

J. ELLIOTT, J. P. HARRINGTON & W. R. DAVENPORT.

Dumping Cars.

No. 144,966.

Patented Nov. 25, 1873.

Fig. 1.

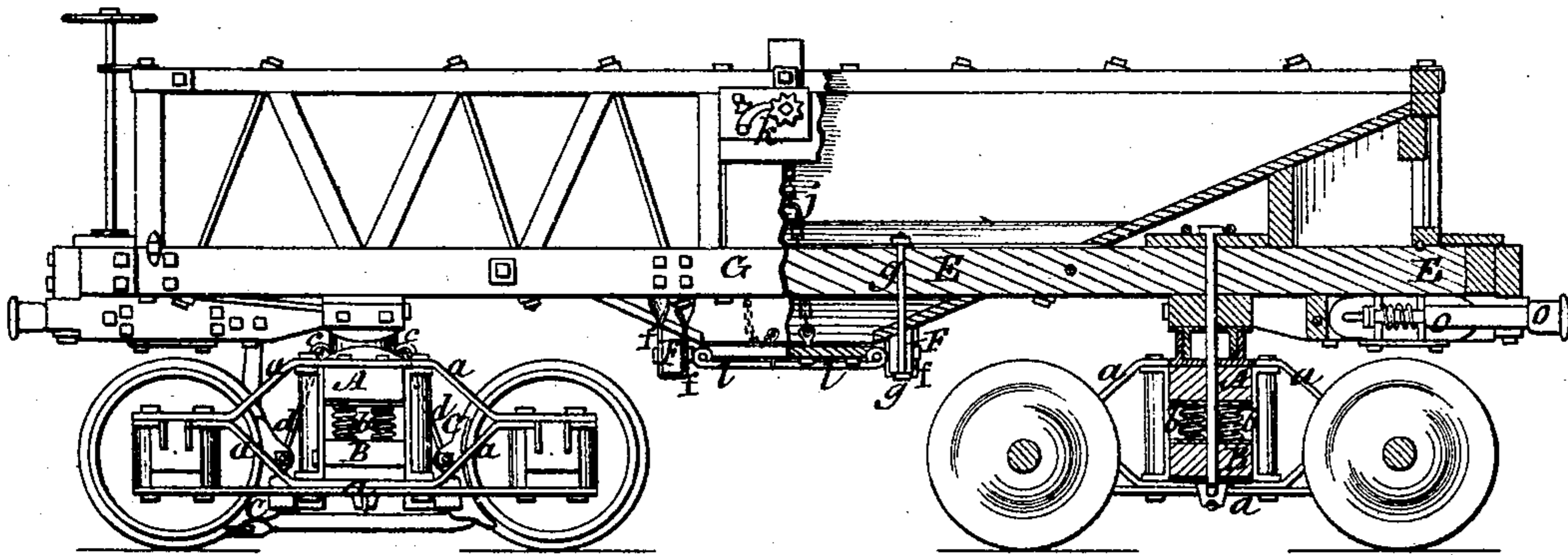


Fig. 2.

