

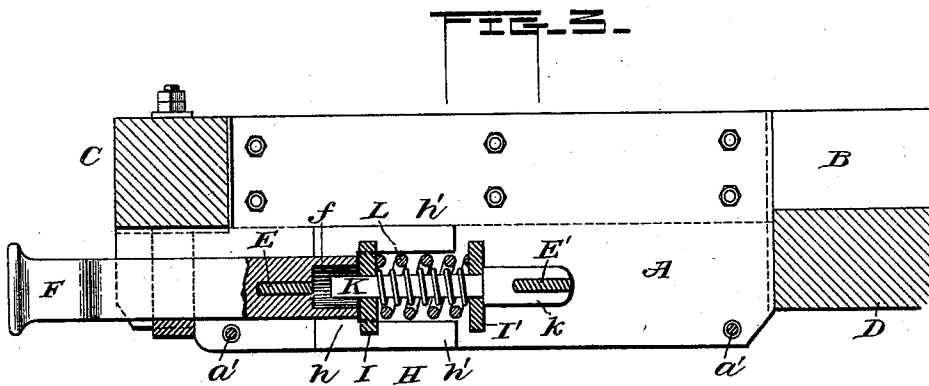
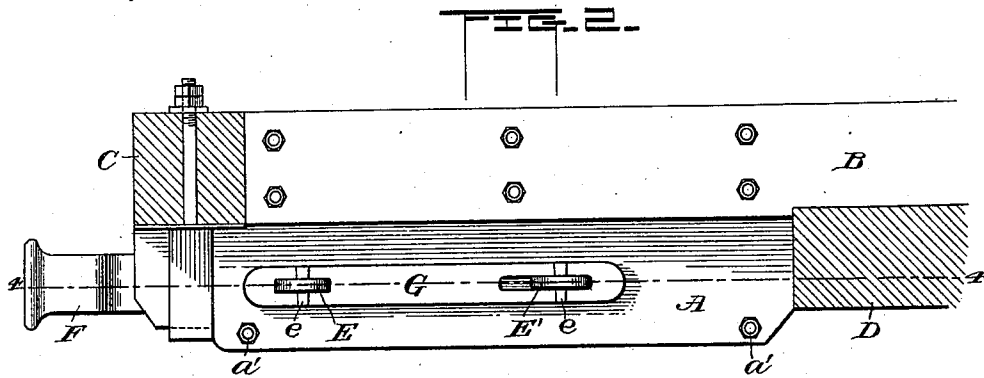
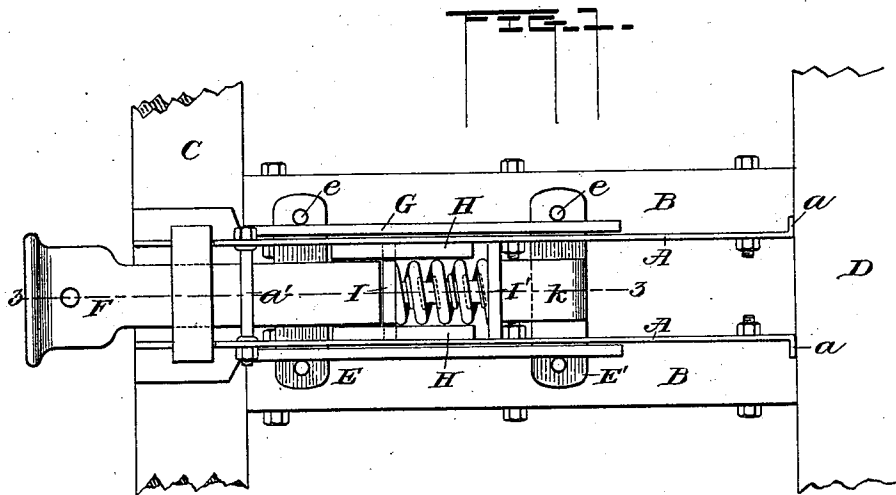
(No Model.)

2 Sheets—Sheet 1.

J. G. TOMLINSON.
DRAFT RIGGING.

No. 545,555.

Patented Sept. 3, 1895.



