

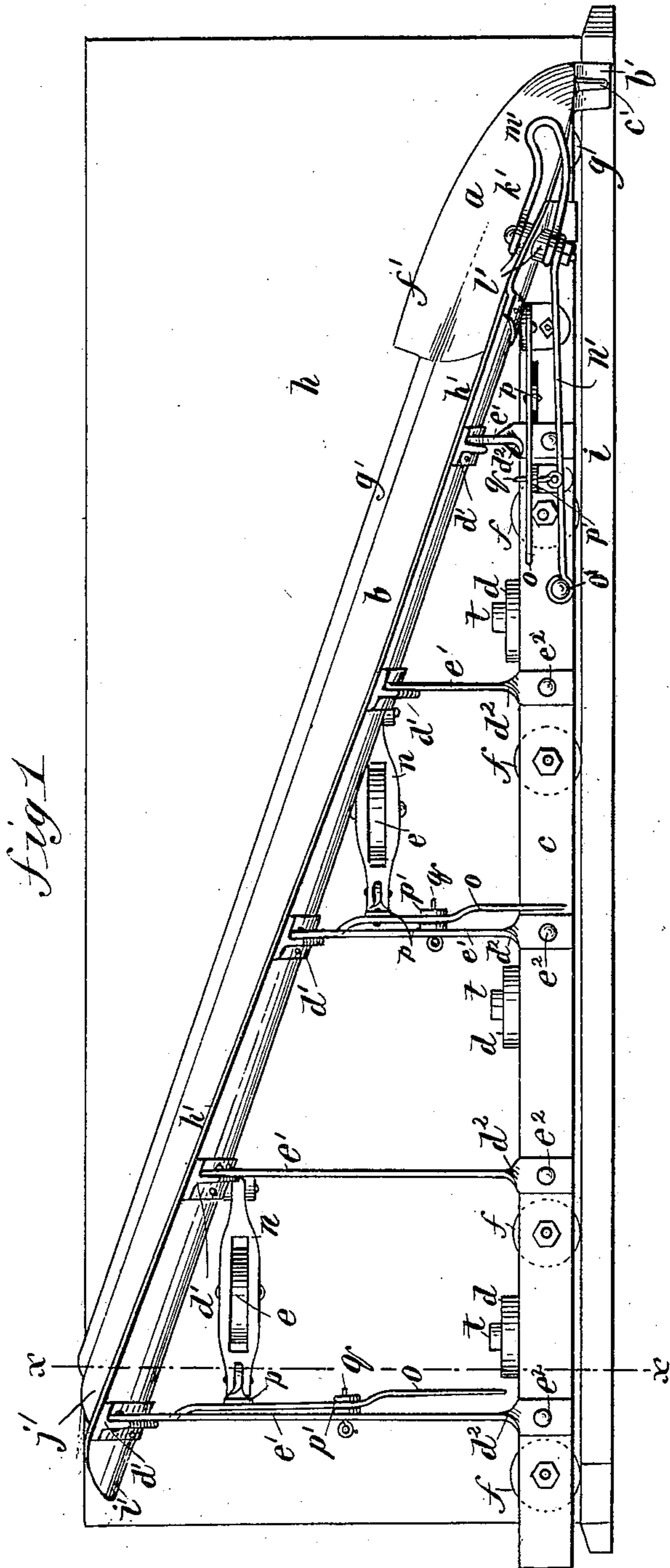
(Model.)