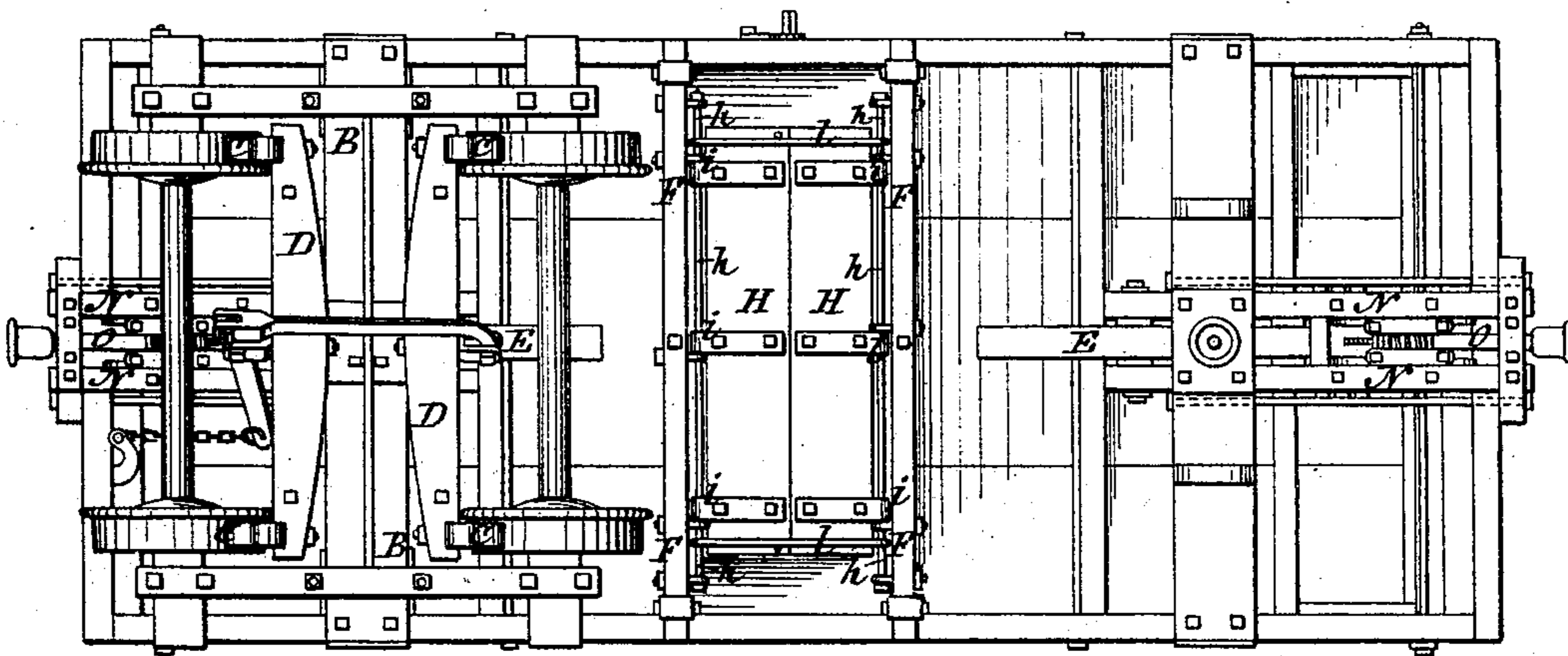


Fig. 3.

