

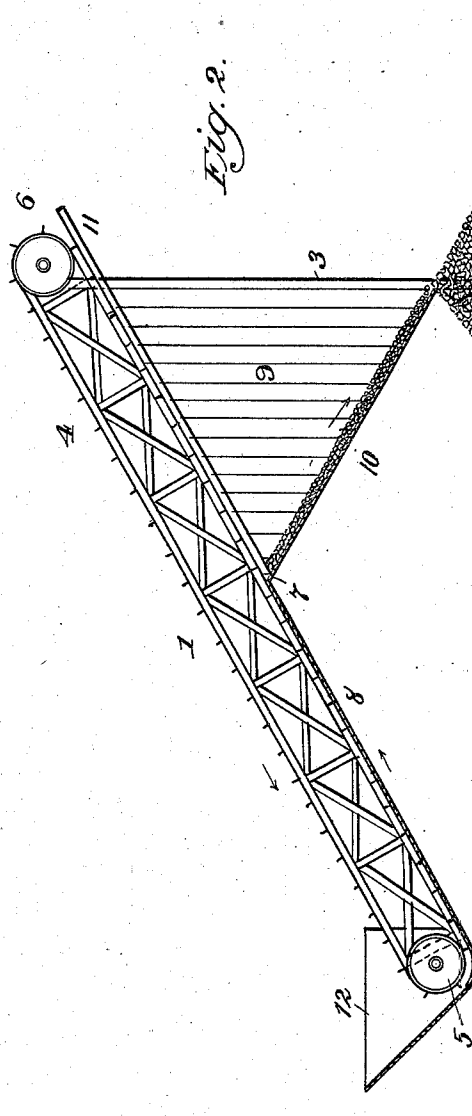
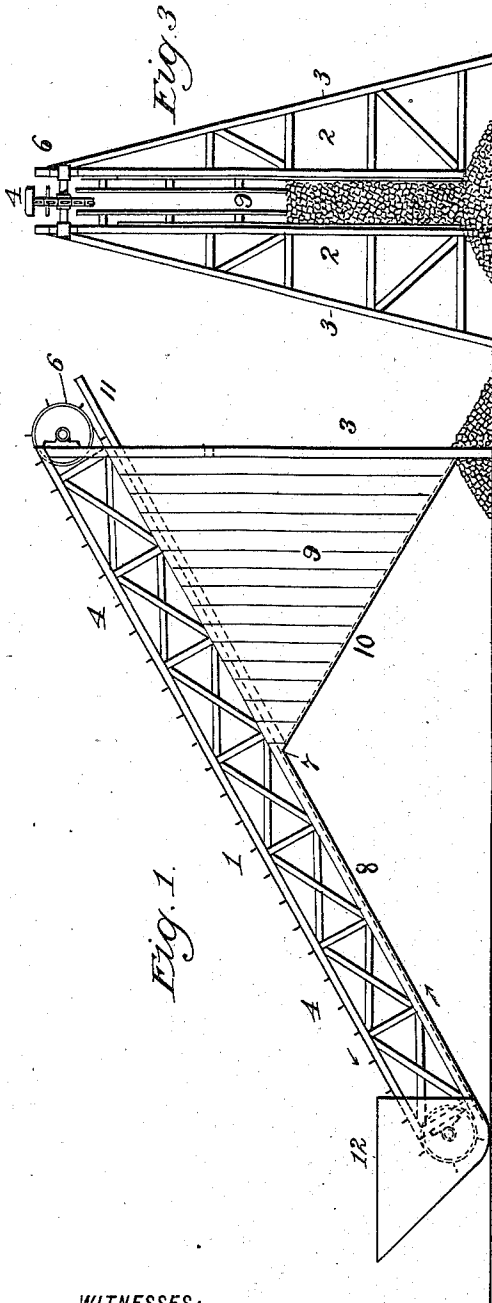
(No Model.)

