

V. O. STROBEL & A. E. HOGREBE.

TRAVELING HOIST.

APPLICATION FILED MAY 20, 1908.

2 SHEETS—SHEET 1.

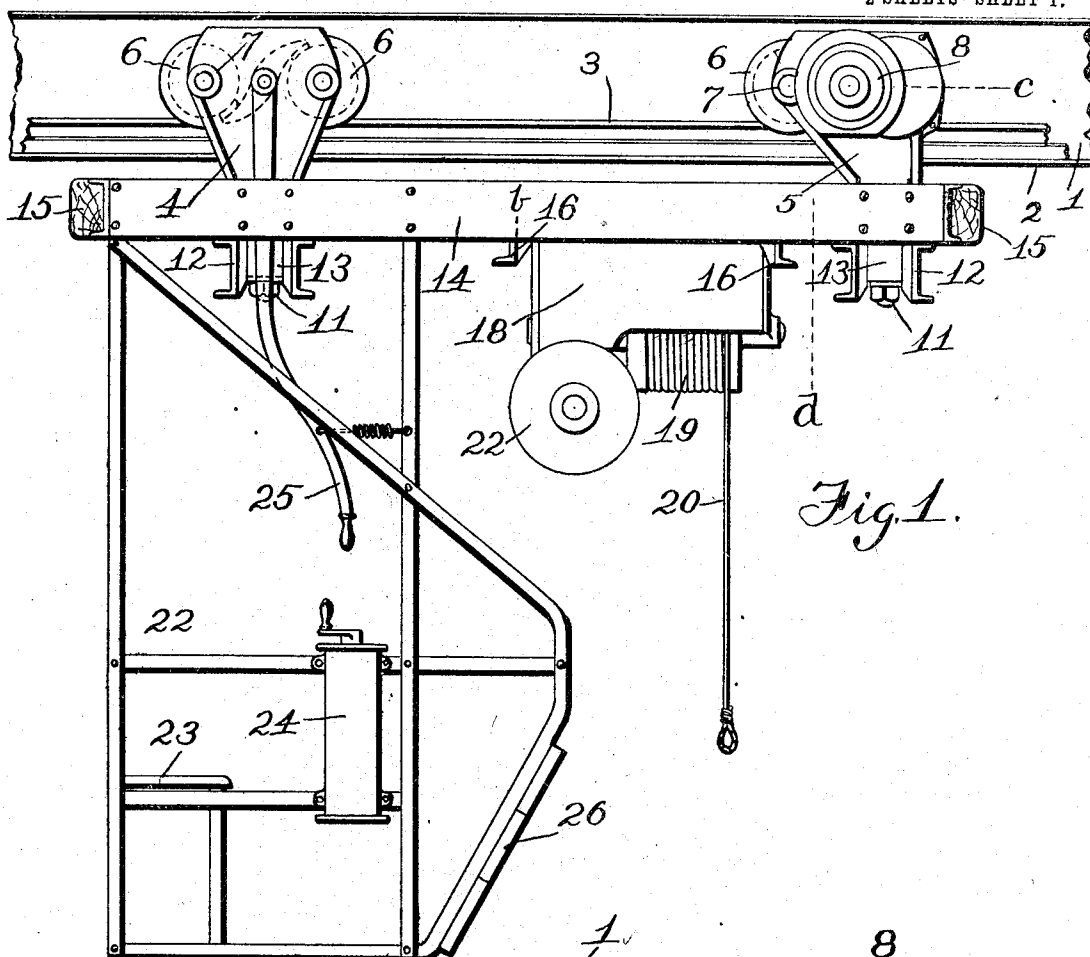


Fig. 1.

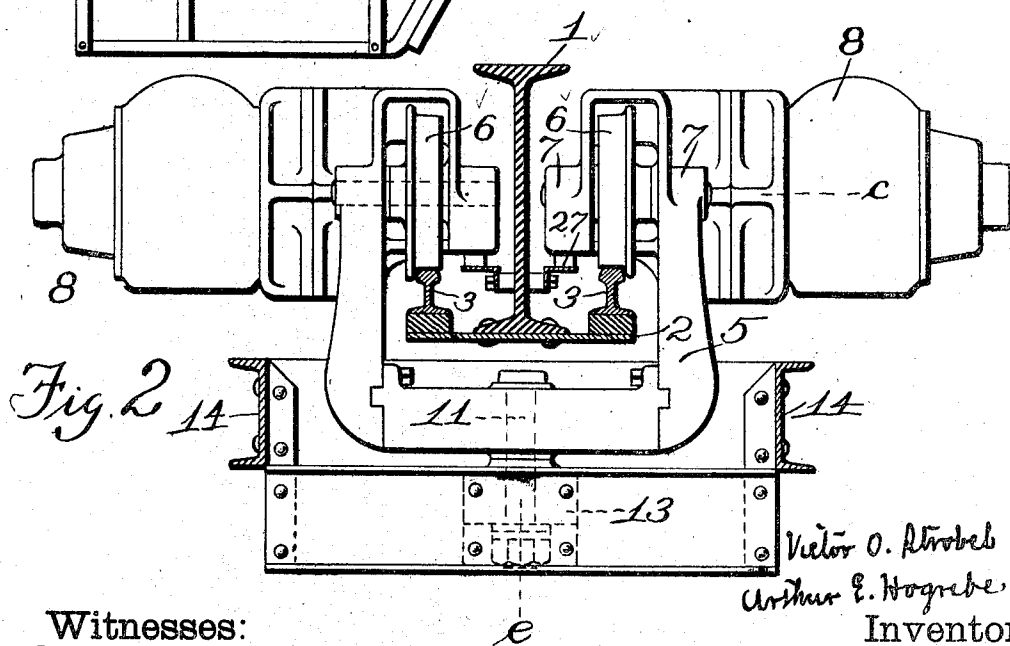


Fig. 2

Witnesses:
Elmer R. Shipley.
M. S. Belden.

