(No Model.)

J. NORWOOD.

SCREEN.

No. 291,220. Patented Jan. 1, 1884.

Fig. 1.

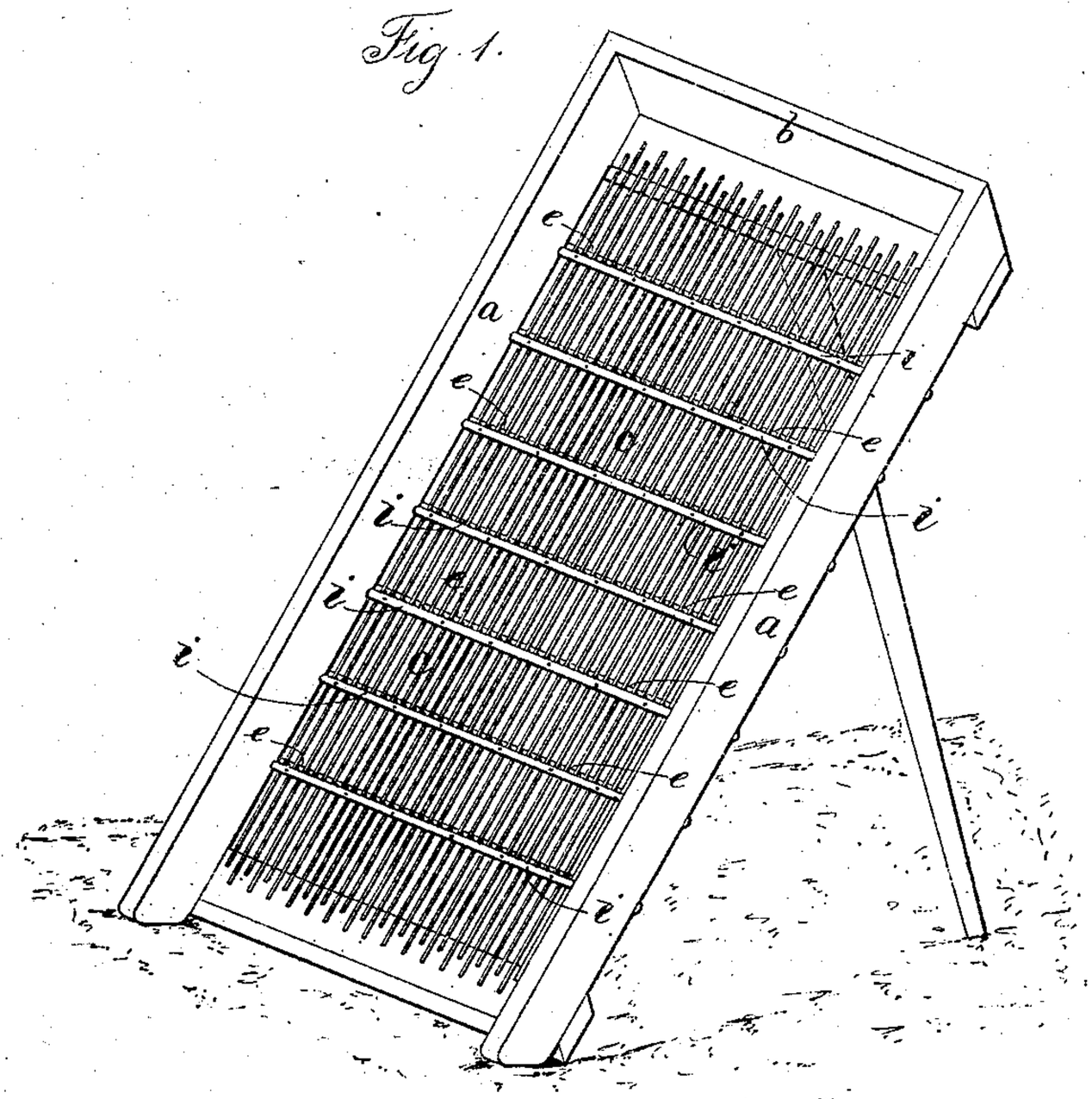


Fig. 2.