2 Sheets—Sheet 1.

J. H. MITCHELL.
APPARATUS FOR PILING COAL.

No. 562,409.

Patented June 23, 1896.



WITNESSES:

Edward C. Rowland.
Beatrice M. Donaldson.

INVENTOR

James H. Mitchell.
BY A. M. Pierce.

ATTORNEY

(No Model.)

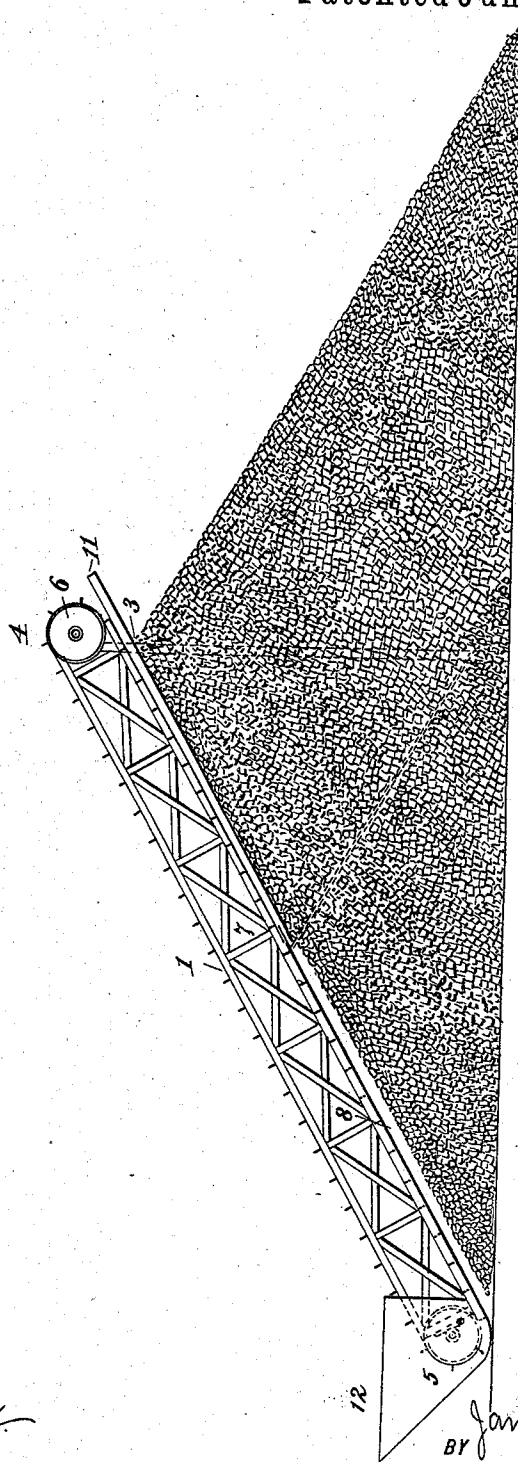
2 Sheets—Sheet 2

J. H. MITCHELL.
APPARATUS FOR PILING COAL.

No. 562,409.

Patented June 23, 1896.

Fig. 4.



WITNESSES:

Edward G. Rowland.

Beatrice M. Donaldson.

INVENTOR

BY *James H. Mitchell.*
A. M. Pierce.

ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES H. MITCHELL, OF PHILADELPHIA, PENNSYLVANIA.

APPARATUS FOR PILING COAL.

SPECIFICATION forming part of Letters Patent No. 562,409, dated June 23, 1896.

Application filed August 26, 1895. Serial No. 560,474. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. MITCHELL, a citizen of the United States, and a resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Apparatus for Piling Coal and other Granular Material, of which the following is a specification.

My invention relates especially to devices employed for piling coal or analogous granular material, and has for its object the provision of a method and mechanism whereby a conical pile of any desired height may be formed without causing the material to fall from a height so as to break or injure it.

