

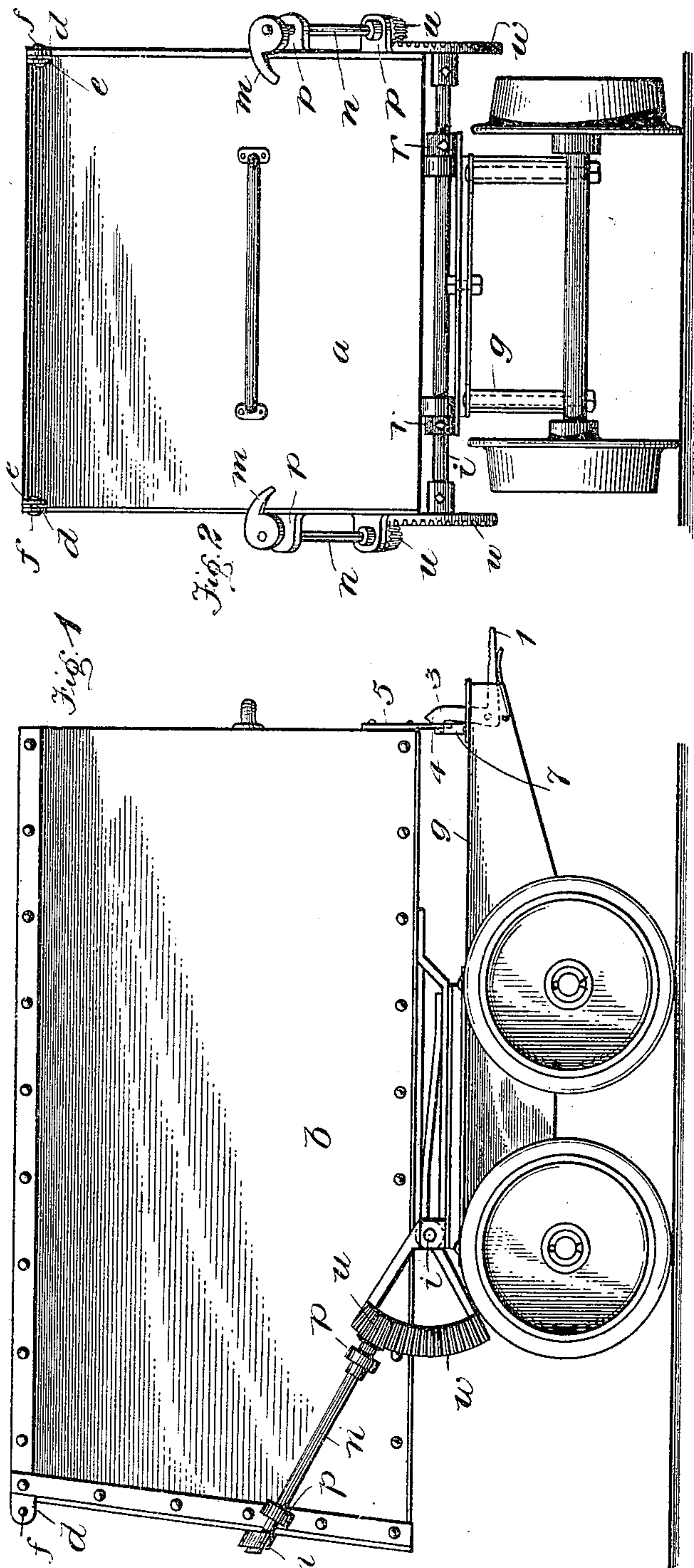
No. 670,092.

