No. 703,277. Patented June 24, 1902.

B. KELLY.

DUMPING APPARATUS.

(Application filed Oct. 21, 1901.)

(No Model.)

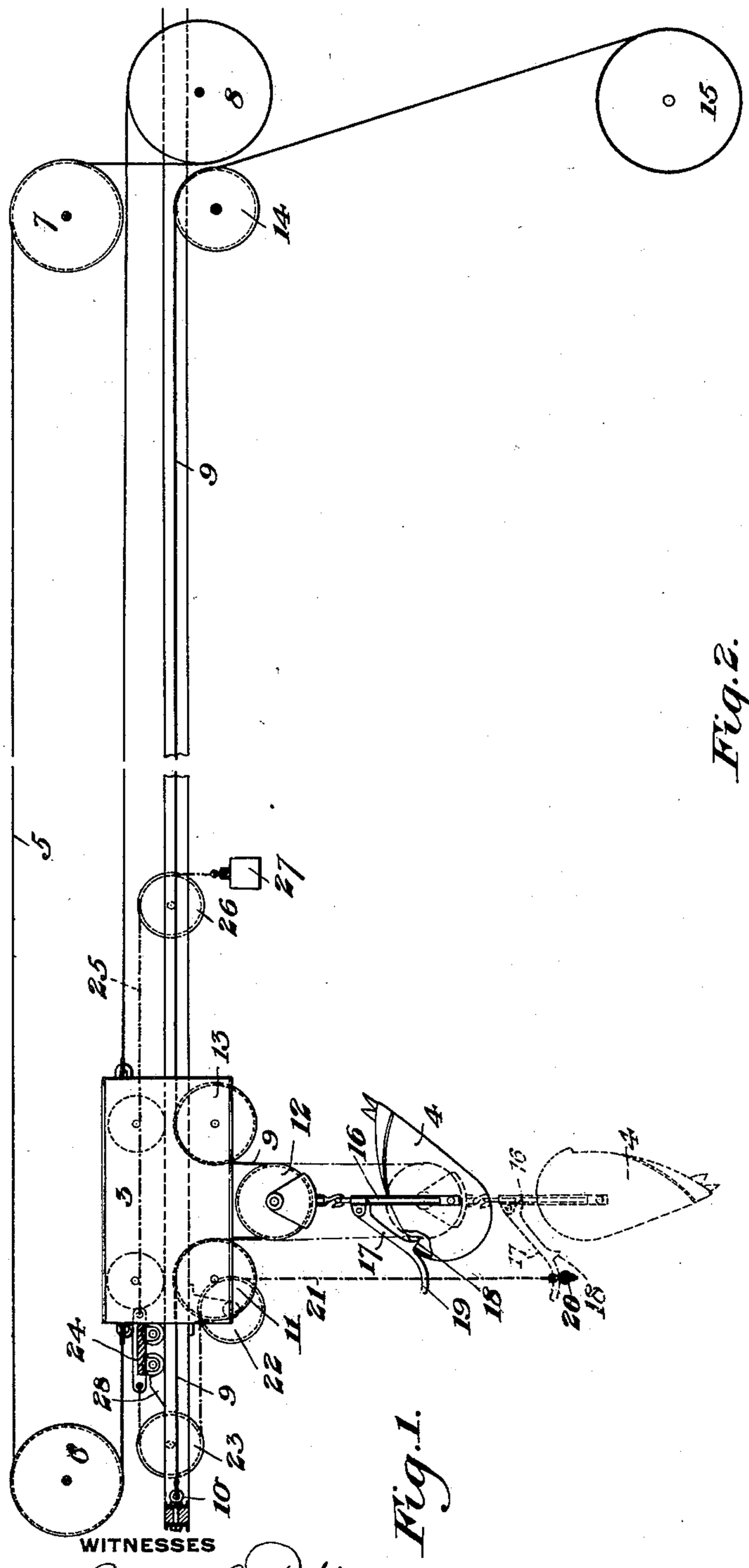

Fig. 1.

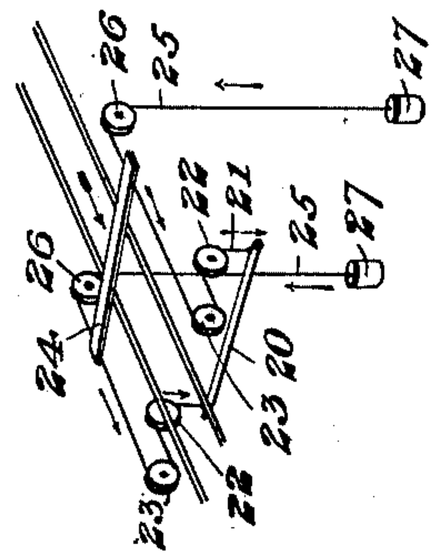

Fig. 2.