To attain the desired end, my invention consists in certain novel and useful combinations or arrangement of parts and peculiarities of construction and operation, all of which will be hereinafter fully described, and then pointed out in the claim.

In the accompanying drawings, forming a part hereof, Figure 1 is a side elevation of a device designed to carry my invention into effect. Fig. 2 is a like view with the side of the channel-way and of the conducting-throat removed. Fig. 3 is a view of the device in end elevation, looking from the right of Fig. 1. Fig. 4 is a side elevation showing a completed pile of coal.

Similar numerals of reference wherever they occur indicate corresponding parts in all figures.

By this invention, a conical pile of coal may be formed to any desired height, and in the act of forming the pile the coal will settle or move by gravity to the angle of repose, the pile being built up from the center, vertically, by means of an inclined throat or slideway, the bottom of which inclines at an angle of about thirty degrees to the base-line of the pile, the channel-way conducting to said throat being at the same angle, but having a reverse inclination. The vertical part of the throat is entirely open at the axis of the pile being formed, the pile forming around the throat radiating in all directions from its vertical axis.

Means are provided whereby the coal is dragged up the inclined channel-way, so as to flow into the piling-throat, being carried by gravity to the bottom, which is near the

ground or support of the pile, so that the coal in falling will not be damaged to any extent by the slight drop. As this small pile is added to by the constant flow of coal down through the inclined throat, it will finally cover the lower portion of the throat and settle around all sides and under the throat, and a continuation of the supply of coal will cover the bottom of the throat, so that the descending coal will flow or roll over itself in the throat and out of the open front thereof, piling up and radiating around this opening, thereby continually increasing the diameter and height of the pile until the coal has reached the top of the throat and conveyer, the throat being now entirely submerged and covered. After the first small initial pile is formed, as illustrated in Figs. 1 and 2 of the drawings, the subsequent formation of the pile will be entirely done by the coal seeking, by gravity, the angle of repose in and around the throat. By this means the entire pile is formed about its vertical axis; the coal flowing gently over the bottom of the throat and over itself, at no time being subjected to violent shocks such as will tend to break or disintegrate the lumps or pieces.

Referring to the drawings, 1 is an inclined channel-way supported at an angle of about thirty degrees by vertical beams 2 and braces 3. This channel-way is provided with the usual flights 4, traveling in the direction of the arrows over chain-wheels 5, and power being applied in any desired manner. The channel-way 1 is provided with a fixed bottom 8 up to the point marked 7, whereby the coal will be carried up to the point 7 continuously. When it reaches this point, it enters the left-hand portion of the throat 9, the bottom 10 of said throat or slideway sloping at substantially an angle of thirty degrees, which is the natural angle of the repose of coal, and will necessarily descend by gravity, passing from the throat at its lower extremity and forming the initial piling, the pile increasing and building its apex higher and higher as the base of the throat is filled, the coal flowing gently over itself by gravity.

To give support to the flights after they pass from the fixed bottom 8 of the channel-way 1, slide-pieces 11 are provided, between which the coal readily passes, and after the

flights have left the point 7 they propel the coal forward until the entire throat is filled, the coal itself forming a bottom to the slide-way as this occurs.

5 At 12 is a hopper, into which the coal is fed in any desired or convenient manner, so it may be carried up the slideway.

Having now fully described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

10 A device for piling coal in which is comprised a channel-way ascending at an angle of substantially thirty degrees; a conveyer arranged to travel through said channel-way,

and beyond the said fixed bottom thereof to the proposed apex of the pile, and a throat or slideway having its bottom sloping at substantially an angle of thirty degrees from the bottom of the ascending slideway, to the axis of the proposed pile, substantially as shown and described. 15 20

Signed at New York, in the county of New York, and State of New York, this 20th day of August, A. D. 1895.

JAMES H. MITCHELL.

Witnesses:

A. M. PIERCE,

BEATRICE M. DONALDSON.