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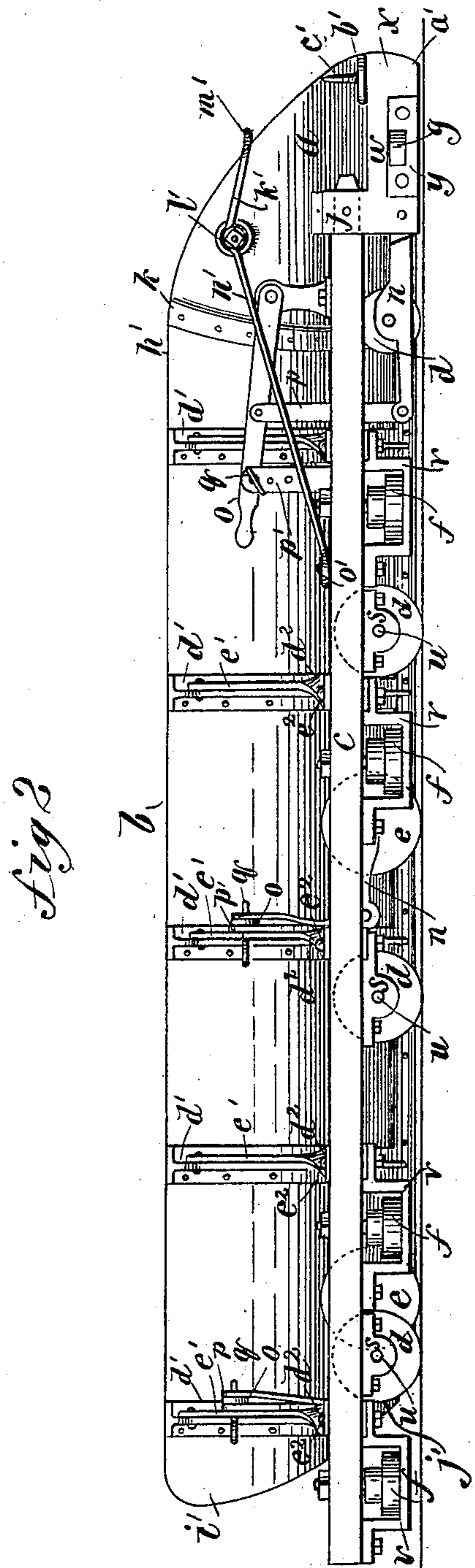
G. W. ROLPH.
CAR UNLOADER.

No. 267,593.

Patented Nov. 14, 1882.



WITNESSES:
J. D. Garfield
C. Sedgwick



INVENTOR:
G. W. Rolph
BY *Mum & Co*
ATTORNEYS.