WITNESSES

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BERT KELLY, OF DUQUESNE, PENNSYLVANIA.

DUMPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 703,277, dated June 24, 1902.

Application filed October 21, 1901. Serial No. 79,392. (No model.)

To all whom it may concern:

Be it known that I, BERT KELLY, of Duquesne, Allegheny county, Pennsylvania, have invented a new and useful Dumping Apparatus, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional side elevation showing dumping apparatus constructed in accordance with my invention, and Fig. 2 is a detail perspective view of the tripping device I employ.

My invention relates to the dumping of traveling suspended buckets, and is designed to provide an improved automatic tripping device which will travel with the bucket and trip it at the desired point of lowering.

Heretofore in the use of the Brown hoisting system for transferring material from a heap to a car or bin the operating-tower has been placed upon one end of the traveling bridge carrying the apparatus and the bucket has been dumped near the opposite side of the bridge and on the opposite side of the large heap lying beneath the bridge. The buckets have been manually tripped to empty them when lowered to a point near the heap in the usual practice, and much difficulty has been experienced owing to the inability of the operator in the tower and the party controlling the dumping to see each other on account of the intervening mass of material or darkness. My invention is designed to overcome this difficulty and to provide for the automatic dumping of the bucket when brought to the desired point without the attention of another operator and at the same time to arrange the tripping device so that it will be normally elevated and not interfere with passing cars or other parts.

In the drawings, 2 represents the usual bridge, having trolley 3 movable thereon and carrying the tilted bucket 4. The trolley 3 is moved along the bridge in the usual manner by rope 5, having its ends secured to opposite ends of the trolley and extending over drums 6 and 7 and also around the trolley-drum 8, which is actuated by any suitable connections. The suspending-rope 9 for the bucket is secured to the bridge at 10 and thence extends over pulley 11, mounted in the trolley underneath the supporting wheel or pulley 12, thence upwardly and over pulley 13, and thence along the bridge and over pulley 14 down to the hoisting-drum 15, which is actuated by any suitable connections.

The above-described parts form no part of my invention, being well known in this art.

The hanger 16, to which the bucket is pivoted, is provided with a swinging latch 17, having a tooth 18, which engages a suitable projection or notch in the bucket, and is also provided with a tailpiece 19, which is preferably curved, as shown.

The tripping device consists of a bar 20, secured to the lower end of cords or flexible connections 21, which lead upwardly over pulleys 22 upon the bridge and around pulleys 23, also on the bridge, and are secured to a small truck or trolley 24. To the other end of this trolley are secured cords 25, extending over pulleys 26 on the bridge and having weights 27, which normally hold the bar 20 in the upper position. (Shown in Fig. 2.)

In operating the bucket it is drawn up the heap to fill it in the ordinary manner, and being lifted to its upper position the trolley is moved along the bridge toward the left in Fig. 1. As it nears the end of its travel the carrying-trolley 3 strikes the small trolley 24, and thereby moves this trolley toward the left and lowers the tripping-bar against the action of the weights 27. When the trolley 3 is brought to the desired point for dumping, the small trolley 24 strikes stops (shown at 28) and the tripping-bar is thus held against further downward movement. As the bucket is then lowered the tail of the latch strikes the tripping-bar, and the latch is thus withdrawn and the bucket allowed to tilt and drop its contents in the car or other receptacle beneath, the bucket then being taken back for further filling. The weights draw the latch device upwardly into its normal position, where it is out of the way and will not interfere with the cars passing beneath or with the operation of the bridge.

The advantages of my invention result from the automatic raising and lowering tripping device, which is normally elevated and which trips the bucket to dump it at a predetermined point in its lowering.

Many variations may be made in the form

and arrangement of the tripping system without departing from my invention.

I claim—

1. A support, a trolley movable thereon, a bucket supported from the trolley, connections for moving the trolley and for raising and lowering the bucket, a vertically-movable tripping device mounted on the support and arranged to be engaged and moved downwardly by the trolley, and means for automatically lifting the tripping device when released; substantially as described.

2. In a trolley and bucket system, a tripping-bar suspended by connections leading to a movable slide arranged to be engaged by the trolley, and weights arranged to return the tripping-bar to its upper position when the slide is released; substantially as described.

In testimony whereof I have hereunto set my hand.

BERT KELLY.

Witnesses:
GEORGE F. PITTS,
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