

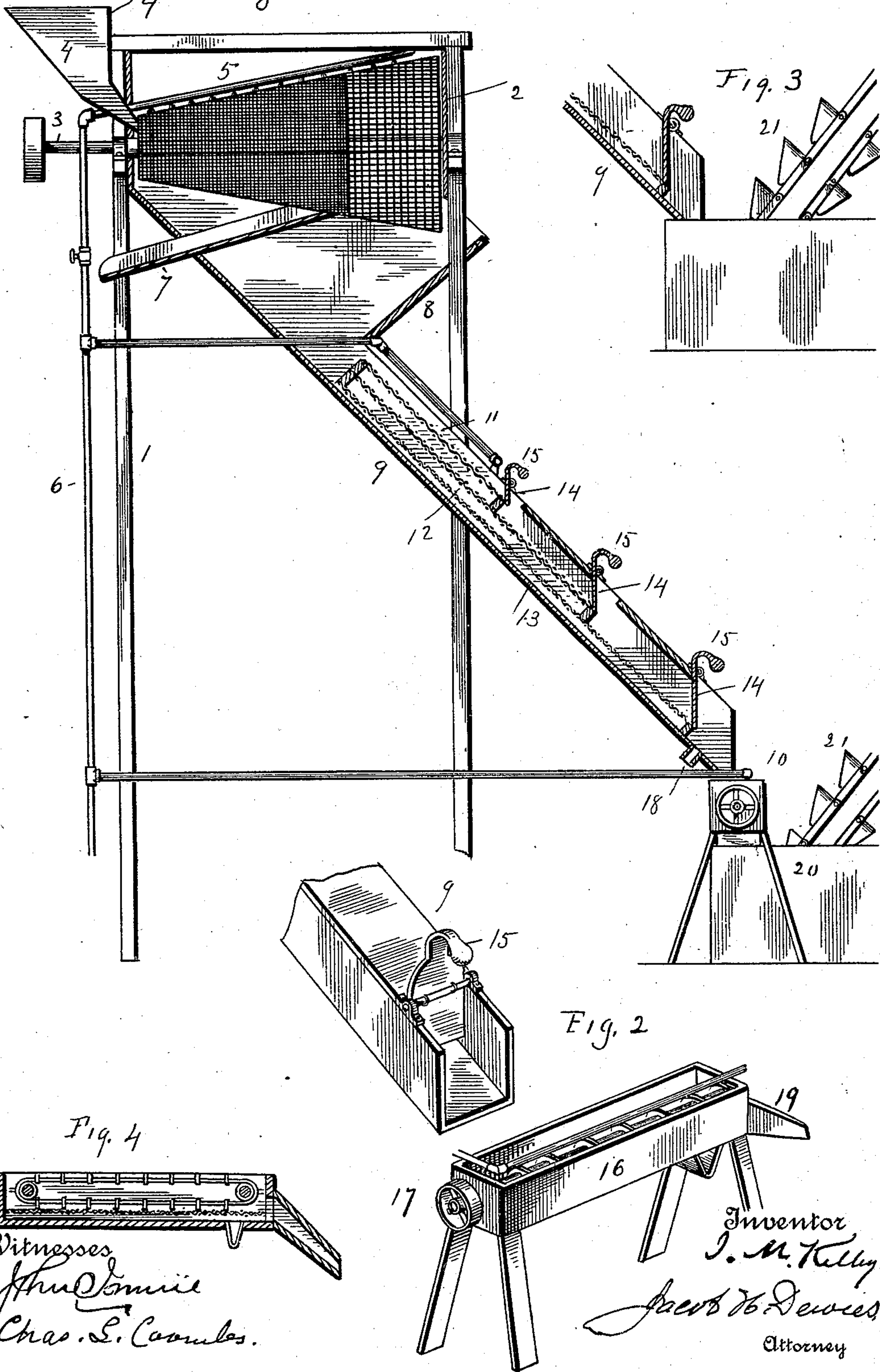
(No Model.)

I. M. KELLEY.

APPARATUS FOR SEPARATING SULFUR FROM COAL.

No. 572,548. *Fig. 1*

Patented Dec. 8, 1896.



UNITED STATES PATENT OFFICE.

ISAAC M. KELLEY, OF CLARKSBURG, WEST VIRGINIA, ASSIGNOR OF ONE-FOURTH TO LLOYD REED, OF SAME PLACE.

APPARATUS FOR SEPARATING SULFUR FROM COAL.

SPECIFICATION forming part of Letters Patent No. 572,548, dated December 8, 1896.

Application filed April 25, 1896. Serial No. 589,028. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. KELLEY, a citizen of the United States, residing at Clarksburg, in the county of Harrison and State of West Virginia, have invented certain new and useful Improvements in Apparatus for Separating Sulfur from Coal; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to an improved machine for separating sulfur from coal and apparatus whereby such separation may be effected; and it consists in screening the coal at successive steps, as will be more fully hereinafter explained, and specifically pointed out in the claim.

Referring to the drawings, Figure 1 represents a side elevation of my apparatus, partly in side elevation and partly in section. Fig. 2 represents a detail perspective view of the lower end of the conveyer-chute forming part of my apparatus. Fig. 3 is a detail view showing the chute emptying directly into the receiving box or receptacle, and Fig. 4 represents a sectional view of a conduit in which a "drag" is substituted for the screw-conveyer.

Referring to the drawings, the numeral 1 indicates a framework of suitable construction, which supports the various working parts of the apparatus.

The numeral 2 indicates a conoidal screen having a central shaft 3, which is journaled in suitable bearings 4 in the framework.

Above the rotatable screen and entering its forward or contracted end is located a funnel or hopper 4, by means of which the coal may be passed into the screen. Above the screen is located a pipe 5, connected to a water-supply pipe 6, by means of which water may be distributed through the screen and the coal therein. The screen is composed of two sections of wire or comminuted material having meshes of different sizes, and below the juncture of the smaller and larger meshes is located a conduit 7 to carry off the water from the forward part of the screen.

Below the screen is located a hopper 8,

which is suitably supported in the framework. From the lower part of said hopper extends a chute 9 obliquely, the lower end of which sets over one end of a conveyer-trough 16, so as to discharge the coal into the same, as more fully hereinafter explained. The chute 9 is provided with a series of foraminous screens 11, 12, and 13, of different-sized meshes, as shown in Fig. 1, and at the lower end of each screen is located a gate 14, having a weighted lever 15 to hold it and the descending coal until sufficient is accumulated to open the gate and permit the discharge of the coal.

The numeral 16 indicates the conveyer-trough, in which is located a screw conveyer, one end of which projects beyond its bearing and is provided with a band-pulley 17, by means of which motion may be imparted to it by a suitable belt.

In the modification shown in Fig. 4 of the drawings a belt having a series of drag-plates is substituted for the screw conveyer.

The chute near its lower end is provided with a spout 18 to carry off the water and the sulfur separated from the coal.

The conveyer-trough at its forward end is provided with a spout 19, which extends over a box or receptacle 20, into which the purified coal is discharged. From the said box extends an elevator-belt provided with buckets 21, by means of which the purified coal may be carried off to any suitable place.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination with the rotatable screen, composed of sections having different-sized meshes, of the water-distributing pipe, the conductor leading from a point below the juncture of said sections, the hopper located below the screens and a chute provided with a series of screens one below and projecting beyond another, of different lengths and sizes of mesh, and the gates at the lower ends of the screens provided with weighted levers, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC M. KELLEY.

Witnesses:

I. E. TODHUNTER,
CHAS. L. COOMBS.