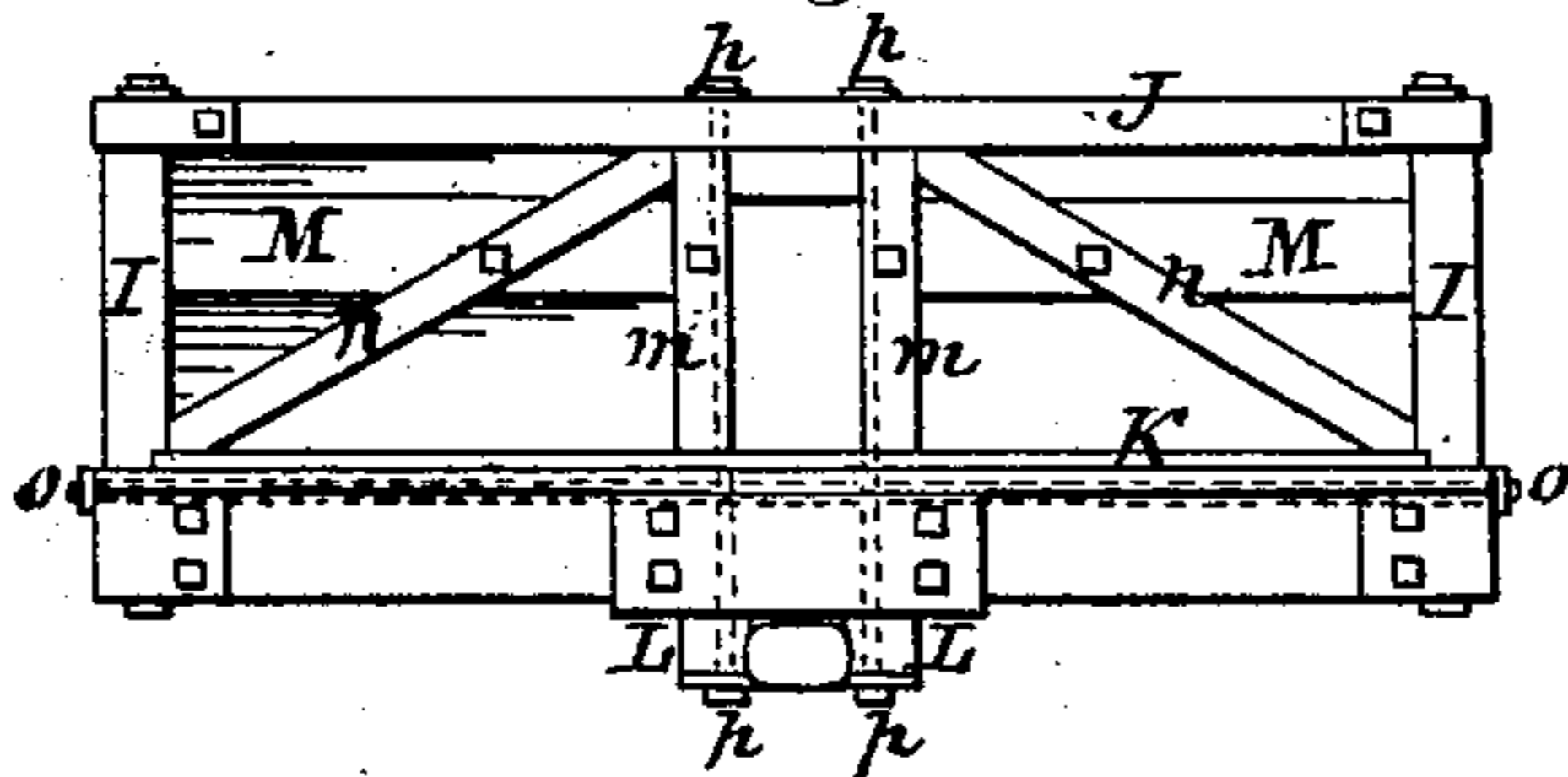


Fig. 4.