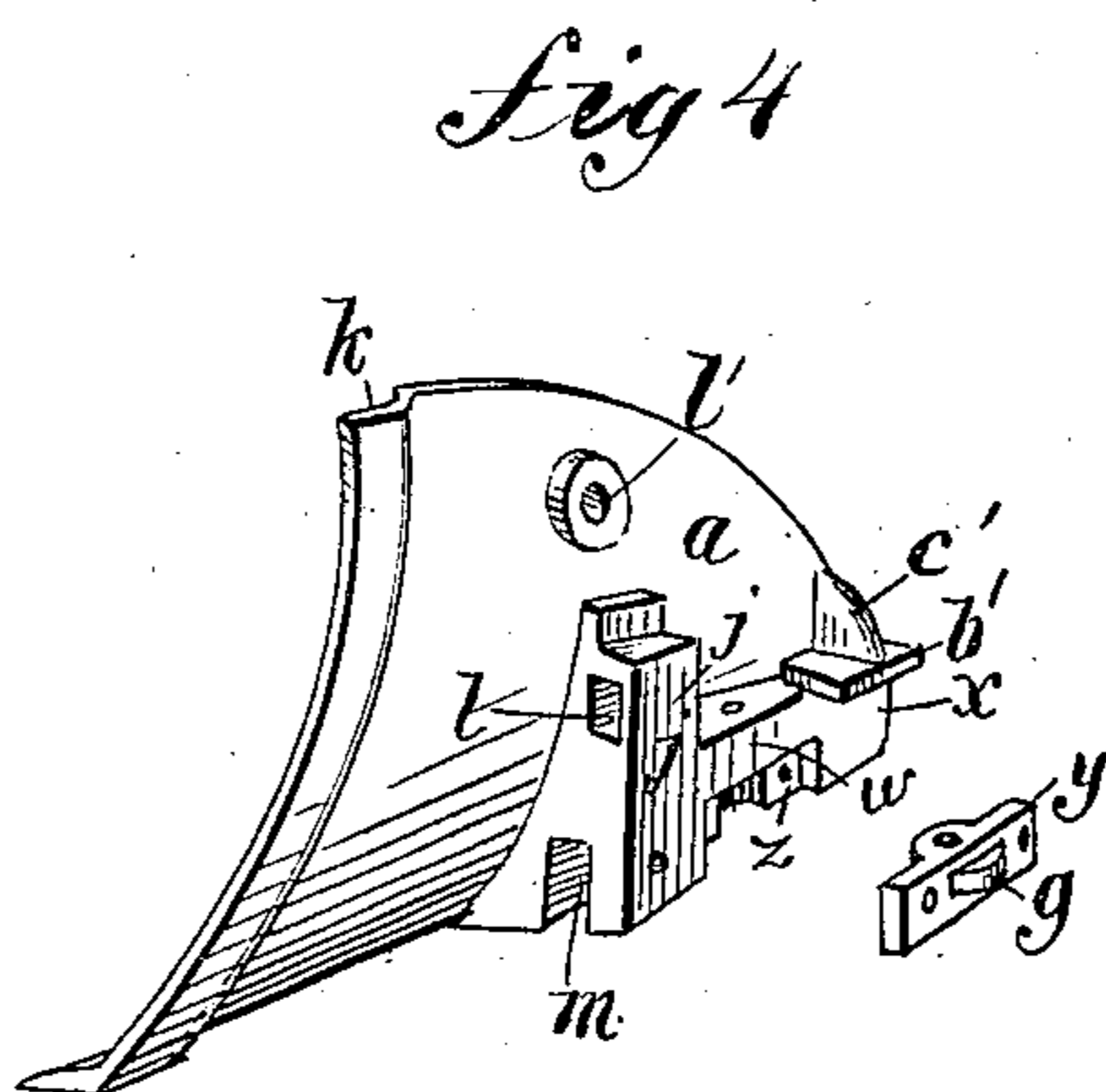
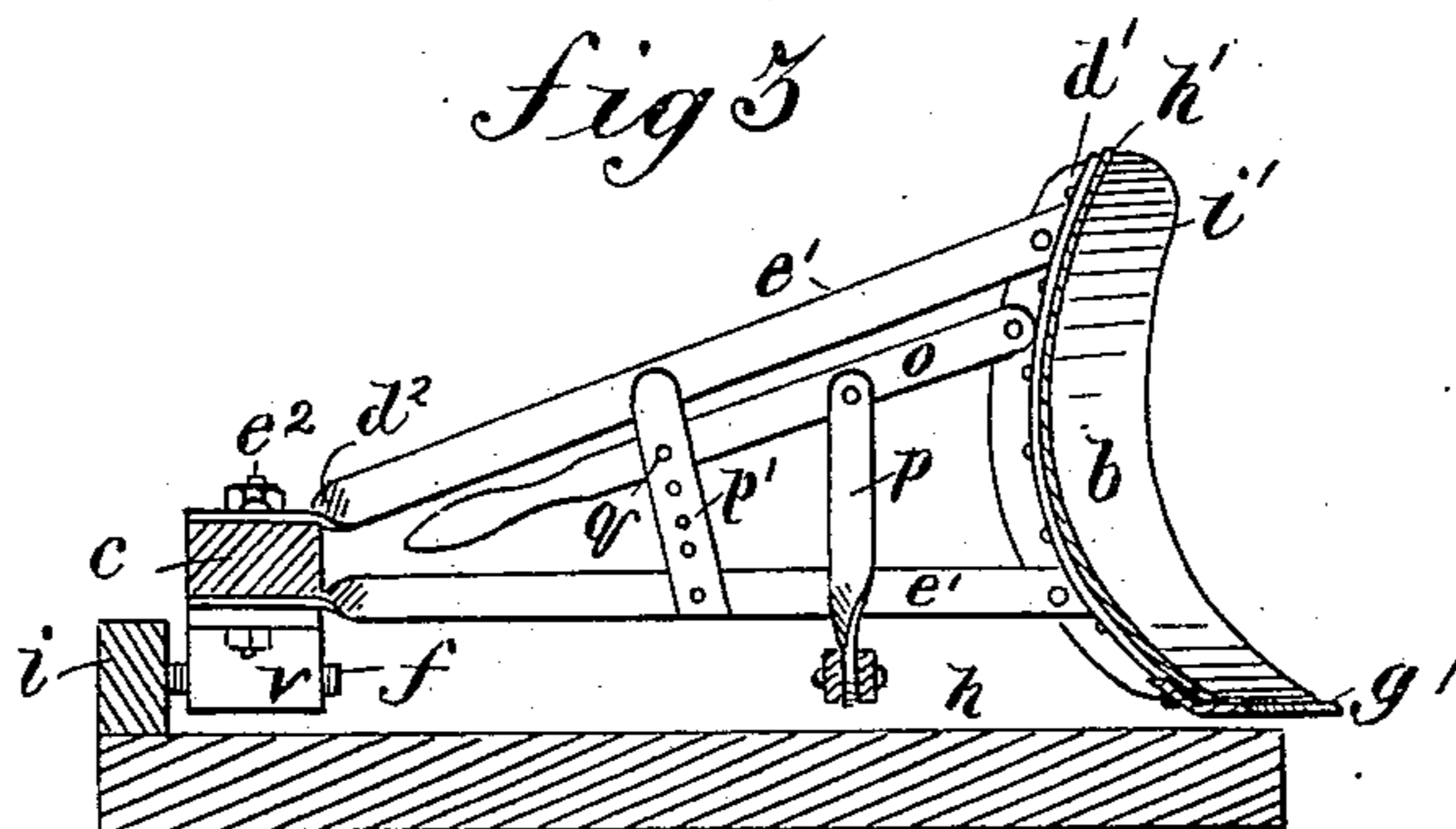
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UNITED STATES PATENT OFFICE.