Witnesses
O. J. Smith
Edgar T. Brandenburg

Inventor
James G. Tomlinson,
By Geo. W. Whittlessey
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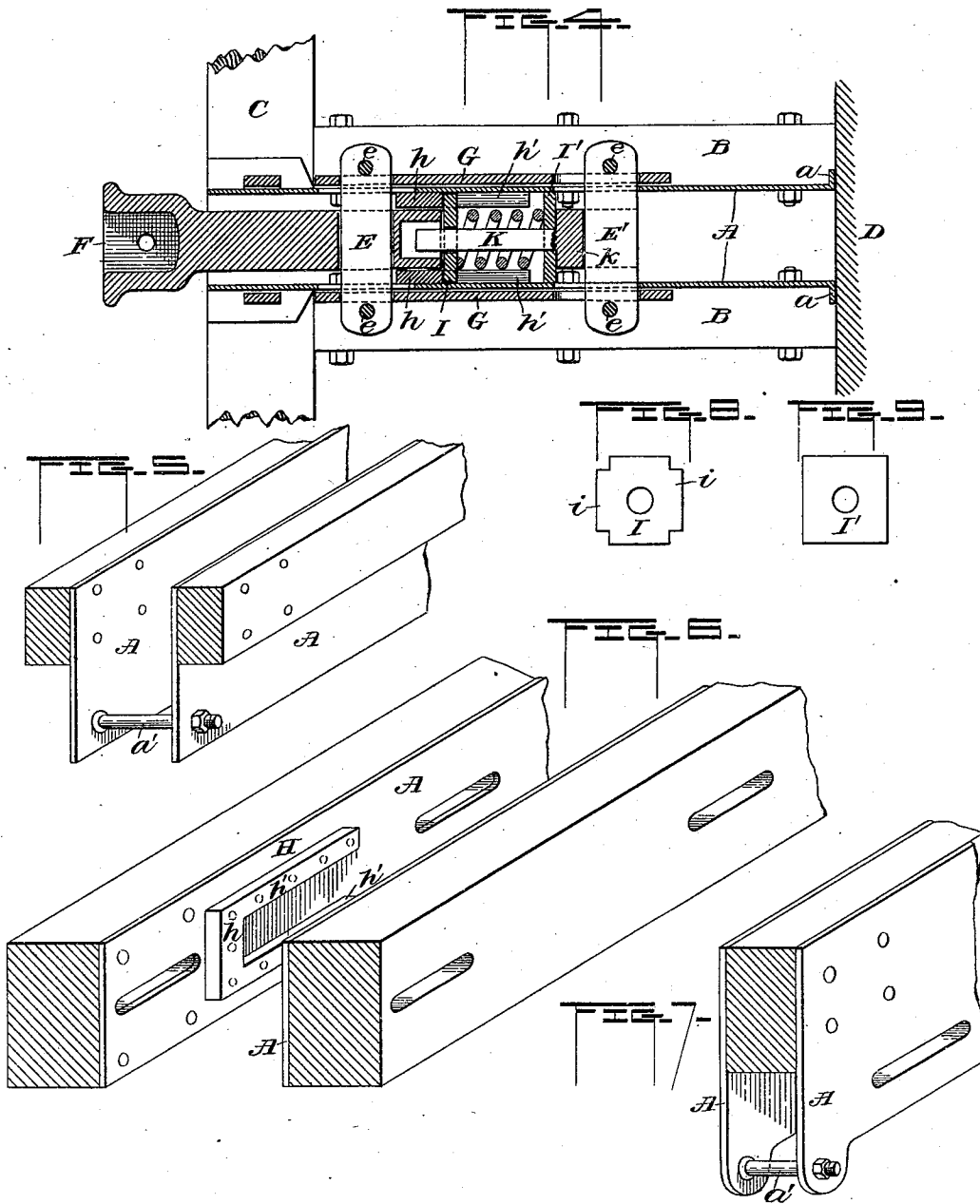
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Attorney

UNITED STATES PATENT OFFICE.

JAMES G. TOMLINSON, OF MERIDIAN, MISSISSIPPI.

DRAFT-RIGGING.

SPECIFICATION forming part of Letters Patent No. 545,555, dated September 3, 1895.

Application filed April 16, 1895. Serial No. 545,912. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. TOMLINSON, a subject of the Queen of Great Britain and Ireland, residing at Meridian, in the county of Lauderdale and State of Mississippi, have invented certain new and useful Improvements in Draft-Rigging; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 The invention relates to improvements in draft-gearing for freight and other cars; and the special objects of the invention are to provide draft-gear in the construction of which cast-iron or castings of any description, excepting the draw-bar, may be excluded and the whole constructed of wrought-iron or steel; to dispense with the use of bolts or nuts, except where necessary for bolting draft-plates to sills; to dispense with the yoke or "tail-strap,"

25 and to provide a draft-gearing which may be applied to cars having the present form of draft-timbers, or between draft-sills, if desired to dispense with draft-timbers, or, preferably, to be applied with the draft-sheets in lieu of

30 draft-timbers, by which the use of vertical draft-bolts may be dispensed with, making the renewal of the entire gearing possible without disturbing the load in case of repairs on a loaded car.

35 In the drawings, Figure 1 is a bottom plan view of a draft-rigging embodying my invention. Fig. 2 is a side elevation. Fig. 3 is a longitudinal section on line 3 3, Fig. 1, the draw-bar being partly in elevation. Fig. 4 is a horizontal section on line 4 4, Fig. 2. Figs. 5, 6, and 7 are modifications. Fig. 8 shows the front follower, and Fig. 9 the rear fol-

40 lower.

The draft sheets or plates A are formed of wrought-iron, flanged, or of pressed steel, firmly bolted to the center or draft sills B, and also to the end sill C and bolster D, if desired. If it is considered necessary, a flange a may be turned over the sills to relieve the strain on bolts. To prevent spreading, spacing-stays a' are inserted between the plates and bolted therefo. The draft-sheets are

slotted to receive the two cross-bars E E', the forward one E passing snugly through a slot in the rear portion of the draw-bar F and fitting closely in slots in the front ends of the bars or links G, which connect the projecting ends of the cross-bars outside of the draft-plates. The slots in the links for the rear cross-bar E' are elongated, so that the links can slide backward on the bar. The links are held on the bars by pins e, driven into holes in the ends of the bars.