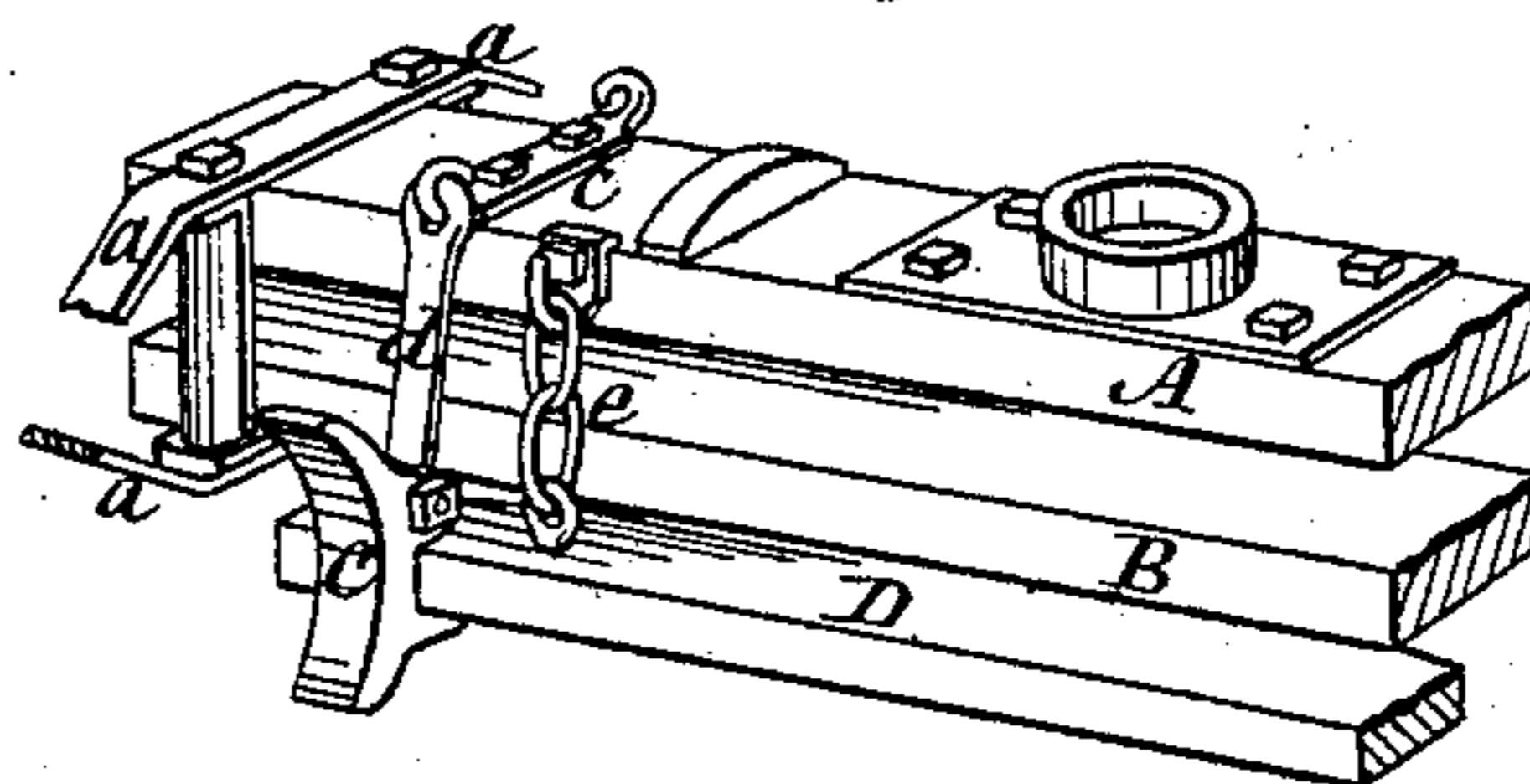
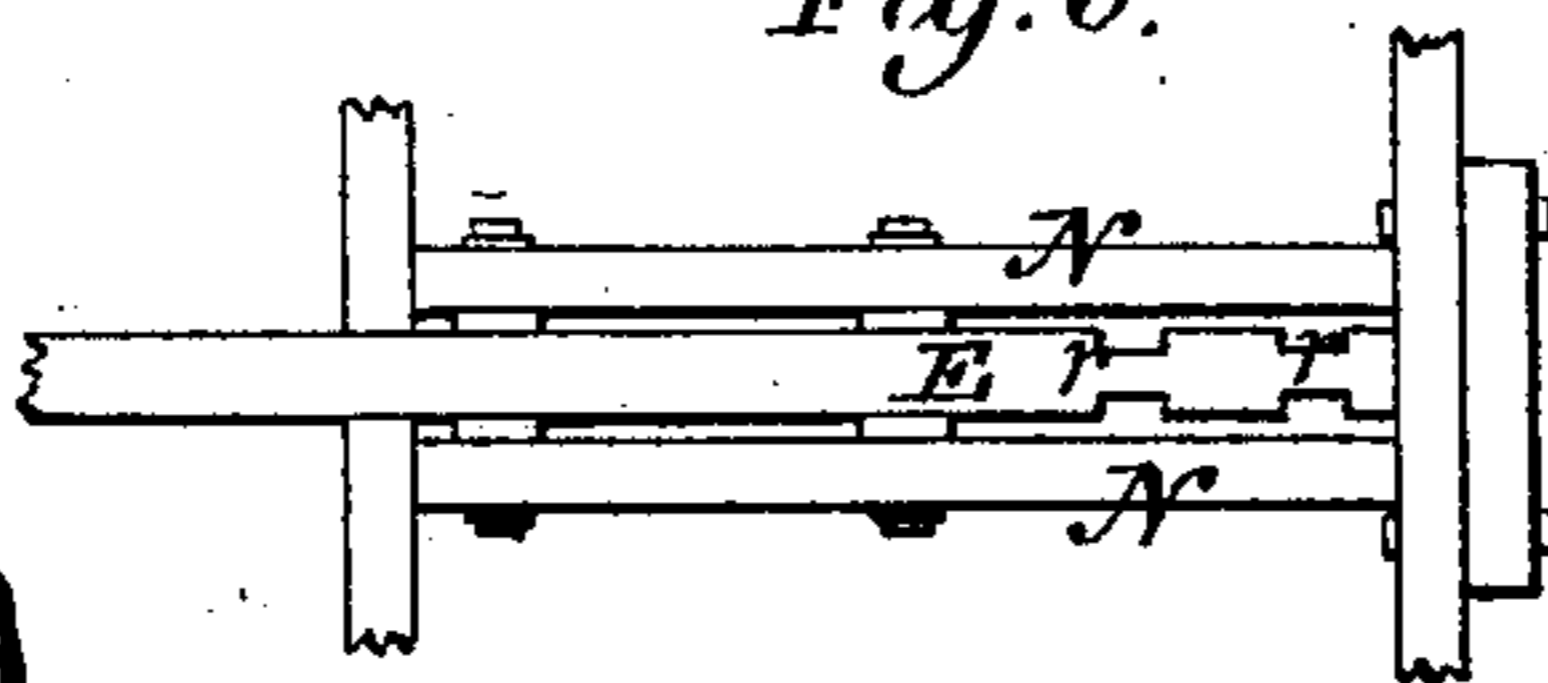


