

(No Model.)

2 Sheets—Sheet 1.

W. O. GUNCKEL.
TILTING HOIST.

No. 537,529.

Patented Apr. 16, 1895.

FIG. 1—

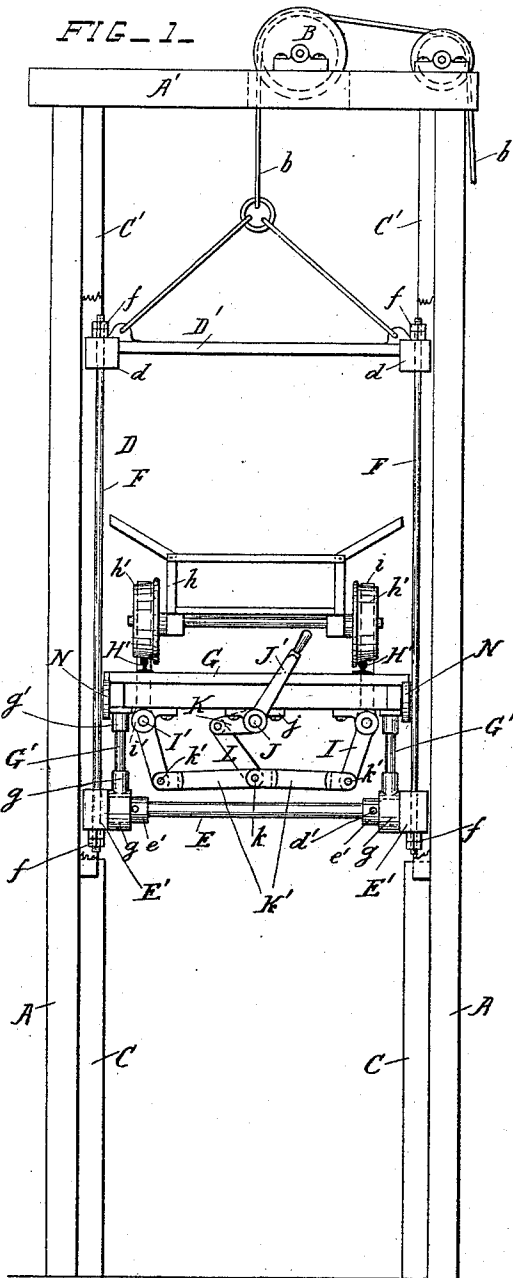
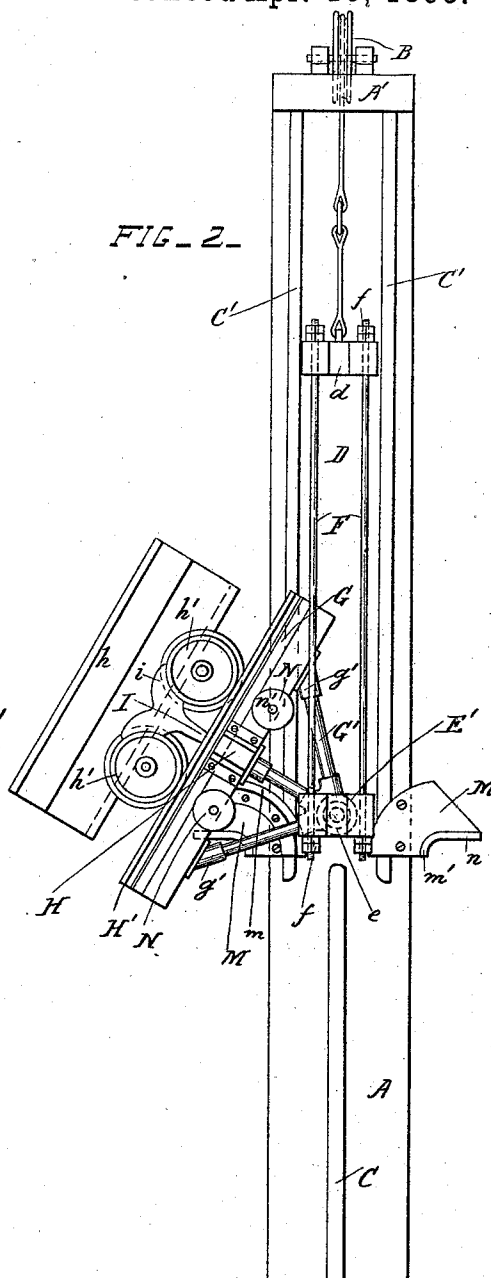


FIG. 2—



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ATTORNEY.

