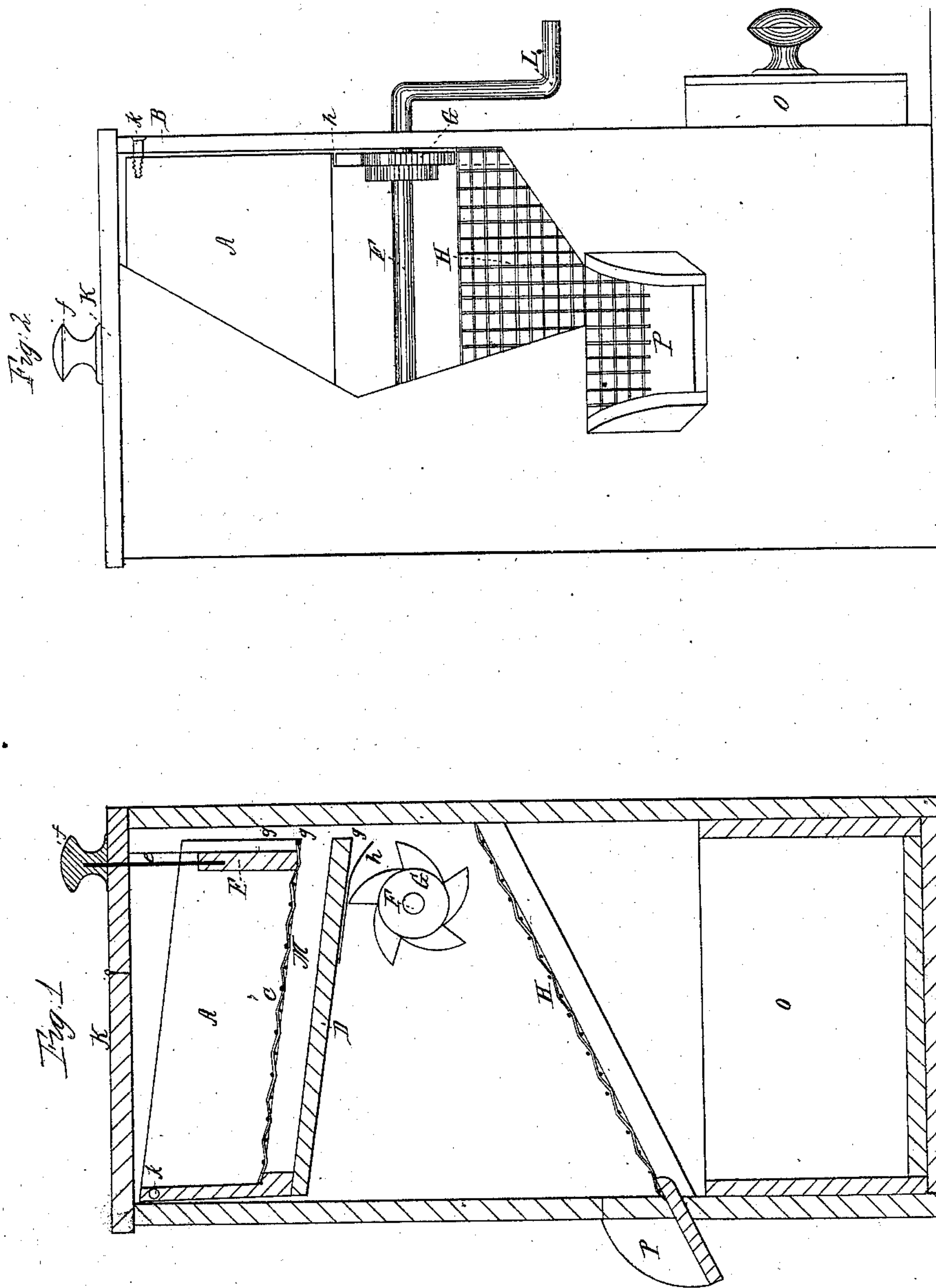


S. Langmaid,
Coal Screen.

N^o 66,718.

Patented July 16, 1867.



Witnesses:

S. F. Gates
John Elwood

Inventor:

Saml. Langmaid

United States Patent Office.

SAMUEL LANGMAID, OF LAWRENCE, MASSACHUSETTS.

Letters Patent No. 66,718, dated July 16, 1867; antedated June 28, 1867.

IMPROVED APPARATUS FOR SIFTING COAL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, SAMUEL LANGMAID, of Lawrence, in the county of Essex, and State of Massachusetts, have invented certain new and useful improvements in the Apparatus which is used for Sifting or Screening Coal, or other substances, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical central section, and

Figure 2 a front elevation after a portion of the said front has been removed.

In my said invention the upper or receiving and tilting-box A is pivoted or hinged near its top, and near the front side of the case which contains the sifting or screening apparatus, by a screw or pin, *k*, which passes through the end B of the case and enters the substance of the box A, or by a suitable hinge. The upper screen C is arranged a short distance above the bottom D of the box A, and a gate, E, which slides freely up or down, forms the rear side of said box. A crank-shaft, F, passing through the case from right to left, has two cams G secured thereto, just inside of the case and under the ends of the box A. And in some cases a spring, *h*, is fastened to the under side of the box to arrest the sudden drop or action of said box upon the cams when in operation. Beneath the crank-shaft I arrange an inclined screen, H, highest at the rear side of the case, directly under the crank-shaft and cams, and beneath this inclined screen is a draw, O, or other receptacle for ashes or other fine refuse matter, which may pass through the screen H.

The coal or other substance to be sifted or screened is placed in the tilting-box A, and the cover K of the case is closed to prevent escape of fine dust in that direction. Motion is given to the cams by turning the crank L. The horns in these rotating cams come in contact with the bottom of the box A, or the springs thereon, causing the rear side of the box to rise by contact of each of the horns, while the weight of the substance in the box and under operation forces the box down as each of the horns passes the point of action. The ashes or other fine waste matter passes through the screen C into a compartment, M, beneath, and by the action of the tilting-box works its way out at the rear side *g*, (which is open,) and falls on to the inclined screen H, and most of it passes through said screen into the receptacle below. After the ashes or other fine trashy or waste matter has been disposed of, the gate E is raised by the knob or handle *f*, and rod *e*, when, by continuing the sifting operation, the coal or other substance which has been sifted or screened will work its way out at the rear side of the tilting-box under the gate, and fall on to the inclined screen H, where it will tumble or slide forward and pass out through the front opening or spout P into any convenient coal-scuttle or other article placed there to receive it. The tilting-box A is slightly inclined, and highest at the front side, to facilitate the discharge of the ashes and the sifted coal at the rear. The upper screen may be coarser or have larger meshes than the lower screen, so as to allow some of the fine pieces of coal to pass through, and work out, and fall on to the lower screen, where they will pass down the incline and out at the spout P, thereby facilitating the sifting operation, and dividing the work more evenly between the two screens.

I contemplate the use of perforated sheet metal or slat work in lieu of the wire screens, and in some instances these slats or perforated metal screens may answer a good purpose when wire screens are not easily obtained.

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

The pivoted tilting-box A, constructed substantially as shown and described, in combination with the gate E, crank-shaft F, cams G, and inclined screen H, with or without the springs *h*, the whole arranged to operate substantially as and for the purpose set forth.

SAM'L LANGMAID.

Witnesses:

S. F. GATES,

JOHN E. CRANE.