

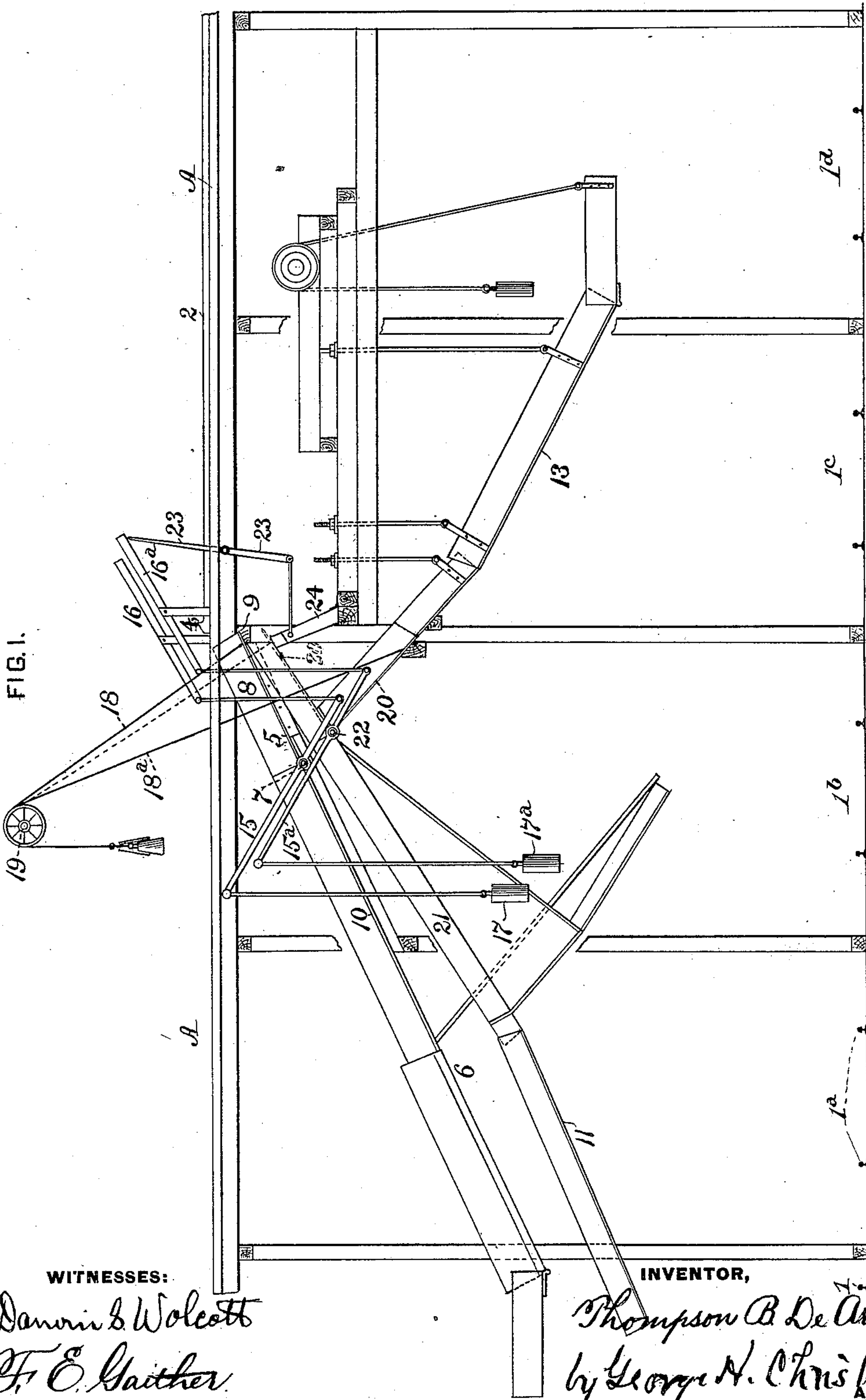
(No Model.)

2 Sheets—Sheet 1.

T. B. DE ARMIT.
COAL TIPPLE.

No. 424,098.

Patented Mar. 25, 1890.



