

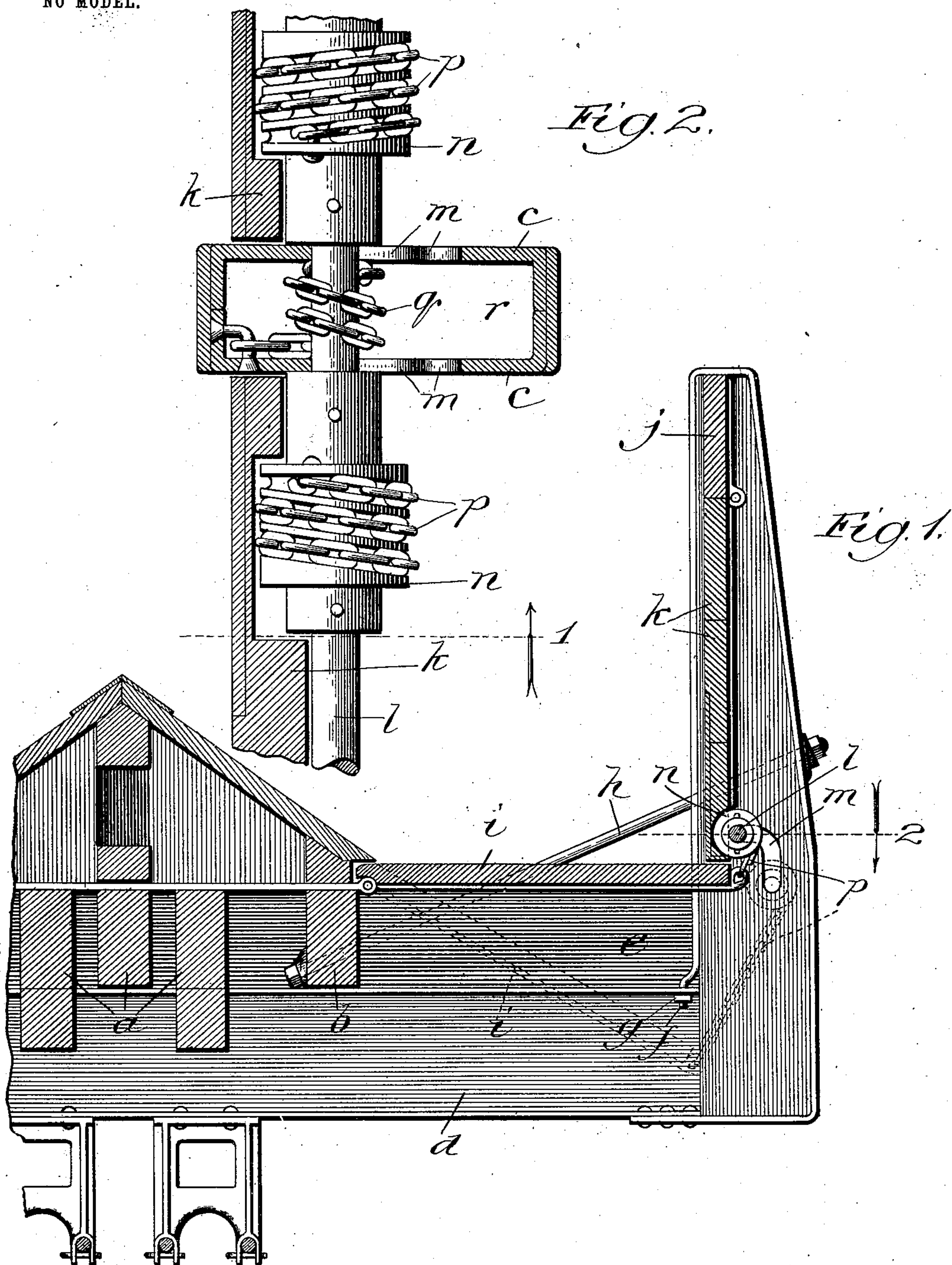
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H. S. HART.
DUMP CAR.

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NO MODEL.



Witnesses:
Ed. Payson,
Ed. C. Farrow.

Inventor:
Harry Stillson Hart,
By Thomas F. Sheridan,
Attorney

UNITED STATES PATENT OFFICE.

HARRY STILLSON HART, OF CHICAGO, ILLINOIS, ASSIGNOR TO NATIONAL COAL DUMP CAR COMPANY, OF RAPID CITY, SOUTH DAKOTA, A CORPORATION OF SOUTH DAKOTA.