Fig. 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN ELLIOTT, JOHN P. HARRINGTON, AND WILLIAM R. DAVENPORT, OF  
ERIE, PA., ASSIGNORS TO ERIE CAR-WORKS, OF SAME PLACE.

## IMPROVEMENT IN DUMPING-CARS.

Specification forming part of Letters Patent No. **144,966**, dated November 25, 1873; application filed  
October 24, 1873.

*To all whom it may concern:*

Be it known that we, JOHN ELLIOTT, JOHN P. HARRINGTON, and WILLIAM R. DAVENPORT, all of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Coal-Dumping Cars; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents a side elevation of the car with a portion of it shown in section. Fig. 2 represents a plan of the under side of the car with one of the trucks removed to show the parts otherwise concealed by it. Figs. 3, 4, and 5 represent detailed portions of the car, which will be hereafter more particularly referred to.

Similar letters of reference, where they occur in the several separate figures, denote like parts in all of the drawings.

In coal-dumping cars which have a hopper-shaped interior, and to which kind of cars our invention relates, the heaviest part of the load is carried in the weakest part of the car; and moreover, from the nature of their use or employment, are subject to great liability to breakage or damage, and consequently to frequent repair.

The nature and object of our invention consist in the manner in which we have constructed our coal-dumping car; in its detail, as will be hereafter fully explained, so as to strengthen it where the heaviest part of the load and strain come upon the car; and also in so constructing those parts most apt to give way as that they may be readily and speedily repaired.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings, first premising that the description will be most particularly confined to those parts of the car which we deem new and most important, and especially as we have shown in the drawings the entire construction in all of its details.