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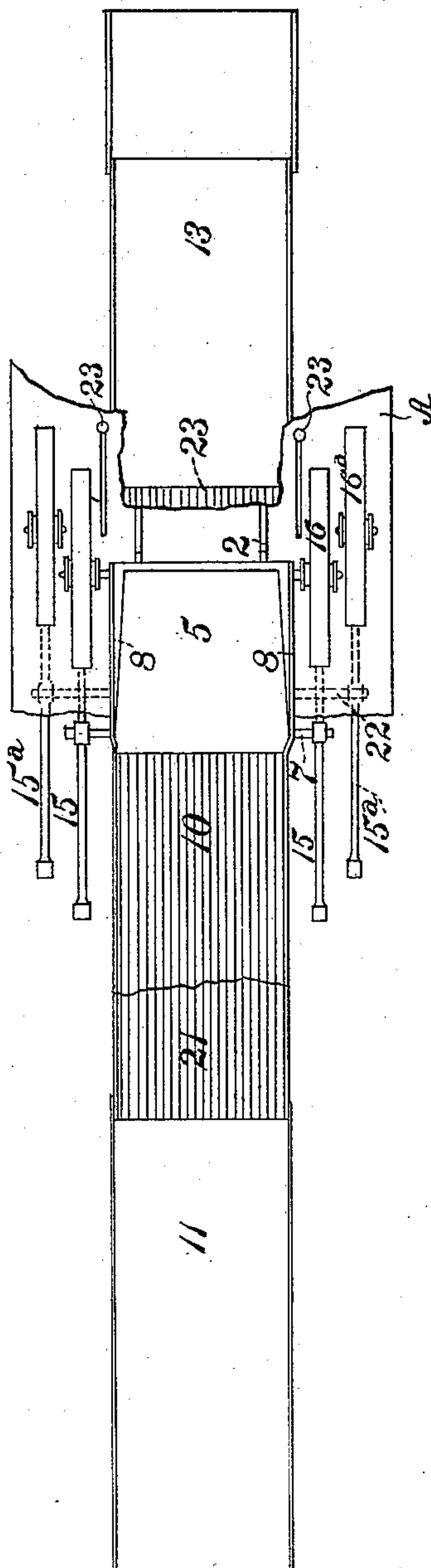
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FIG. 2.



WITNESSES:

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INVENTOR,

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UNITED STATES PATENT OFFICE.

THOMPSON B. DE ARMIT, OF TURTLE CREEK, PENNSYLVANIA.

COAL-TIPPLE.

SPECIFICATION forming part of Letters Patent No. 424,098, dated March 25, 1890.

Application filed January 11, 1890. Serial No. 336,686. (No model.)

To all whom it may concern:

Be it known that I, THOMPSON B. DE ARMIT, a citizen of the United States, residing at Turtle Creek, in the county of Allegheny and State of Pennsylvania, have invented or discovered certain new and useful Improvements in Coal-Tipples, of which improvement the following is a specification.

The invention described herein relates to certain improvements in coal-tipples, which are employed for the distribution of the product of mines into railway-cars or other vehicles in accordance with the grade of coal. It is customary for the miner to load the black coal into one car and the stained coal into another, the two grades or kinds of coal being kept separate as far as possible. The loaded mine-cars are then made up into trains of about ten cars each, irrespective of the quality of coal contained in such cars. These trains, which may consist of seven cars of good black coal and three cars of stained coal or of five cars of each grade of coal, are then hauled to the mouth of the mine by mules or other suitable power and there drilled or shifted, the cars containing one grade of coal being sent down the tippie to be discharged into the railway-cars on the tracks below the tippie, while the mine-cars containing the other grade are held on sidings until the railway-cars for such coal can be placed under the tippie. As it is not practicable to continually shift the railway-cars back and forth, it is customary to hold the mine-cars containing one grade of coal on the sidings until a sufficient number have accumulated to load several railway-cars; hence a large number of mine-cars are required to compensate for those held on the sidings and the trains of empty cars returned to the mine are unequal in number, dependent upon the number of cars held on the sidings. This shifting and sorting of the cars in accordance with the coal to be discharged into the railway-cars imposes a great deal of labor, trouble, and expense in the operation of mines.

The object of this invention is to provide means whereby the mine-cars may be unloaded in regular succession as they come from the mine, and the coal be distributed by

the tippie attendant into the proper railway-cars in accordance with the grade thereof.

In general terms the invention consists in the construction and combination or arrangement of mechanical devices or elements, all as more fully hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view, shown partly in section and partly in elevation, of a coal-tippie embodying my invention for the distribution of the coal from the mine into railway-cars; and Fig. 2 is a plan view of my improvement, the track-platform being removed.