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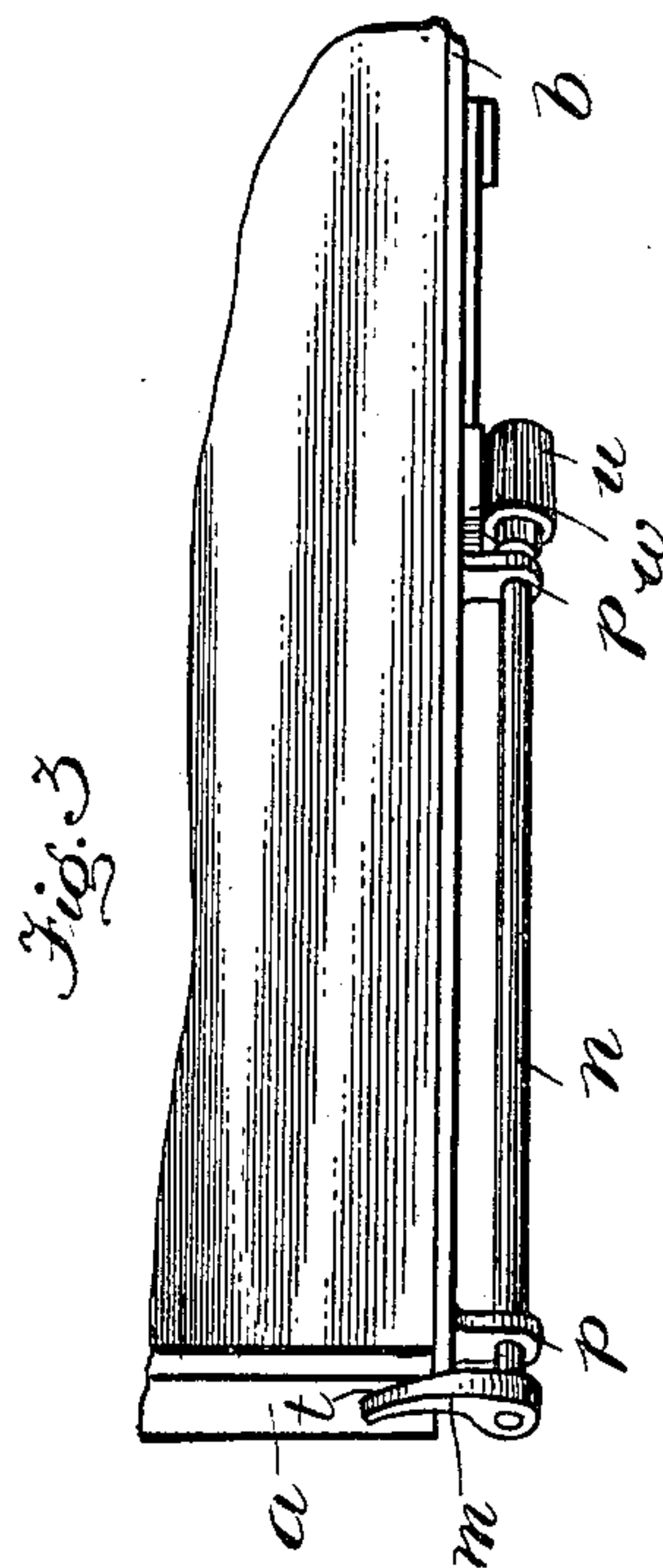