The transverse timbers A B of the truck-frame are supported in the side frames *a a*,

which are of iron, and have between them, at their ends and central portion, springs *b b*, for easing the load upon the trucks. To the top timber A is firmly bolted the wrought-iron yoke *c*, more distinctly seen in Fig. 4, to the ears or loops of which the brake-hangers *d* are attached by their upper ends, the lower ends of said hangers being bolted to the brake-blocks C, which brake-blocks in turn are bolted to the brake-beam D. The brake-beam D is further connected with the transverse timber A, or with the truck-frame, by the suspension-chains *e*, so that this connection between the truck-frames and their brake blocks or beam is very secure, and readily got at for repair or renewal when necessary. The center stringer of the car-body is shown at E, and the center bearers or cross-bearers are seen at F F. These center bearers are supported in iron stirrups *f*, at their ends, which stirrups are bolted to the side sills G of the car-body, and at their centers they are bolted to the center stringer E, as seen at *g*, Fig. 1. This construction ties the car firmly together at the center, and gives great support to the floor of the car at the part where the greatest weight comes and is carried. To the center bearers F F are attached rods *h h*, to which the hinges *i i* of the dropping doors or bottoms H H are connected. These dropping doors or bottoms are raised and held up by a chain, *j*, which winds around a cross-shaft supported in the upper central portion of the car-body, which shaft may be turned by crank applied to its projecting end, and be held with or by a pawl-and-ratchet arrangement, as at *k*; but as such a holding mechanism is liable to give way, and so dump the load, we further provide safety-straps *l l*, which slide on the rods *h h*, underneath the doors, and when these safety-straps are moved underneath the doors, and retained there by pins or other holders, there can be no involuntary dumping or loss of the load. When the load is to be dumped then these safety-straps are slid from underneath the doors, and the pawl is raised from its ratchet, and the doors are free to drop and allow the load to run out. The ends of the car, as seen at Fig. 3, we make very strong and capable of resisting the casualties that

this portion of the car is frequently subjected to. The corner-posts I I are firmly united by the top and bottom cross-pieces J and K, constituting a rectangular frame, which frame is trussed by the upright and diagonal braces *m n*, and by a cross tie-rod, *o*, running through the lower ends of the corner-posts, and vertical rods *p p*, passing from and through the top piece or plate J, and down through the draw-timbers L L, thus binding the whole together and making a very strong and rigid end, while other cars for a similar purpose are very weak at these points. At M is an additional cross-piece, to which the floor of the car may be fastened, and which also aids in strengthening the ends of the car. The center stringer E extends throughout the length of the car-body and somewhat beyond its ends, and to the sides of its ends are bolted cheek-pieces N, for the double purpose of adding strength to that part of the stringer, and to fasten the draw arrangement more securely to. The stringer E is slotted at *r r* for inserting, removing, and replacing the bolts that hold the draw-bar O to the stringer and cheek pieces. These bolts that hold the draw arrangement have a very trying service to perform, and are frequently broken, and must be replaced by others. The slots *r r* admit of the ready removal and replacing of the draw-bar bolts.

The wheels, axles, journals, journal-boxes, brake-levers, and draw-bars not constituting any part of our claims we do not particularly describe them. They are all shown in the drawings.

Having thus fully described our improvements in coal-dumping cars, what we claim therein as new, and desire to secure by Letters Patent, is—

1. In combination with the transverse timbers A B of the truck-frame, the yoke *c*, hinged brake-hangers *d*, and brake-blocks C, as and for the purpose set forth.

2. The combination of the center bearers F F, side sills G G, center stringer E, and iron stirrups *f f*, as and for the purpose described and represented.

3. The combination of the rods *h h*, drops H H hinged thereto, and safety-straps *l l*, as and for the purpose described and represented.

4. The combination of the center stringer E, slotted as at *r r*, and the cheek-pieces N N, for strengthening said stringer, and for facilitating the removal and replacing of the draw arrangement O, as described and represented.

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