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W. J. PATTERSON.
CONVEYER.

APPLICATION FILED JULY 13, 1906.

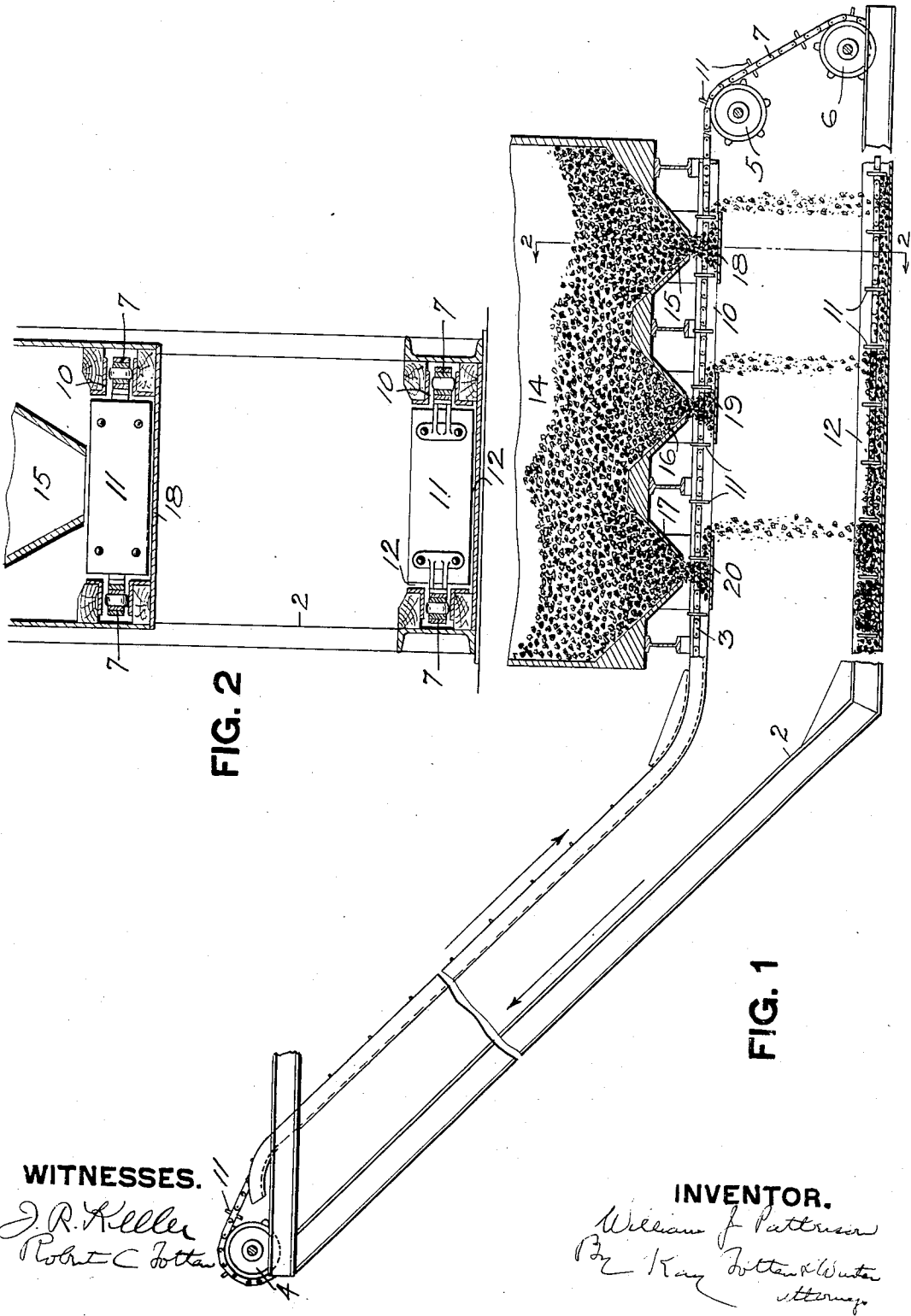


FIG. 2

FIG. 1

WITNESSES.

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WILLIAM J. PATTERSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO
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CONVEYER.

No. 835,288.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM J. PATTERSON, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Conveyers; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to conveyers, and more particularly to what are known as "drag-conveyers."

The object of my invention is to provide for the use of the upper strand of an ordinary drag-conveyer as a feeder to deliver material to the lower or conveying strand in such manner that the material to be conveyed may be discharged from two or more hoppers and delivered in proper proportions to the lower or conveying strand so that the conveying-strand will be filled up by successive additions of the material delivered thereto by the upper strand. This feature is of particular use when the conditions are such that it would require an excessive height to conduct all of the material by gravity to one hopper.