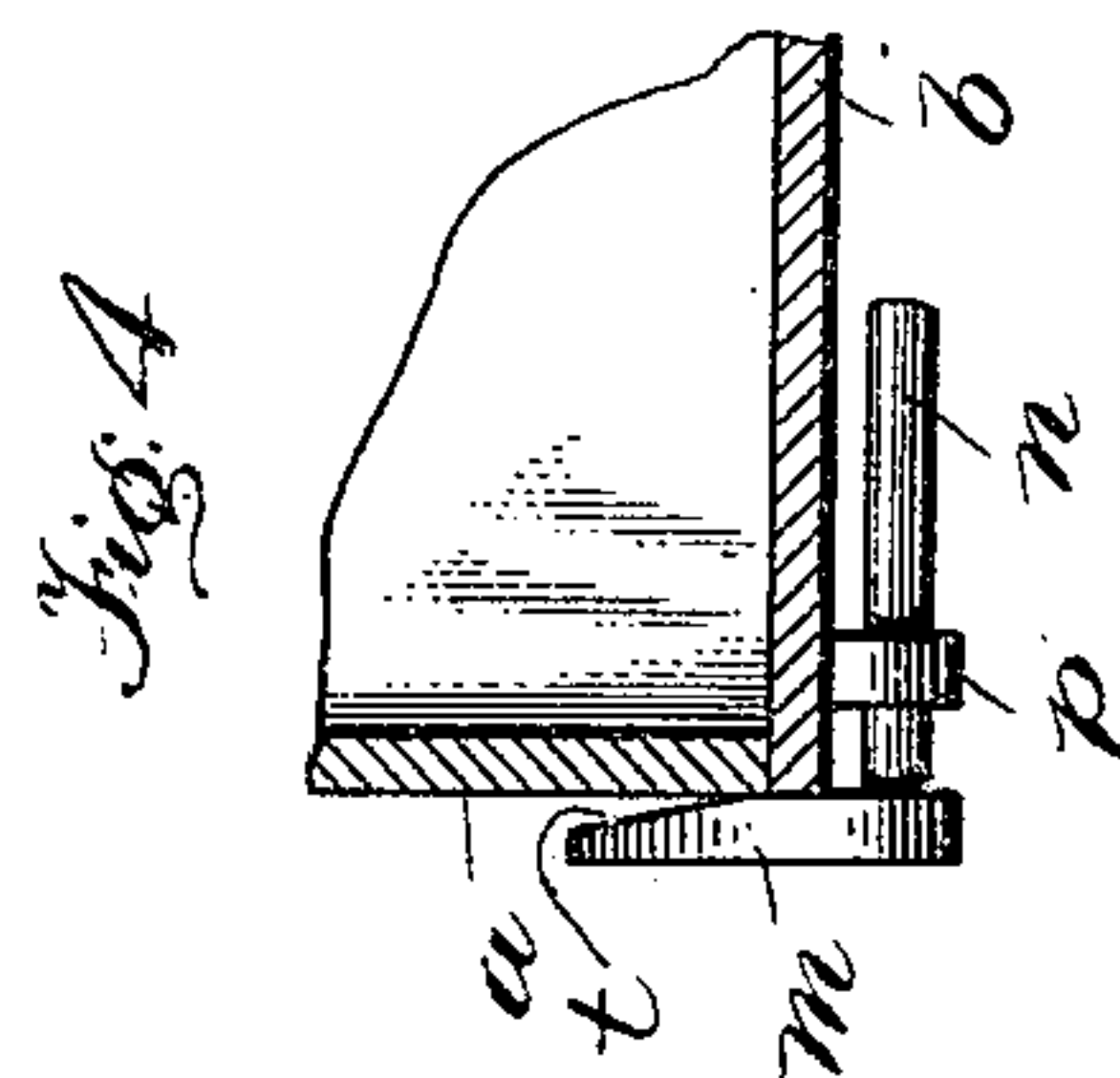
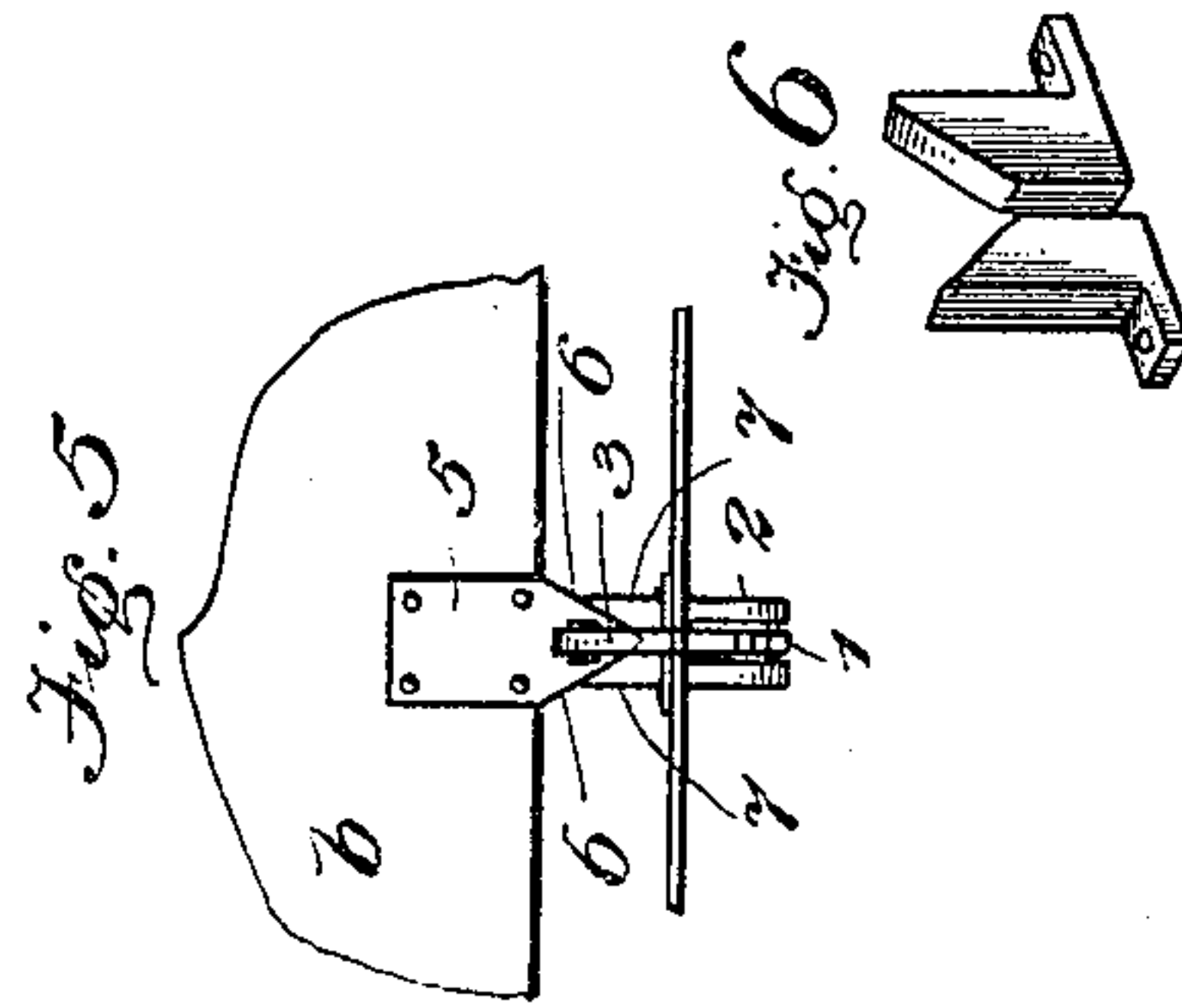
G. E. WOODBURY.  
ORE CAR.

