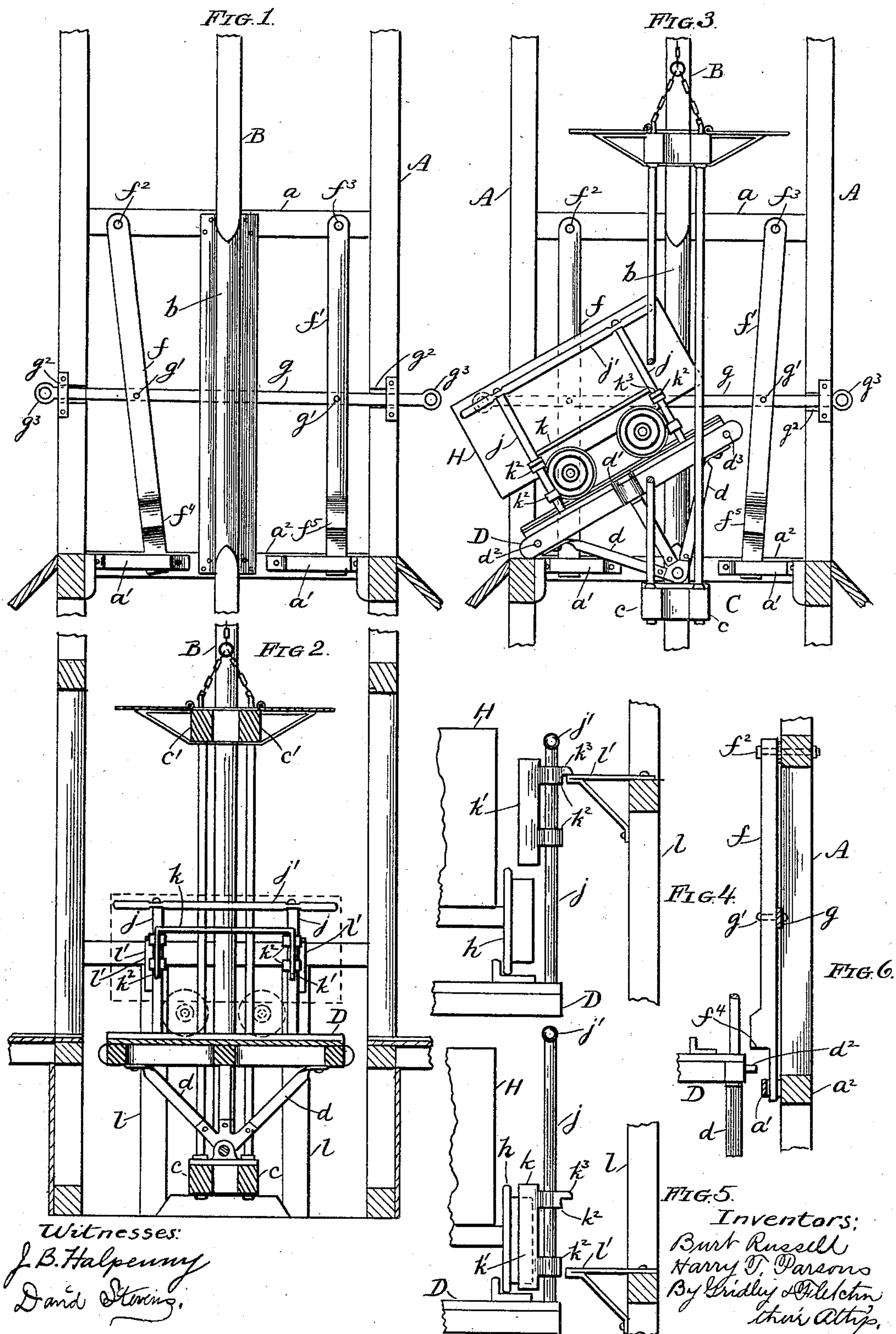


(No Model.)

B. RUSSELL & H. T. PARSONS.
AUTOMATIC DUMPING CAGE.

No. 432,568.

Patented July 22, 1890.



UNITED STATES PATENT OFFICE.

BURT RUSSELL AND HARRY T. PARSONS, OF BRAIDWOOD, ILLINOIS.

AUTOMATIC DUMPING-CAGE.

SPECIFICATION forming part of Letters Patent No. 432,568, dated July 22, 1890.

Application filed December 7, 1889. Serial No. 332,979. (No model.)

To all whom it may concern:

Be it known that we, BURT RUSSELL and HARRY T. PARSONS, of Braidwood, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Automatic Dumping-Cages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical sectional view in detail of the upper portion of a shaft at the dump-level, showing our improved shifting device for tilting the platform of the cage. Fig. 2 is a like view of the lower portion of said shaft, showing our improved cage and automatic keeper for retaining the car in place. Fig. 3 is a view of that portion of the shaft represented in Fig. 1, and representing the cage at the dump-level with a car thereon in the act of dumping. Fig. 4 is a face view in detail of a portion of the pivoted platform having a car thereon, a portion of the shaft and the automatic keeper being elevated to permit the removal of the car. Fig. 5 is a like view showing the keeper in a reverse position; and Fig. 6 is a front detail view of a portion of the shaft-frame at the dump-level, showing the manner of engaging the pivoted platform with the tilting-machine.

Like letters of reference in the different figures designate corresponding parts.

Our object is, primarily, to provide a simple, efficient, and positive means for tilting the pivoted platform of a dumping-cage in one or another direction, as desired, and at the same time to disengage the tilting mechanism from contact with the platform, so that the cage may be drawn to its full height above the dumping-level without injury to the parts.