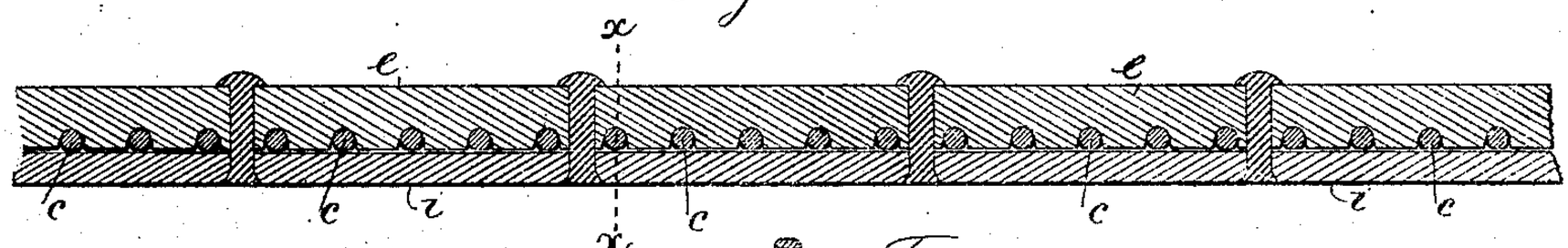
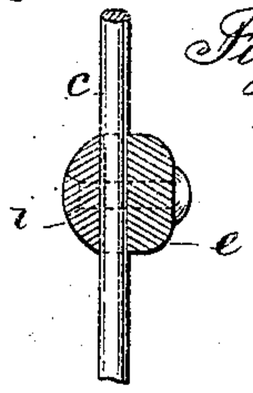


Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH NORWOOD, OF BROOKLYN, NEW YORK.

SCREEN.

SPECIFICATION forming part of Letters Patent No. 291,220, dated January 1, 1884.

Application filed October 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH NORWOOD, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Screens, of which the following is a specification.

This improvement is especially available for sand-screens in which the long wires are supported at intervals and there are side and top and bottom boards, but the improvement is available in screens of this general character regardless of the use to which such screens may be put.

In sand-screens it has been usual to hold the long wires at the proper distance apart by transverse bars and wires laced between the screen-wires and around them and the transverse bars. This involves considerable labor and renders the screen expensive, besides which the lacing-wires wear out and cannot be replaced except by an expert workman, and no provision is made for removing either of the longitudinal wires, if broken, and replacing the same by perfect ones. In my improved screen the longitudinal wires are received into transverse grooves in bars that are made of metal, preferably malleable cast-iron. These grooved bars pass across the back of the screen from side to side and at suitable intervals apart for supporting the longitudinal wires, and clamping-bars are placed above the malleable cast-iron bars and riveted thereto to hold the screen-wires in place. By this construction the wires are held very firmly, but can be drawn out and others substituted, if necessary; and the malleable cast-iron is very cheap, and there is very little of finishing required or of work in putting the parts together.

In the drawings, Figure 1 is a perspective view of a screen. Fig. 2 is a section through one of the grooved bars and clamping-bar transversely of the screen-wires, said parts being inverted from the ordinary position of use; and Fig. 3 is a cross-section of the clamping-bars at the line *x x*, Fig. 2.

The frame-work *a b* is of wood or other material, and of the proper size and shape, and the screen-wires *c c* are straight, or nearly so, and the cross-bars *e e* are preferably of malleable cast-iron, grooved transversely of a depth to receive the wires, and at a proper distance apart; and at *i* is a bar that is flat, or nearly so, preferably segmental, as shown in Fig. 3, and the same is secured to the bar *e* by rivets at suitable distances apart. The ends of the bars *e* pass into holes in the frame *a* or are screwed to the frame *a*, the screws passing through holes in the ends of the bars *e*, and these cross-bars are at suitable distances apart throughout the sand or other screen.

The bars *e e* may be of wrought-iron channeled transversely for the reception of the screen-wires, or they may be made of sheet metal corrugated to form the transverse grooves.

I do not claim a screen in which the ends of the wires are bent back and clamped, nor a cylindrical screen in which the bars are received into notched heads and secured by a ring.

I claim as my invention—

The combination, with the longitudinal wires *c c* in a flat screen, of the transverse bars *e e*, grooved for the reception of the wires *c*, and placed at suitable distances apart, the clamping-bars *i*, and the screen-frame *a b*, substantially as set forth.

Signed by me this 21st day of September, A. D. 1883.

JOSEPH NORWOOD.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.