GEORGE W. ROLPH, OF TOLEDO, OHIO.

CAR-UNLOADER.

SPECIFICATION forming part of Letters Patent No. 267,593, dated November 14, 1882.

Application filed September 20, 1882. (Model.)

To all whom it may concern:

Be it known that I, GEORGE WILLIAM ROLPH, of Toledo, in the county of Lucas and State of Ohio, have invented a new and Improved Car-Unloader, of which the following is a full, clear, and exact description.

My invention consists of the details of construction of certain parts of a car-unloader for discharging earth from flat cars over the side by means of a kind of scraper to be operated by power from the locomotive drawing it along against a guide-rail, located upon one side of the car to scrape off the load on the other side of the car, the said scraper being drawn along the train from one car to another, all as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of a car-unloader constructed according to my invention and being located on the deck of a flat car as in use. Fig. 2 is a side elevation of the said car-unloader. Fig. 3 is a transverse section on the line *x x* of Fig. 1, and Fig. 4 is a perspective view of the nose-piece of the machine and the front guide-roller.

The machine consists essentially of the nose-piece *a*, base-timber *c*, and mold-board *b*, arranged and connected together and provided with vertical carrying-rollers *d* and *e*, and the horizontal guide and friction rollers *f* and *g*, to be drawn along the deck *h* and against the guide-rail *i* of a flat car by power from the locomotive, hitched to the clevis *k*, say, by a wire cable, chain, or rope, one end of which is hooked into the clevis on the nose of the unloader and the other is hooked into the bumper of the locomotive, the brakes being set and the locomotive uncoupled from the train and started, thus drawing the scraper forward to scrape off the load of earth over the side of the car opposite to the guide-rail *i*. Heretofore the base-timber has been fitted against the side of the sheet or plate of the mold-board and secured by bolting through it and the mold-board, which has not proved a substantial and satisfactory arrangement. I therefore propose to make a cast-metal nose-piece, *a*, to constitute the front-end section of the mold-board,

making thereon what I call a "stirrup," *j*, which is a socket extension or lug, and fitting the end of the beam *c* in it, as clearly shown in Fig. 1, thus securing said beam and mold-board much more firmly together. The rear end of the nose-piece is cast with a rabbet, *k*, wherein the end of the mold-board is permanently riveted, so that the front surface is flush with the corresponding part of the nose-piece.

In the same lug that contains the socket *l* for the base-timber *c*, and below said socket, I make a slot or recess, *m*, in which to pivot the bar *n*, in which the front carrying-roller, *d*, is mounted for being adjusted by a hand-lever, *o*, to set the roller, as required, for properly carrying the front end of the machine when passing from car to car, which frequently vary to some extent in height, and thus require said roller to be shifted up or down and set by the lever *o*, standard *p*, and pin *q*.

In order to enable me to locate other carrying-rollers *d* in boxes *s*, attached to the under side of the beam *c*, which is much better and more substantial than to fit said boxes to the side of the beam, I locate the socket *l* in the stirrup at such elevation in the nose-piece as will allow of so placing said boxes. The arrangement affords such substantial support to the boxes *s* that I am enabled to pivot the wheels on stud-pins *t*, which are firmly secured in the holes *u* of the boxes, and on which the wheels turn at the inner sides of the boxes, said wheels or rollers being held in position by heads of the pins. The said arrangement also enables me to locate the guide-rollers *f*, which run against the rail *i*, under said beam *c*, in boxes *v*, attached to the under side of said beam, enabling the rollers to run close down to the deck of the car along guide-beam *i*, which may thus resist the lateral thrust of the machine with less strain upon its fastenings than if said wheels worked higher up on it. The stirrup *j* is elongated from the lower end along part *w* to the point *x*, for the purpose of receiving a small guide-roller *g* as near the point as possible, which I attach by fitting it in a box, *y*, and bolting the box in a recess, *z*, formed in the casting, the box being flush with the side of the stirrup *j w*, and so that it can be readily taken out for repairs, when required. The front end of the nose-piece is curved under

or backward at a' , in order to enable it to rise over the corners of the car in case it should fall so low in passing the gap between the cars as to touch the corner. The top guard, b' , for riding along the top of guide i to keep the nose up from the surface of the car-deck, is cast together with the nose-piece, and a rib-brace, c' , is provided for strengthening it.