A further object is to provide an automatic keeper in connection with the platform and dump-car, which may be so constructed that it will normally engage, preferably, with the wheels of the car, and thus retain it in place when the platform is upon the lower shaft-level without being obstructed by said keeper.

To these ends our invention consists in the combination of elements hereinafter more particularly described and claimed.

Referring to the drawings, A represents the

frame of the elevator-shaft, which consists of four posts, arranged in the usual way, and two vertical posts B upon opposite sides of the frame and midway between the corner-posts A. The posts B serve as guides for the elevator-cage C, the projecting ends of the cross-bars $c c c' c'$ of which engage loosely with said guide-posts and enable the cage to move up and down in a direct line. Pivoted in a suitable bearing attached to the lower cross-bars c are brackets d , which support a platform D, which is provided with notches d' upon opposite sides, one of which is shown in Fig. 3, which notches engage loosely with the posts B B, thereby retaining the platform normally level. The posts B B are cut away at the dump-level, as shown at b , Figs. 2 and 3, to permit the platform to be tilted in either direction, according as an initial impulse may be given thereto, as hereinafter stated.

Bars $f f'$ are loosely pivoted at $f^2 f^3$ to one of the cross-bars a at the top of the dump-level, and the lower ends are loosely inserted in slots formed by attaching metal plates $a' a'$ to the inside of a cross-bar a^2 at or below the dump-level. (See Figs. 1, 3, and 6.) The bars $f f'$ are loosely pivoted to a cross-bar g at $g' g'$ in such a way, as shown, that when one is in a vertical position the other is oblique thereto. The bar g is loosely secured in slots or guides $g^2 g^2$, formed in the frame at the respective ends, and is provided with projecting handles $g^3 g^3$, so that the respective positions of said bars $f f'$ may be shifted at will by actuating the bar g . Shoulders $f^4 f^5$ are formed upon the bars $f f'$ near their lower ends, which are adapted to engage, respectively, with corresponding pins or projections $d^2 d^3$ upon the platform D, said pins being so adjusted as to engage, when said platform reaches the bottom of the cut-away portion b of the guide-posts and is still in a normal position, with the shoulder of the bar f or f' , which is at that time in a vertical position. The platform is thereby caused to tilt, as shown in Fig. 3, which causes the pin d^2 to be carried past the shoulder f^4 of the bar f , when it is obvious that the platform may be elevated to the top of the shaft without obstruction. This feature is of great importance, as it frequently occurs that the hoisting-engine is not stopped at the right moment, in which

case, were the tilting device to remain in engagement with the platform, the structure would be broken. By shifting the bar *g* so as to place the bars *ff'* in the respective positions shown in Fig. 1 the platform would be tilted in an opposite direction. In order to enable the car *H* to be retained in position when the platform is tilted and to be removed from said platform or placed thereon when the cage is at a lower level, we provide an automatic keeper, which engages by preference with the wheels of the car at all times except when the cage is at the bottom of the shaft, as shown in Figs. 2 and 4.

15 Rigidly attached to the frame of the platform upon the respective sides are vertical standards *j j*, preferably consisting of iron bars, to which is attached a cross-bar *j'*, which may serve ordinarily as a hand-rail. A horizontal bar *k*, bent downwardly at the respective ends, as shown at *k' k'*, is attached to the posts *j j* by means of metal straps *k² k²*, attached to the depending parts *k' k'*, which straps are adapted to slide loosely up and down the posts *j*. At the lower level of the shaft are posts *l l*, Figs. 2, 4, and 5, to which are attached rigid brackets *l' l'*, adapted to engage with projecting lugs *k³*, Figs. 4 and 5, upon the sliding keeper. Said bracket is placed at such a height that when the cage is lowered the lugs *k³* engage therewith and raise the keepers sufficiently to permit the wheels *h* of the truck to pass beneath, when the truck may be rolled off and on the platform. As soon as the cage is elevated they fall of their own gravity over the wheels, as shown in Fig. 5, thus securing the entire truck in a fixed position and permitting the same to be dumped at will in either direction.

40 Having thus described our invention, we claim—

1. The combination, with an automatic dumping-cage, of a pivoted platform, means for normally retaining the same in a horizon-

tal position, pivoted bars arranged in one side of the elevator-shaft in operative conjunction to the platform, and means for shifting said bars, whereby one or the other may engage the ascending platform, according to the direction in which it is desired to be dumped, substantially as shown and described.

2. The combination, with the pivoted platform of a dumping-cage, of the pivoted bars *ff'*, bar *g*, pivoted thereto, and means, such as the pins *d³* and shoulders *f³*, whereby said platform may be tilted in one or another direction upon arriving at the dump-level, substantially as shown and described.

3. The combination, with the pivoted platform of a dumping-cage, of a car, a gravity-keeper consisting of guards adjusted to fall normally over the car-wheels, and means for tilting said platform at the dump-level, substantially as shown and described.

4. The combination, with the pivoted platform of a dumping-cage and a car, of the rigid standards *j*, gravity-keepers having depending parts *k'* loosely secured thereto, and means for automatically raising said keepers at the lower shaft-level upon the descent of the cage, substantially as shown and described.

5. The combination, with the pivoted platform of a dumping-cage, of a car, a gravity-keeper consisting of guards adjusted to fall normally over the car-wheels, the pivoted bars *ff'*, and means for shifting the respective positions thereof, substantially as shown and described.

In testimony whereof we have signed this specification, in the presence of two subscribing witnesses, this 21st day of November, 1889.

BURT RUSSELL.
HARRY T. PARSONS.

Witnesses:

D. H. FLETCHER,
JEROME SHENK.