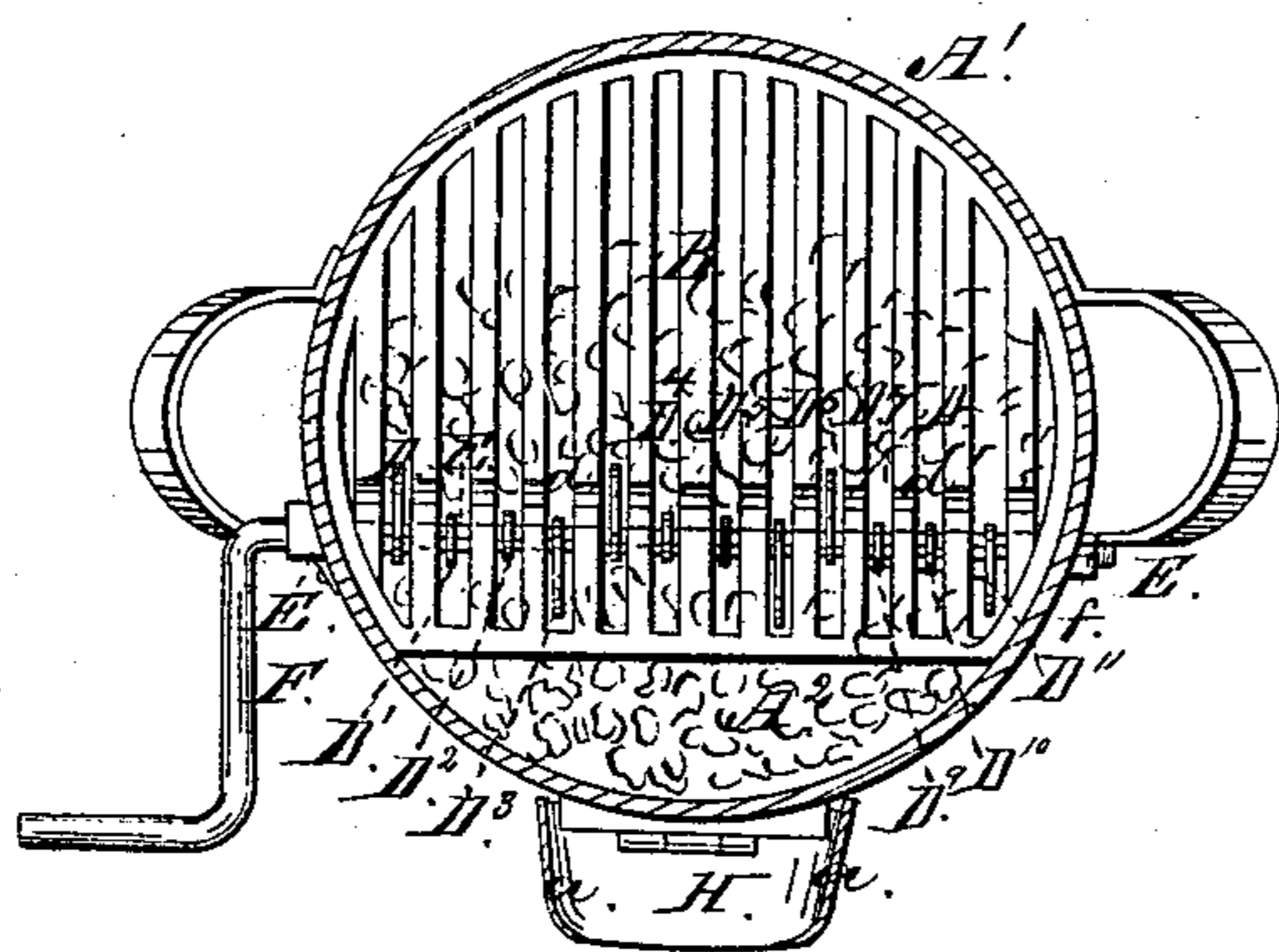


*G. Sickels,*  
*Coal Screen.*

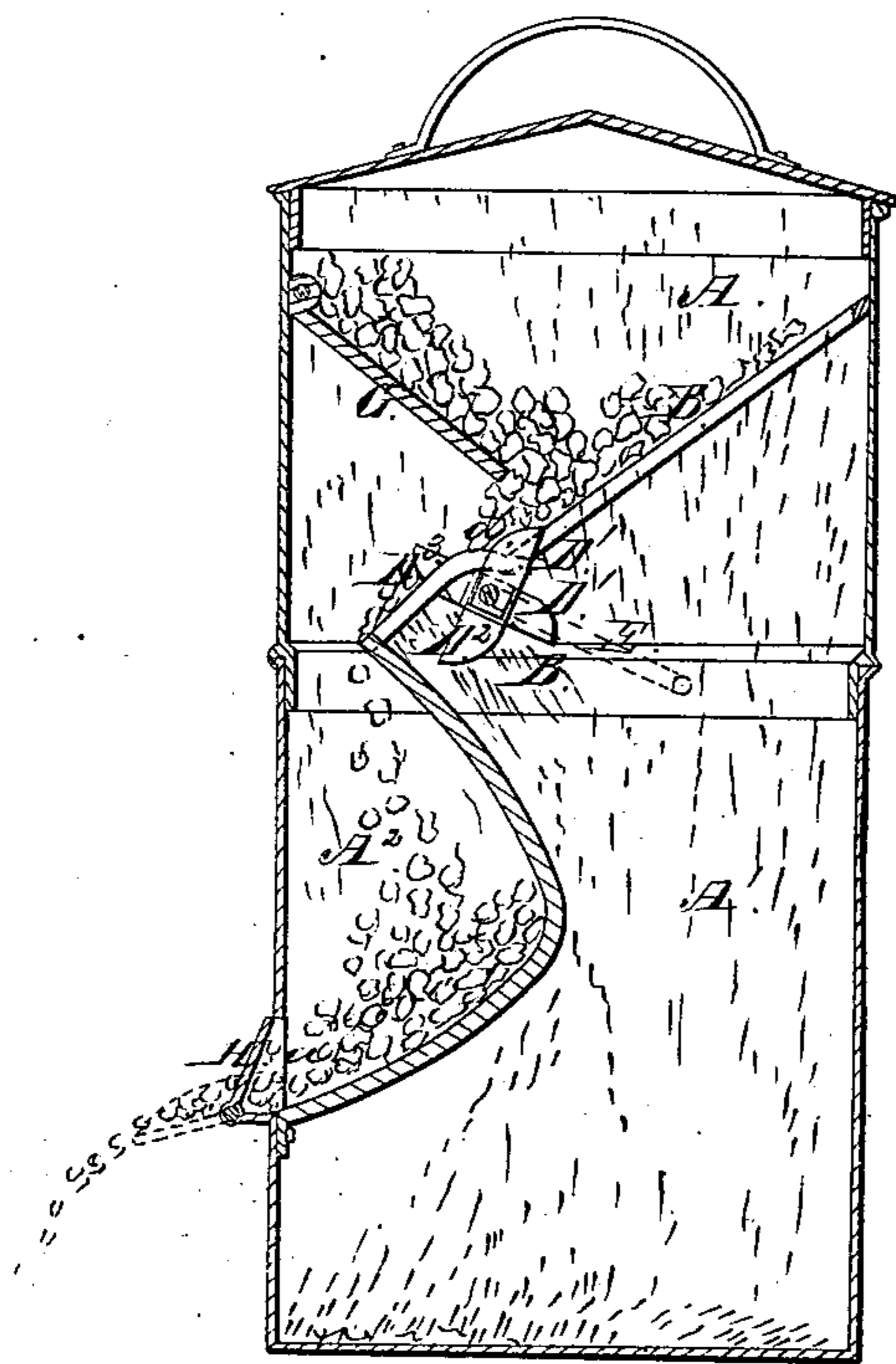
*N<sup>o</sup> 13,831.*

*Patented Nov 20, 1855.*

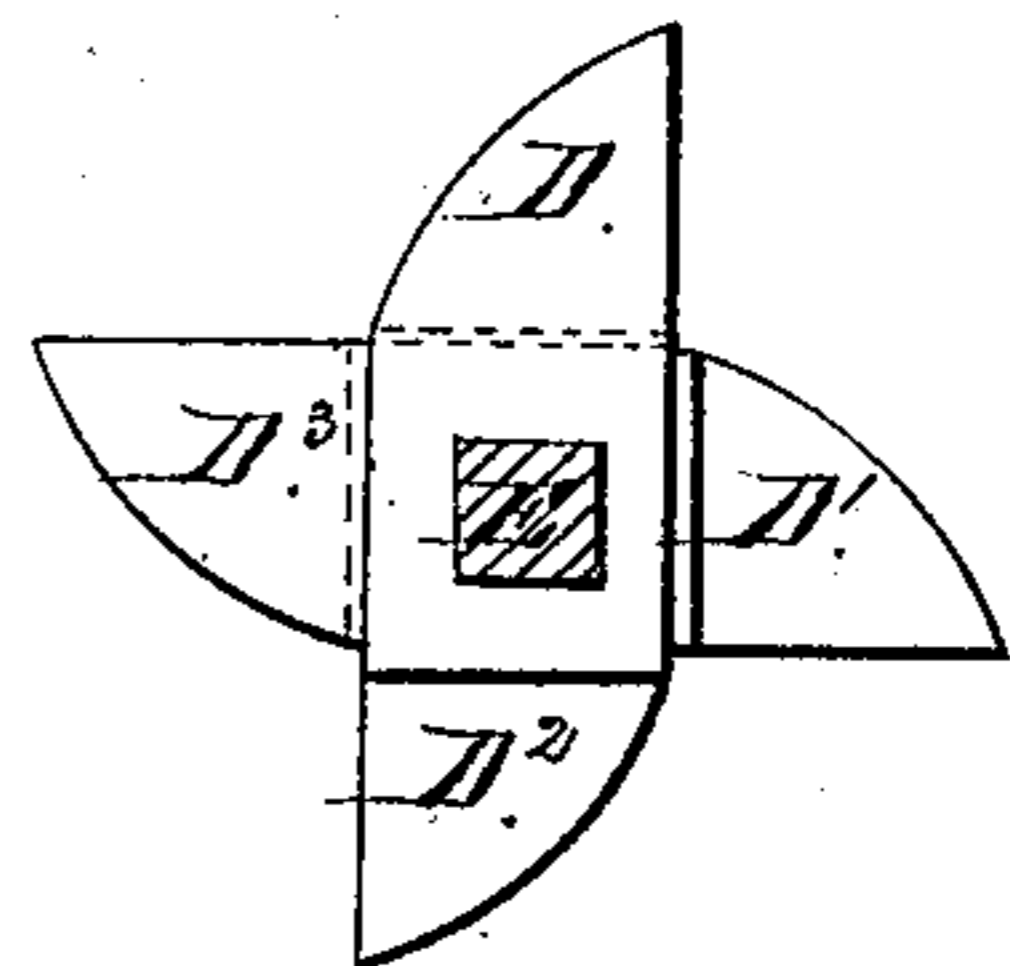
*Fig: 2.*



*Fig: 1.*



*Fig: 3.*



# UNITED STATES PATENT OFFICE.

GERARD SICKELS, OF BROOKLYN, NEW YORK.

## COAL-SIFTER.

Specification of Letters Patent No. 13,831, dated November 20, 1855.

*To all whom it may concern:*

Be it known that I, GERARD SICKELS, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Burned-Coal Sifters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a vertical transverse section of a burned-coal sifter with my improvements. Fig. 2, is a horizontal section of the same.

Similar letters of reference in each of the two figures indicate corresponding parts.

The nature of my improvement consists in the making of the lower portion of the cylinder or box with two chambers, one for ashes and the other for sifted coal, the coal chamber having its bottom inclined and being provided with a discharge door; this arrangement enabling me to confine the coal, and thus avoid dust, within the same cylinder in which the ashes are confined, without danger of the two mixing, while performing the sifting operation and when it is desired to remove the coal for use, automatically discharging it, when the discharge door is opened, on account of the inclination of the bottom upon which the coal falls as fast as sifted.