The tippie, which is constructed in all its general features in the usual manner, consists of a frame-work supporting at a considerable distance above the railroad-tracks 1 1^a 1^b, &c., a platform A, upon which the mine-cars pass as they come from the mine. At a suitable point on such platform is formed an opening through which the coal is discharged for distribution into the railway-cars, as hereinafter described, and the track 2 upon such platform is provided with a stop 4, to arrest the motion of the mine-car at the proper point for the discharge of its contents through the opening in the platform. Immediately below this opening in the platform is arranged what is termed a "dead-plate" 5, upon which the coal is dumped, and passes thence down the several chutes, as hereinafter described. This dead-plate, which is usually formed of metal, so as to prevent injury, has heretofore been made stationary, so that all the coal dumped thereon passes down through the chute 6, arranged in line therewith, as shown. In lieu of such stationary arrangement of the plate I secure it along its lower edge to a shaft 7, mounted in suitable bearings in side plates 8, as shown in Fig. 2, and support said plate along its upper edge in normal position by a transverse beam 9, as shown. It is evident that so long as the plate 5 remains in its normal position, as shown in Fig. 1, any coal which may be dumped thereon will pass down over the screen 10, and thence along the chute 6 to the car on the track (not shown) underneath the end of said chute, except such portions of the coal as are sufficiently small to

permit of their passage through the screen 10, such portions being delivered to their cars by the chute 11, arranged under the screen 10 and chute 6.

5 In order to provide for the distribution of the same or a different grade of coal into the cars in the track 1^a, the dead-plate 5 is raised to the position indicated by dotted lines in Fig. 1, thereby permitting the coal from the
10 mine-car to drop onto the dead-plate 20, forming a part of the chute 11. The coal thus deposited upon the dead-plate 20 will pass down over the screen 21 and along to chute 11 to a car on the track 1. When, however, a mine-car
15 containing a different grade—such as stained or inferior coal—comes down along the platform, the dead-plate 20 is also turned down into the position indicated in Fig. 1, thereby permitting the stained coal to be dumped into the
20 chute 13, which will carry the coal off to a car on another track 1^a, as shown in Fig. 1. This chute 13 is also provided with a screen 23, as shown in Fig. 2. To the ends of the shafts 7 and 22 of the dead-plates are secured lever-arms
25 15 and 15^a, and to one end of each of said levers are connected operating-levers 16 and 16^a, and to the other end thereof are attached counterbalancing-weights 17 and 17^a. To assist in the tipping movement of the dead-
30 plates, further counterbalancing-weights are connected to the front or free end of the dead-plates by flexible connections 18 and 18^a, passing over pulleys 19. The operating-levers 16 and 16^a are located, as shown, in convenient
35 proximity to the stop 4 of the track on the platform, thereby enabling the operator to inspect the coal as it comes in each mine-car, and by properly manipulating the dead-plates to direct the coal into the proper chutes accord-
40 ing to its quality. It will be observed that when turned up the dead-plate 5 forms a barrier to the passage of any coal into the chute 6.

45 The free end of the dead-plate 20 is supported in the position indicated in dotted lines to direct coal down the chute 6, a post 24 being pivoted at its lower end to one of the timbers of the tipple in such manner as to freely permit the plate to be moved up into position,
50 the post dropping under the end of the plate. When it is desired to drop the dead-plate 20 into line with the chute 13, the post 22 is pulled

from under the plate by means of a lever 23, and the plate is shifted in the usual manner.

To those skilled in the art it will be readily 55 apparent that by the use of the adjustable dead-plates the operations of the mine are greatly facilitated. As, for example, it is not necessary to shift or drill any of the cars at the mouth of the mine, sending part down 60 onto the tipple and holding part on the switches; but all can be sent down and discharged one after the other, the tippelman effecting the proper distribution of the coal by shifting the dead-plates. 65

Any other arrangement or construction of dead-plates whereby the same can be interposed in or removed from the path of the coal as discharged from the mine-car may be employed. As, for example, the plate may 70 be made to slide down into the chute 6 or removable in any other suitable manner from its normal position, as shown.

The number of chutes with screens and dead-plates may be increased, as will be read- 75 ily understood by those skilled in the art, so as to provide for the proper distribution of varying grades and sizes of coal into the proper cars.

I claim herein as my invention— 80

1. In a coal-tipple, the combination of two or more chutes, each provided with screens and arranged to direct the coal into different cars, and a movable dead-plate for directing the coal into different chutes and over differ- 85 ent screens, substantially as set forth.

2. In a coal-tipple, the combination of two or more chutes, each provided with screens, a dead-plate pivoted along one edge, and means for shifting the dead-plate, so as to 90 direct the coal over different screens and into different cars, substantially as set forth.

3. In a coal-tipple, the combination of a series of three or more chutes, and a series of two or more movable dead-plates for direct- 95 ing the coal into the chutes as desired, and means for shifting the dead-plates, substantially as described.

In testimony whereof I have hereunto set my hand.

THOMPSON B. DE ARMIT.

Witnesses:

DARWIN S. WOLCOTT,
R. H. WHITTLESEY.