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FIG-3-

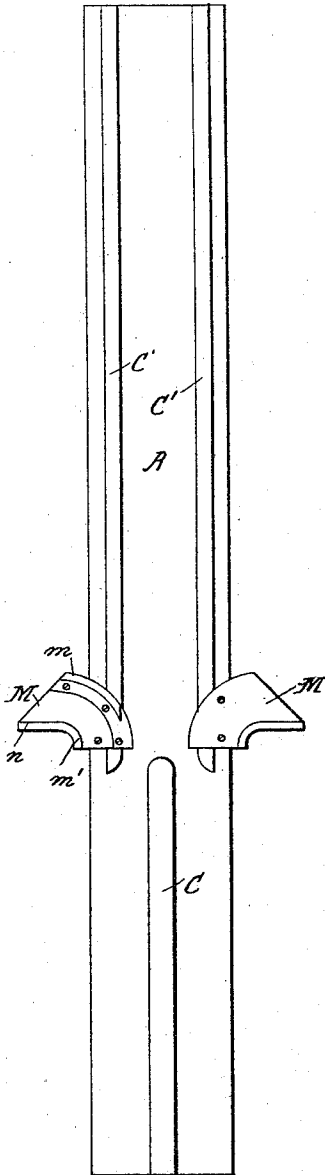
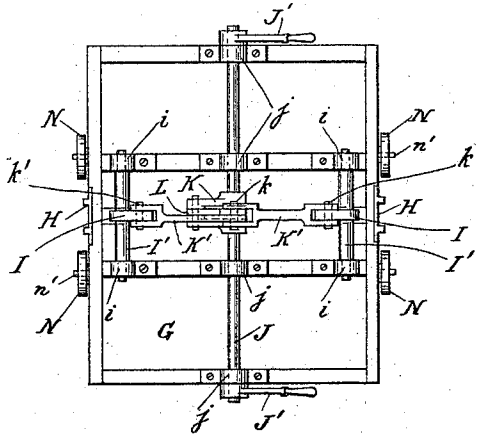


FIG-4-



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J. Stephen

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UNITED STATES PATENT OFFICE.

WINFIELD O. GUNCKEL, OF TERRE HAUTE, INDIANA.

TILTING HOIST.

SPECIFICATION forming part of Letters Patent No. 537,529, dated April 16, 1895.

Application filed June 14, 1894. Serial No. 514,601. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD O. GUNCKEL, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Tilting Hoists; and I do hereby 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.

This invention relates to tilting hoists specially intended for use in connection with coal wagons; and it consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a front view of the hoist. Fig. 2 is a side view of the hoist showing the platform raised and tilted, a portion of the guides being shown broken away for clearness. Fig. 3 is a detail front view of the guides and tilting brackets on one side of the platform. Fig. 4 is a plan view of the platform, from below.

A are the main uprights provided with a crosspiece A' at the top.

B is a sheave journaled at the top of the hoist and supported by the crosspiece A'; and b is the lifting cord, rope or chain which passes over the sheave B and is connected to a hoisting machine or engine of any approved construction.

C are the lower guides secured to the uprights, and C' are the upper guides. Two upper guides and a single lower guide are secured to each upright or are otherwise rigidly connected together in any approved manner. The lower guide is arranged centrally of the two upper guides, and the adjacent corners of the guides are rounded off. The lower guide projects from the upright for a greater distance than the upper guides, as shown in Fig. 1, for a purpose which will be more fully disclosed hereinafter.

The platform of the hoist is supported by a frame D. This frame is provided at the top with a crossbar D' and two shoes d to which the lifting cord b is attached. The shoes d slide between the upper guides C'. The frame D is provided at the bottom with a shaft E, and two shoes E'. The shoes E' are provided with central grooves e engaging with

the lower guides C, and sleeves e' which are slid upon the ends of the shaft E and secured thereto by pins d'.

F are four vertical rods provided with nuts f at their ends. These rods pass through holes in the shoes d and E' and couple them together.