A, A', A<sup>2</sup>, represent the sifting cylinder or box; B, the inclined grate.

D, D', D<sup>2</sup>, D<sup>3</sup>, D<sup>4</sup>, D<sup>5</sup>, D<sup>6</sup>, D<sup>7</sup>, D<sup>8</sup>, D<sup>9</sup>, D<sup>10</sup>, D<sup>11</sup>, are the beaters; E, the shaft upon which they are arranged; F, the crank by which it is turned; G, the inclined shoe for conducting the coal on to the grate and H, the discharge door.

The sifting cylinder is made in two sections, the upper section A, serving for receiving the grate, while the lower section upon which A, rests loosely is made with two chambers A', A<sup>2</sup>, one of which A', serves as the ash receptacle and the other A<sup>2</sup>, for the sifted coal. The bottom of A<sup>2</sup>, is inclined so as to facilitate the discharge of the sifted coal, when the door H, is open.

And the door H, is hinged at the bottom of the discharge, provided with two guards or side flanges *a, a*, and made of such shape that it serves as a shoe for conducting the sifted coal from the sifter into a receiver, when the door is open. The cylinder is made in two sections and A placed loosely on A', A<sup>2</sup>, so that the two sections may be separated and the ashes emptied out of the lower section when necessary.

The grate B, is set inclined, as usual, so as to facilitate the discharge of the coal after being operated upon and the bars of the same are each made with two planes so as to present a momentary resistance at *d* to the coal as it falls from the shoe G, and thus prevent it passing into the chamber A<sup>2</sup>, too readily or before the beaters have time to come into operation.

The beaters D, D', D<sup>2</sup>, D<sup>3</sup>, D<sup>4</sup>, D<sup>5</sup>, D<sup>6</sup>, D<sup>7</sup>, D<sup>8</sup>, D<sup>9</sup>, D<sup>10</sup>, D<sup>11</sup>, are arranged fast on the shaft E, and are kept a suitable distance apart by the bars of the grate, they being put on the shaft after one end has been fitted in its bearing and before the grate is set in. By examining the drawing it will be seen that these beaters are arranged so that one to every four only shall come into operation at the same time and also that no two shall travel in the same line, for instance, D, D<sup>4</sup>, D<sup>8</sup>, coming into operation first, D', D<sup>5</sup>, and D<sup>9</sup>, next and so on up to D<sup>11</sup>, they, in their revolution stripping the coal of its ashes and lifting and forcing it over the stop at *d*, and in connection with the inclined grate causing it to fall down into the chamber A<sup>2</sup>, while the ashes fall down through the bars of the grate into the chamber A'.

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

The peculiar manner of dividing the cylinder at A', A<sup>2</sup>, for the purpose of furnishing a receptacle for the separated ashes and coal, substantially as specified.

GERARD SICKELS.

Witnesses:

J. G. MASON,  
WM. TUSCH.