I propose to use T-iron ribs d' for stiffening the back of the mold-board and connecting the stay-bars e' instead of the angle-irons heretofore used, and I propose to bend the tongues of the said ribs oblique to the head and parallel to the stay-bars rather than bend the ends of the stay-bars, as shown in Fig. 1, which makes a much stronger connection, because the tongues have the strength of their continuous connection with their heads to resist the angular stress, whereas the bars have only the strength due to their breadth for that purpose.

The before-described elevation of the base-beam c is favorable to the arrangement of these stay-bars in the best position, for it enables the lower ones to extend in about a straight line, from a point about as high on the mold-board as the under side of said beam, to said beam, said point on the mold-board being where the pressure is greatest, while the upper bars descend from near the top of the mold-board, where the resistance is less, to the top of the beam at an angle favorable to the delivery of the thrust on the guide-wheels f and guide-rail i . The braces are arranged flatwise with the tongues of the T-bars d' , to facilitate the connection with them, and they are twisted at d^2 to fit the flat surface of the beam c and secured to it by one bolt, e^2 , passing through both upper and lower braces, said upper and lower braces being placed one above another on the beam. I make the lower edge, f' , of the nose-piece to project a little beyond the edge g' of the mold-board, and also make the edge of the mold-board project farther in the same direction than as heretofore made, together with a forward overhang of the top edge, h' , and this latter I propose to increase from the front rearward, for throwing downward the crest of the ridge of earth thrown up by the mold-board, which increases in height toward the rear of the mold-board. At the rear end of the mold-board I make an extension of the upper edge rearward, at i' , greater than at the bottom j' , in about the proportion that the mold-board slopes backward from the edge of the car-deck, in order that the said upper part shall reach to the edge of the car and prevent the earth from falling back on the margin of the car.

The inside carrying-wheels, e , are mounted in adjusting-bars n , the same as the front carrying-wheel, d , and have adjusting-levers o , with standards p and connecting-pins q , to set them from time to time to graduate the front edge, g' , of the mold-board to the car-deck.

The clevis j^2 is pivoted in a hollow boss, l' , cast together with the nose-piece a , and a crook is made in the clevis at m' to pitch it in the direction of the draft, which is toward the cen-

ter of the locomotive, and would, for lack of the crook, draw out of line with the clevis. A stay-brace, n' , extends backward from the clevis-pin to a point, o' , where it is bolted to the beam c .

The lower edge, g' , of the mold-board consists of a share bolted or riveted on the under side, and made to project outward nearly level with the car-deck for shearing under the earth, the said share to be taken off and removed when worn out.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a nose-piece, a , with the base-timber c and the mold-board b , said mold-board and base-timber being connected to the nose-piece, substantially as described.

2. The nose-piece a , constructed with a stirrup, j , having a socket, l , for the connection of the base-timber c , substantially as described.

3. The nose-piece a , constructed with a stirrup, j , having a socket, l , for the connection of the base-timber c , and a notch or recess, m , for the roller-bar n , substantially as described.

4. The nose-piece a , constructed with a stirrup, j , for the connection of the base-piece c , and having a chambered extension, w , for the roller-box y , substantially as described.

5. The nose-piece a , in combination with mold-board b and base-beam c , and having the point x undercut or curved at a' , substantially as described.

6. The nose-piece a , in combination with the mold-board b and base-beam c , and having the guide-bracket b' formed on it, substantially as described.

7. The carrier-rollers d , mounted on the studs t , fitted in boxes s , and said boxes attached to the under side of the base-beam c , substantially as described.

8. The combination, with the nose-piece a , of a clevis bent at m' and pivoted in a hollow boss of said nose-piece, as shown and described.

9. The combination, with the mold-board b and beam c , of front carrying-roller, d , and inside carrying-rollers, e , mounted in adjustable bars n , having adjusting-levers o and fastening devices, substantially as described.

10. The combination of T-ribs d' and braces e' with the mold-board b and the base-beam c , the tongues of said T-ribs being turned or bent into the plane of the braces, substantially as described.

11. The combination of upper and lower braces, e' , with the mold-board b and the base-beam c , said braces being placed one above another and on the sides of beam c , and bolted together through said beam, substantially as described.

12. The lower braces, e' , connected to the mold-board level with beam c , said beam being located in the plane of greatest resistance to the mold-board, and the upper and lower braces being connected to the mold-board equidistant from the respective edges thereof, substantially as specified.

13. The mold-board having an overhang or front projection of the upper edge, h' , increasing from the point rearward, substantially as described.

5 14. The mold-board having the rear extension, i' , of the upper rear end beyond the lower point, j' , substantially as described.

15. The combination of an attached share-edge, g' , with the mold-board b , substantially as described.

GEO. WILLIAM ROLPH.

Witnesses:

ERSKINE H. POTTER,
CHAS. E. RUSSELL.