To these ends my invention comprises, generally stated, a drag-conveyer so arranged in connection with a plurality of discharging-hoppers that the material discharged from said hoppers will be received in feed-boxes below said hoppers and through which the upper strand of the conveyer passes, so that the flights of the conveyer will act to deliver the material from said boxes to the lower strand of the conveyer in proper proportions, each successive box depositing its supply of material upon the material deposited by the preceding box until the receptacle inclosing lower strand of the conveyer has been loaded to its full capacity.

In the drawings, Figure 1 is a side elevation, partly in section, of a drag-conveyer with my invention applied thereto. Fig. 2 is a cross-section on the line 2 2, Fig. 1.

In the drawings the numeral 2 designates a suitable framework for supporting the conveyer 3. Sprocket-wheels 4, 5, and 6 are provided at the top and bottom of the frame 2 to receive the chains 7 of the conveyer 3, all as in the ordinary manner. The conveyer may be driven by suitable power. The chains 7 are adapted to travel in the guideways 10 formed in the framework, and said chains are

connected by the flights 11 by means of which the material to be conveyed is carried through the receptacle 12 of the lower strand to the point of discharge at the top of the frame 2.

Located above the conveyer is the bin 14, which has the discharge-hoppers 15, 16, and 17 arranged at suitable intervals apart. The outlets of these discharge-hoppers 15, 16, and 17 communicate with the feed-boxes 18, 19, and 20, respectively. These feed-boxes are of such dimensions that when the coal in passing from the discharge-hopper to said boxes takes its natural slope from the chute to the bottom plate of the feed-box the amount of coal or other material within the feed-box will be the proper proportion to be delivered to the receptacle 12 of the lower strand of the conveyer, so that as each feed-box discharges its contents into the receptacle 12 in succession said receptacle will be filled substantially evenly to its full capacity.

The conveyer 2, with its flights 11, passes on its return through the boxes 18, 19, and 20 and carries the material discharged from the hoppers 15, 16, and 17 from the feed-boxes so as to drop into the receptacle 12 below.

When my improved conveyer is in use in connection with the conveying of coal which has been crushed or passed through a screen and stored in the bin 14, the coal descends into the hoppers 15, 16, and 17, and the boxes 18, 19, and 20 being of the proper capacity the material discharged into the said boxes will remain therein until the conveyer is put in motion. Upon power being applied to drive the conveyer 3 the flights 11 in passing through the feed-boxes 18, 19, and 20 will discharge the contents thereof so that the coal will drop into the receptacle 12 below, in which the lower strand of the conveyer travels. It is apparent that by regulating the capacity of the feed-boxes 18, 19, and 20 the coal discharged from the box 18 will be sufficient to take up one-third of the capacity of the receptacle 12, while the coal from the box 19 will add a third more to the contents of the receptacle 12, and finally the box 20 will fill the receptacle 12 to its full capacity. As these boxes discharge their proportionate amounts successively, it is apparent that the receptacle 12 at that portion beneath the feed-box 20 will be filled to its full capacity

and the conveyers will carry up the quantity of coal made up of three successive additions from the boxes and will discharge this coal at the upper end of the frame 2, whereupon the conveyers pass down the incline and through the feed-boxes, thus keeping up a constant supply in proper proportions from the feed-boxes to the lower strand of the conveyer. In this manner I provide for the conveying of the material and attain the full capacity of the lower strand of the conveyer without passing the lower strand of the conveyer directly through a mass of material discharged from one hopper, as has been the custom ordinarily heretofore. By supplying the material to the lower strand of the conveyer by successive increments the strain on the conveyer is relieved and at the same time the conveyer is worked to its full capacity.

It is apparent that additional hoppers may be employed, as well as feeding-boxes, or only

two feeding-boxes may be employed, according to the required capacity of the plant.

What I claim is—

In a conveyer comprising an upper and lower strand, a receptacle through which the lower strand passes, two or more feed-boxes in the path of the upper strand, and means for feeding the material to be conveyed by successive increments from said boxes to said receptacle below, whereby each successive box deposits its supply of material upon the material deposited by the preceding box until the said receptacle has been loaded at its discharge end to its full capacity.

In testimony whereof I, the said WILLIAM J. PATTERSON, have hereunto set my hand.

WILLIAM J. PATTERSON.

Witnesses:

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J. R. KELLER.