(Application filed Nov. 30, 1900.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE E. WOODBURY, OF SAN FRANCISCO, CALIFORNIA.

## ORE-CAR.

SPECIFICATION forming part of Letters Patent No. 670,092, dated March 19, 1901.

Application filed November 30, 1900. Serial No. 38,234. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. WOODBURY, a citizen of the United States, residing in the city and county of San Francisco, in the State of California, have invented a new and useful Improvement in Ore-Cars, of which the following is a specification.

This invention relates to improvements made in cars for hauling and dumping coal and ore; and the invention embraces certain novel parts and combination of parts, as hereinafter described, and pointed out in the claims at the end of this specification, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1 is a side elevation of an ore-car embodying my present improvements. Fig. 2 is an elevation taken from the left-hand side of Fig. 1. Fig. 3 is a top view of a portion of the car-body and the door, showing one of the locking-cams and its rotating mechanism. Fig. 4 is a top view in detail of the locking-cam, with a portion of the car body and door in detail. Fig. 5 is a front view of the fastening that holds down the front end of the car-body and releases it for tilting.

The door *a* of the car-body *b* swings outwardly on hinges composed of ears *d d*, extending rearwardly and horizontally at the sides of the body, and ears or lugs *e e* on the door, united by bolts *f f*, the door being arranged at an angle from the vertical, so as to throw the bottom of the door beyond the vertical plane in which the points *f f* are situated.

The body *b* is mounted on its truck *g* in the usual manner on a turn-table to which it is hinged, so as to tilt from the side as well as from the rear, the tilting-point *i* being situated at or near the rear end of the truck.