G is the platform of the hoist.

G' are arms secured to the under side of the platform and provided with sockets g which are journaled on the sleeves e'. The arms G' are preferably tubular so that they may be very strong and light, and they are attached to the platform by sockets g'.

H are lugs secured to the sides of the platform. These lugs engage with the lower guides C and are made of such a size that they will not engage with the upper guides when the platform is raised.

H' are rails secured to the top of the platform, and h is a coal truck provided with wheels h' adapted to run upon the rails H'.

I are the wheel clamping levers provided with heads i for engaging with the wheels and securing the truck to the platform. The levers I are secured on shafts I' which are journaled in the bearings i' on the under side of the platform. The platform is provided with slots through which the upper ends of the levers I project.

J is a shaft journaled in bearings j secured to the under side of the platform, and J' are operating levers secured on the ends of the shaft J at the front and rear of the platform.

K is a crank secured at about the middle of the shaft J.

K' are toggle levers pivoted together by the pin k, and having their ends pivoted to the lower ends of the levers I by the pins k'.

L is a rod operatively connecting the end of the crank K with the pin k of the toggle levers.

M are the tilting brackets secured to the uprights A. Each bracket is provided with a curved upper flange m, and a curved lower flange m' having a horizontal straight portion n extending beyond the end of the flange m. The upper flange m is removably connected to the bracket. In the drawings the whole flange is shown secured to the bracket by bolts, but any approved means for securing

the parts together may be used, and only a portion of the flange need be removable. When the hoist is constructed to tilt to one side only, it is not necessary to make the whole or any part of the flange *m* removable from the bracket.

N are rollers journaled on pins *n'* projecting from the sides of the platform. When the hoist is constructed to tilt to one side only, one roller and one bracket on each side are provided, but when the hoist is to deliver on each side two rollers and two brackets are provided, as shown in the drawings.

The operation of the device is as follows:
 15 A coal truck is run upon the platform, and the levers *J'* are moved to the right. This raises the joint of the toggle levers to the position shown in Fig. 1, and causes the levers *I* to engage with the wheels of the truck.
 20 When in this position the truck is securely clamped to the platform and cannot be accidentally detached therefrom. When the platform is raised, the rollers *N* on one side of the guides strike the upper flanges *m* of the brackets on the same side of the guides. The flanges *m* of the brackets on the other side of the guides are removed before raising the platform, and the platform is caused to tilt to the right or to the left according to the position of the flanges *m* which are not removed.
 30 When the rollers strike the flanges *m*, the lugs are clear of the tops of the lower guides and do not catch against the upper guides because they do not project so far from the uprights as the lower guides. The continued raising of the platform causes the rollers *N* to pass between the flanges *m* and *m'* and run onto the horizontal portions *n* of the lower flanges. This operation tilts the platform to the position shown in Fig. 2, so that the coal can run out of the truck. The portions *n* of the lower flanges are made to project beyond the ends of the upper flanges so that, should the plat-

form be raised too high, the rollers will not catch against the upper flanges and break the brackets.

What I claim is—

1. In a tilting hoist, the combination, with the double upper guides, and the single lower guides projecting laterally beyond the upper guides and arranged between and below them; of a frame sliding on the said guides; a platform pivoted to the lower part of the frame; and lugs secured to the sides of the platform, engaging with the lower guides and adapted to tilt over between the upper guides, when the platform is raised, substantially as set forth.

2. In a tilting hoist, the combination, with the uprights *A*, the double upper guides secured to the uprights, and the single lower guides secured to the uprights centrally of the upper guides and projecting laterally beyond them; of the frame provided with shoes engaging with the upper and lower guides; a platform pivoted to the lower part of the frame and provided with lugs engaging with the lower guides and adapted to tilt over between the upper guides; the rollers *N* journaled on pins projecting from the sides of the platform; and the tilting brackets secured to the uprights *A* and provided with curved upper flanges *m*, and curved lower flanges *m'* having horizontal straight portions *n* extending beyond the ends of the flanges *m*, for the rollers *N* to engage with, whereby the said platform is tilted automatically and supported in an inclined position, substantially as set forth.

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

WINFIELD O. GUNCKEL.

Witnesses:

WINFIELD S. MAHAN,
JOHN M. VOLKERS.