The follower-guides H are riveted to the inside of the draft-plates. They comprise a cross-piece or stop h at the front end, having upper and lower parallel bars h', preferably integral therewith. The rear end of the guide is left open. The front follower I has ears i, which fit between the guide-bars h'. The rear follower I' is rectangular and fits easily between the draft-sheets behind the end of the follower-guide. In each follower is a central hole for the tail-pin K, which has a bifurcated head k, in the jaws of which is received the rear cross-bar E'. The follower I' abuts against said head k, and between it and the follower I lie the springs L, encircling the tail-pin K. The forward end of the tail-pin loosely enters a socket f in the rear end of the draw-bar, which normally abuts against the follower I. From this construction it results that the pulling strain is transmitted through the front cross-bar to the links, and thence to the rear cross-bar and the tail-pin, where it is transformed into a compression of the springs, which is sustained by the follower I and the guide H. The compression of the springs is limited by the space between the rear follower and the ends of the follower-guides. If the ears of the follower, the springs, or the links should break, the cross-bar E would slide forward till it struck the front ends of the slots in the draft-plates, which would then sustain the draft directly. The pushing or butting strain is sustained by the rear cross-bar, which in its normal position abuts against the rear ends of the slots in the draft-plates, the strain being transmitted through the followers, springs, and tail-pin. This draft-gear is especially easy to inspect and repair. The links are on the outside, where they are constantly in sight. The absence of any yoke inclosing the springs makes it easy to inspect them

from below. By removing the rear cross-bar E', the tail-pin, springs, and followers can be slid back and dropped down. The draw-bar can be taken out on removing the front cross-bar E without disturbing the rest of the gear. 5 When no draft-timbers or draft-plates are used, as in the case of placing the gear between center sills, the adjacent sills must be slotted, as shown in Fig. 6, to receive the 10 cross-bars E E'. The draft-plates are necessarily reduced in depth to equal the depth of the sills. The cross-bars may be lengthened to suit the dimensions and spacing of the sills or draft-timbers. When only one center sill 15 is used, the draft plates are bolted on each side of it, as shown in Fig. 7, the width of the sill being equal to the space required for the gear.

It will be seen that the various moving parts of this draft-gear are connected by wrought-metal bars and links, entirely dispensing with 20 bolts and nuts. The heavy yoke so commonly used is omitted.

All parts except the draw-bar are made of rolled or forged metal or of pressed steel. If 25 the latter material is used, the follower-guides may be formed integral with the draft-sheets.

Having thus described my invention, what I claim is—

1. In a draft rigging, the combination with 30 the sills or draft timbers, of wrought metal draft plates bolted thereto, and follower guides on said plates, said guides having their rear ends open to admit the follower, substantially as described.

35 2. In a draft rigging, the combination with the sills or draft timbers, of wrought metal draft plates bolted thereto, and follower guides on said plates, each composed of a front end and upper and lower horizontal 40 parallel bars, the rear end being left open substantially as described.

3. In a draft rigging, the combination with wrought metal draft plates, of follower guides 45 thereon having open rear ends, a follower having ears fitting said guides, and a rear follower fitting between the draft plates in the rear of the guides and adapted to be stopped by their rear ends, substantially as described.

4. In a draft rigging, the combination with 50 wrought metal draft plates having front and

rear horizontal slots, of cross bars passing through said slots, the rear one abutting normally against the rear ends of its slots, a draw bar engaging with the front cross bar, a tail pin entering a socket in the draw bar 55 and having a bifurcated rear end embracing the rear cross bar, two followers loosely mounted on the tail pin, a spring between the followers, and slotted links connecting the cross bars outside of the draft plates, 60 whereby all butting strains will be sustained by the rear cross bar and the draft plates, substantially as described.

5. In a draft rigging, the combination with the slotted draft members, of a draw bar, 65 a cross bar passing snugly through the draw bar, links outside of said draft members, fitting snugly over the ends of the cross bar, a rear cross bar passing through elongated slots in the links and abutting normally against 70 the rear ends of slots in the draft members, a bifurcated tail pin engaging the rear cross bar, followers through which the pin passes, springs between said followers, and follower 75 guides on the draft members adapted to resist the pulling strains on the draw bar, but not to receive its thrust under butting strains, substantially as described.

6. In a draft rigging, the combination with vertical slotted draft members, of follower 80 guides thereon, a follower having ears received in said guides, a rear follower fitting between said members in the rear of said guides, a spring between the followers, a tail pin passing through said followers and spring, 85 and a cross bar passing through the rear end of said tail pin and through slots in the draft members, whereby the cross bar supports the tail pin, rear follower and spring so that upon removing the cross bar the tail pin, followers 90 and spring may be dropped down and removed without disturbing the other parts of the draft gear, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. TOMLINSON.

Witnesses:

CHAS. MILLER,

CHAS. J. MILLER.