The door-controlling device employed is an improvement on that class or description of such devices which are operated by or from the tilting movements of the car-body to release the door as soon as the bed of the car reaches and makes such an angle with the track that the principal weight of the load has accumulated on the rear end of the body. On the return movement, after the dumping operation, the door is closed and locked in the same automatic manner.

In my present improvement the locking device is constructed of a cam-shaped rotary

dog *m*, fixed in the outer end of a rotary shaft *n*, for which bearings *p p* are provided on the side of the car-body. This shaft extends from the door to a point near the tilting center of the car-body with which it would coincide if prolonged and is set at a greater or less angle, according to the position of the locking-cams. These last-named parts are fixed in the projecting outer ends of the shafts, and each one is formed with a flat inner face *s*, lying in the same plane with the door, and also with an oblique or outwardly-beveled face *t*, extending out to the point. This beveled portion is curved, as shown in Figs. 2 and 3, on a spiral increasing from the center of rotation outward. A pinion *u*, fast on the lower end of the shaft and engaging a stationary toothed segment *w*, is rotated by the movement of the car-body both in the dumping operation, as the car is tilted backward, and also when the car is brought up to horizontal position for reloading. The rack is stationary on the truck and is fixed in such position that the car-body will clear it when turning around on the center bolt and is of proper length also to hold the gear in mesh with it in all positions of the car-body. One of these locking-cams and its operating-shaft and gearing are placed on each side of the car-body, and the two are geared to operate simultaneously, locking or releasing the two sides of the door at the same moment. The racks *w* are supported from the rod or shaft *i*, that connects the car-body to the turn-table, the ends of that shaft being prolonged beyond the ears or knuckles *r* of the hinge, so as to support the racks at the sides of the car-body.

The position of the locking-cams can be changed to hold the door at points nearer the bottom by setting the rotary shaft at a lesser angle from the horizontal than is shown in the drawings.

The forward end of the car is held down by a catch of novel construction composed of a foot-lever 1, pivoted in a bracket 2 on the front extension of the truck and having an upright member 3, terminating in a hook-shaped head 4, the point and shoulder of which are shaped to enter and engage a slotted hanger 5 on the car-body. The lower end of this hanger is formed with inwardly-slanting edges 6 6, meeting together in an acute point



under the opening for the hook and having the same angle as the sides of fixed guides 7 on the truck. These last-mentioned parts are fastened on the truck in such position that 5 when the car-body is directly on the longitudinal central line of the truck the hook of the catch is in line with and will engage the opening in the hanger; but should the car-body be slightly off the center, as often happens in bringing it to the horizontal position 10 after dumping, the point of the hanger will strike the inclined faces of the guides and bring the body into place on the center to be caught and locked. This improved construction of latch, among other advantages, prevents much waste of time in bringing the car-body back and setting it exactly on the center of the truck before it can be locked. 15

Having thus fully described my invention, 20 what I claim as new therein, and desire to secure by Letters Patent, is—

1. In an ore-car, the combination with a truck and a tilting car-body mounted thereon, of a hinged door, rotary shafts having 25 bearings on the sides of the car-body, a stationary rack on each side of the truck, a gear on the shaft in mesh with the rack adapted to be rotated by rolling contact with the rack,

and a locking-cam on the outer end of each shaft having curved ends provided with beveled inner faces. 30

2. In a device for automatically locking and releasing the door of a tilting ore or coal car from the movement of the car-body on the truck, the combination of a rotatable shaft 35 mounted on the car-body, a locking-cam fast on said shaft adapted by its rotation to engage and disengage the door, a rack stationary on the truck, and a gear fast on the shaft engaging the rack to rotate the shaft by rolling contact with the rack. 40

3. In an ore-car the combination with the truck and a tilting body mounted thereon; of the locking-catch, hanger having an opening for the catch and inclined faces on opposite sides of said opening and meeting on the center of the hanger beneath the opening, 45 and the fixed angular guides on opposite sides of the catch.

In testimony that I claim the foregoing I 50 have hereunto set my hand and seal.

GEORGE E. WOODBURY. [L. S.]

Witnesses:

EDWARD E. OSBORN,  
M. REGNER.