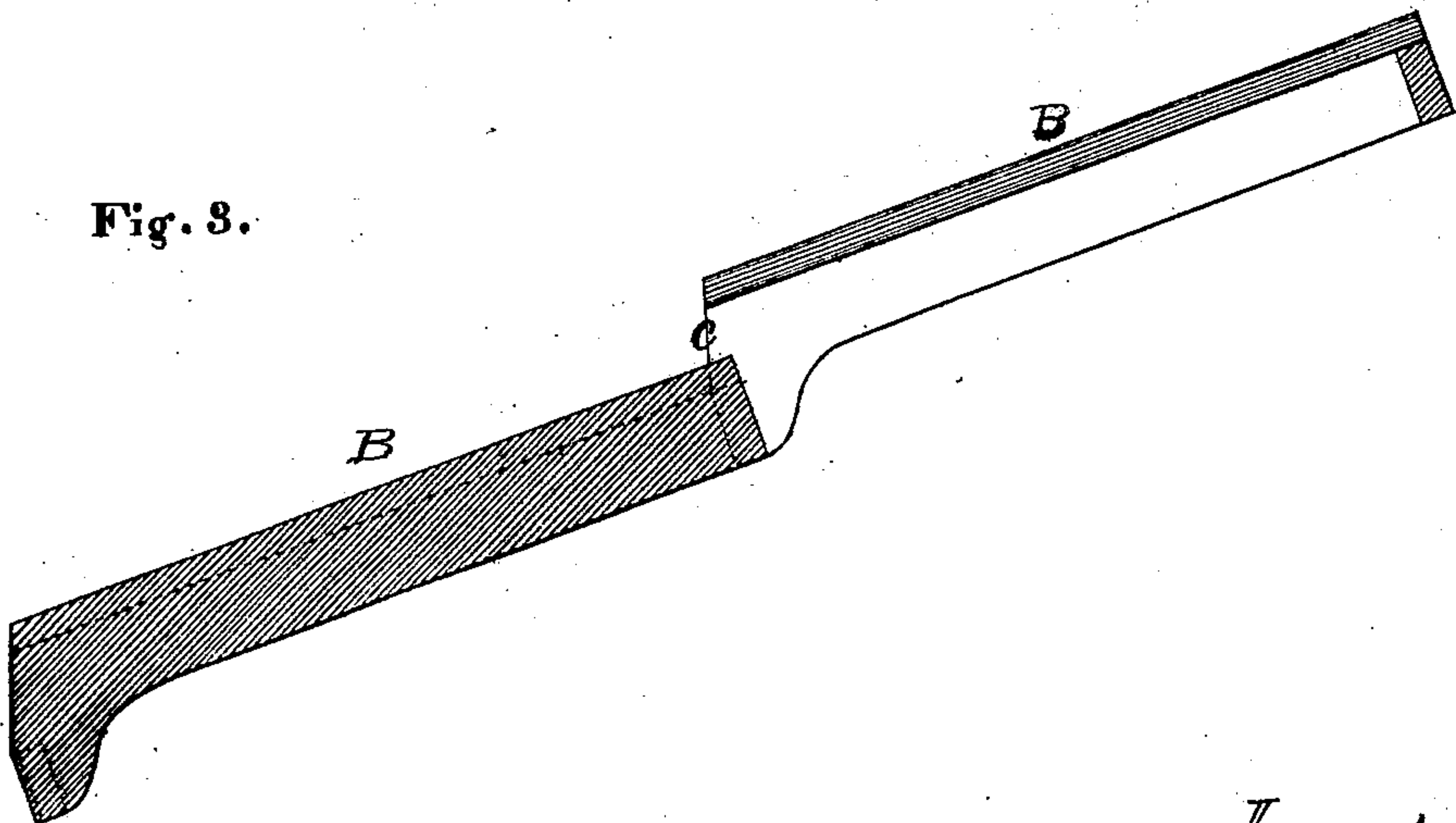
**Fig. 1.**



**Fig. 2.**



**Fig. 3.**



*Witnesses.*

*Villette Anderson*  
*Edw. P. Hall*

*Inventor.*

*Edward Thomas*  
*Chipman Homer & Co*  
*attys*

# UNITED STATES PATENT OFFICE.

EDWARD THOMAS, OF SHICKSHINNY, PENNSYLVANIA.

## IMPROVEMENT IN COAL-SCREENS.

Specification forming part of Letters Patent No. **109,969**, dated December 6, 1870.

*To all whom it may concern:*

Be it known that I, EDWARD THOMAS, of Shickshinny, in the county of Luzerne and State of Pennsylvania, have invented a new and valuable Improvement in Coal-Screens; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a plan view of my invention. Fig. 2 is a cross-section of the same. Fig. 3 is a longitudinal section.

My invention relates to certain improvements in coal-screens; and it consists in the form and arrangement of the bars, and in the manner of separating them into successive steps by means of offsets, whereby choking or clogging is effectually prevented.

The letter A of the drawing represents my screen, which is composed of successive steps B B, each of which is divided at *a a* by openings or spaces tapering upward into a number of bars, *b b*, tapering downward. These bars and spaces are so arranged that each bar shall terminate at the beginning of a corresponding space in the next succeeding step, and each space shall have its wider or lower end where the large end of a bar in the succeeding step is placed. In this manner a succession of bars *b* and spaces *a* alternate with each other throughout the entire length of the screen.

Each step or series of bars is separated from the succeeding step or series by the offsets *c*, which are the narrow ends of the bars them-

selves, extended downward and connected to the cross-bar *d*, which connects the ends of the succeeding series of bars.

My screen is designed to keep itself free and clean automatically. This is accomplished by the arrangement of the downwardly-tapering bars and the flaring spaces. The division of the screen into steps serves an important purpose in the same direction. The lumps of coal have no opportunity to stick or choke as they descend.

The cross-section of my bar is T-shaped, and the under surface of the flange is beveled upward from the rib to each edge of the bar.

The object of this formation is, that after the coal has passed between the edges of the bars there shall be no obstacle to its descent.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coal-screen made in successive steps, each step divided by tapering spaces into bars tapering in the opposite direction, substantially as specified.

2. A coal-screen composed of a succession of alternating T-shaped bars and downwardly-flaring spaces, arranged in steps and separated by offsets *c*, substantially as shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWARD THOMAS.

Witnesses:

SIMON REMALY,  
GEO. W. SEARCH.