DUMP-CAR.

SPECIFICATION forming part of Letters Patent No. 744,195, dated November 17, 1903.

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To all whom it may concern:

Be it known that I, HARRY STILLSON HART, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Dump-Cars, of which the following is a specification.

This invention relates to dumping-cars which are constructed and arranged to dump the entire load when necessary out through the bottom and sides of the car, as will more fully hereinafter appear.

The principal object of the invention is to provide a simple, economical, and efficient dump-car.

Further objects of the invention will appear from an examination of the drawings and the following description and claims.

The invention consists, principally, in a dump-car in which there are combined a supporting-framework, side and end boards extending upwardly therefrom, a drop-bottom portion forming a plurality of swinging doors pivotally secured at their inner edges to the framework of the car and at each side of the longitudinal center, swinging side boards pivotally secured to the sides of the car at or near their upper edges and arranged to have their free edges brought into position adjacent to the free edges of the dumping-bottom portions when in closed position, and means for closing the dumping-bottom doors and the swinging side doors by and during substantially one operation.

The invention consists, further and finally, in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a cross-sectional view of a portion of a car as it appears when constructed in accordance with these improvements, and Fig. 2 an enlarged plan sectional detail taken on line 2 of Fig. 1 looking in the direction of the arrow.

In illustrating and describing these improvements I have only illustrated and will here describe that which I consider to be new, taken in connection with so much as is old as will properly disclose the invention to oth-

ers and enable those skilled in the art to practice the same, leaving out of consideration other and well-known elements which if set forth herein would only tend to confusion, prolixity, and ambiguity.

In constructing a car in accordance with these improvements I provide a supporting-framework, preferably provided with a plurality of longitudinal sills *a* and *b* and cross-sills or needle-beams *d*, the latter being preferably formed of channeled metal I-beams. Secured to these metal I-beams, and thereby to the supporting-framework of the car, is a plurality of vertical side stakes which extend upwardly therefrom and are formed of double-channeled beams arranged to form a box member *c*, as shown particularly in Fig. 2. These side stakes are provided with an outer encircling strap or straps *e*, which may be riveted to the needle-beams and which are also provided with threaded end portions *f*, upon which the nuts *g* are mounted and by which the structure may be effectively secured together. These side stakes are strengthened, stiffened, and held in position by means of a plurality of stay-bolts *h*, which are bolted to the intermediate sills and extend upwardly and outwardly through the side stakes to assist in holding the same in position.

To form a drop-bottom for this type of car, a plurality of dumping-doors *i* is provided, pivotally secured at their inner edges to the supporting-framework of the car and at each side of its longitudinal center. The car is further provided with side boards preferably formed of upper fixed sections *j*, secured to the side stakes, and lower swinging sections *k*, depending therefrom and pivoted at their upper edges to the sidework of the car, so that their free edges when the parts are in closed position are arranged adjacent to the free edges of the dumping-bottom sections, as shown particularly in Fig. 1. It is very desirable to provide means by which both sets of these swinging discharging-doors, dumping-bottom, and side discharging-doors may be closed by and during one operation. In order to provide for such a result, rolling mechanism is provided formed of a rolling-

shaft *l*, arranged to operate in an L-shaped groove *m* in the side stakes of the car, and drums *n* thereon provided with chain mechanism *p*, wound therearound and secured to the free edges of the dumping-bottom sections, as shown in Fig. 1. This rolling-shaft is further provided with a second set of chains *q*, which are arranged within the chamber *r*, formed by the box-shaped side stakes. This second set of chains is wound around the rolling shafts and secured thereto and also to the framework of the car, so that when the shaft is being rotated both of such sets of chain mechanisms are wound up, one set around the drums and the other around the shaft, to move the rolling mechanism into the position shown in Fig. 1, thereby closing up the drop-bottom doors, contacting the outer lower free edges of the swinging side doors, and acting to close both sets of such doors by and during one and the same operation. The unwinding of these chains permits the rolling mechanism to drop into the position shown in dotted lines in Fig. 1 and permits both sets of such swinging doors to be opened and the load within the car to be automatically discharged to both sides of the supporting car-tracks.

I claim—

1. In a car of the class described, the combination of a supporting-framework, side and end boards extending upwardly therefrom, a drop-bottom portion forming a plurality of swinging doors pivotally secured at their inner edges to the framework of the car and at each side of the longitudinal center thereof, swinging side boards pivotally secured to the sides of the car at or near their upper edges and arranged to have their free edges brought into position adjacent to the free edges of the dumping-bottom portions when in closed position, and means for closing the dumping-bottom doors and the swinging side doors by and during one operation, substantially as described.

2. In a car of the class described, the combination of a supporting-framework, vertical side and end boards extending upwardly therefrom and secured thereto, a drop-bottom portion formed of a plurality of dumping-doors pivotally secured at their inner edges to the framework of the car at each side of the longitudinal center thereof, discharging side doors formed of a plurality of swinging doors pivotally secured to the side frame of the car at or near their upper portions with their free edges adjacent to the free edges of the bottom dumping-doors, and rolling mechanism adapted by and during its lateral rolling movements to close both sets of such swinging doors—bottom and side—by and during one operation, substantially as described.

3. In a dump-car of the class described, the combination of a supporting-framework, vertical side and end boards extending upwardly therefrom, a drop-bottom portion formed of a plurality of swinging doors pivotally se-

cured at their inner edges to the framework of the car and at each side of the longitudinal center, discharging side doors formed of a plurality of swinging doors pivotally secured to the side frame of the car at or near their upper edges, rolling mechanism connected with the framework of the car and with the dumping-bottom sections and arranged to contact the discharging side doors so as to close and permit the opening of both of such sets of doors by and during one rolling operation of the same, substantially as described.

4. In a car of the class described, the combination of a supporting-framework, vertical side and end boards extending upwardly therefrom, a drop-bottom portion formed of a plurality of swinging doors pivotally secured to the framework of the car at their inner edges and to each side of the longitudinal center of the car, discharging side doors formed of a plurality of swinging doors pivotally secured to the side frame of the car at or near their upper edges and with their lower free edges arranged when in closed position adjacent to the free edges of the dumping-bottom sections, side stakes secured to the framework of the car and the side boards to support the latter, and rolling mechanism mounted in such side stakes and arranged during its operations to close both sets of such swinging-door sections, substantially as described.

5. In a car of the class described, the combination of a supporting-framework, vertical side and end boards extending upwardly therefrom, a drop-bottom portion formed of a plurality of swinging doors pivotally secured to the framework of the car at or near their inner edges and to each side of the longitudinal center of the car, discharging side doors formed of a plurality of swinging doors pivotally secured at their upper edges to the side frame of the car, and rolling mechanism provided with a plurality of chains by which it is secured to the framework of the car and the dumping-bottom sections and arranged to contact the side discharging-doors to close and permit of the opening of both sets of such swinging-door sections by and during one rolling operation, substantially as described.

6. In a dump-car of the class described, the combination of a supporting-frame portion, vertical side and end boards secured thereto and extending upwardly therefrom, a drop-bottom portion formed of a plurality of swinging doors pivotally secured to the framework of the car at their inner edges and to each side of the longitudinal center of the same, side discharging-doors formed of a plurality of swinging doors pivotally secured at their upper edges to the side frame of the car, side stakes secured to the supporting-framework of the car and to the side boards and provided with a groove or grooves, and rolling mechanism movably mounted in the grooves of the side stakes and provided with a plurality of chains secured to the swinging doors

of the drop-bottom and the framework of the car and also arranged to contact the discharging side doors so as to close and permit of the opening of both sets of such swinging doors by and during one and the same operation, substantially as described.

7. In a dump-car of the class described, the combination of a supporting-framework, a plurality of side stakes formed of metal box-beams extending upwardly therefrom and secured thereto and provided with a plurality of grooves or slots in the side walls thereof, a drop-bottom portion formed of a plurality of swinging doors pivotally secured at their inner edges to the framework of the car and at each side of the longitudinal center, side boards formed of upper fixed portions secured to the vertical side stakes of the car at or near their upper ends and swinging sections pivotally secured thereto and depend-

ing therefrom with their free edges arranged adjacent to the free edges of the dumping-bottom sections, rolling mechanism formed of a rolling-shaft, and a plurality of drums thereon mounted in the grooves of the side stakes and provided with chain mechanism connected with dumping-bottom sections and another set of chain mechanisms wound therearound within the chamber of the hollow side stakes and secured to the framework of the car, such rolling mechanism being arranged to contact the side swinging doors so as to close and permit the opening of both sets of such swinging doors by and during one and the same rolling operation, substantially as described.

HARRY STILLSON HART.

Witnesses:

HARRY I. CROMER,
MAUDE DARNELL.