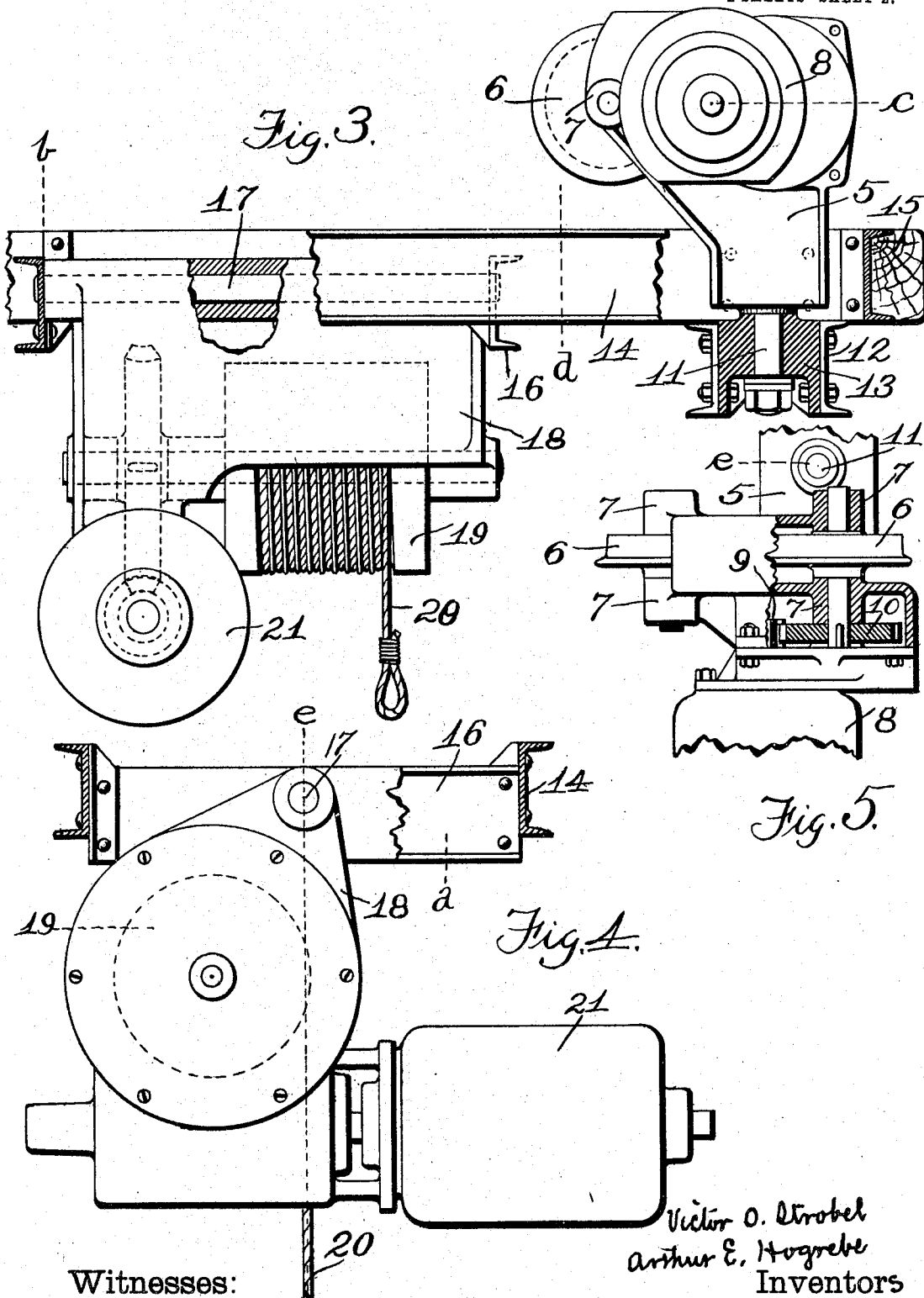
Victor O. Strobel
Arthur E. Hogrebe,
Inventors
by James W. See
Attorney

V. O. STROBEL & A. E. HOGREBE.

TRAVELING HOIST.

APPLICATION FILED MAY 20, 1908.

2 SHEETS—SHEET 2.



Witnesses:
 Elmer R. Shipley.
 M. S. Belden.

Victor O. Strobel
 Arthur E. Hogrebe
 Inventors
 by James W. See
 Attorney

UNITED STATES PATENT OFFICE.

VICTOR O. STROBEL AND ARTHUR E. HOGREBE, OF PHILADELPHIA, PENNSYLVANIA,
ASSIGNORS TO NILES-BEMENT-POND COMPANY, OF JERSEY CITY, NEW JERSEY.

TRAVELING HOIST.

No. 894,916.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed May 20, 1908. Serial No. 433,853.

To all whom it may concern:

Be it known that we, VICTOR O. STROBEL and ARTHUR E. HOGREBE, citizens of the United States, and residents of Philadelphia, Philadelphia county, Pennsylvania, have
5 invented certain new and useful Improvements in Traveling Hoists, of which the following is a specification.

This invention relates to traveling hoists of that type designed to travel suspended from a single overhead track-beam arranged in straight and curved lines, and the invention will be readily understood from the following description taken in connection with
15 the accompanying drawings in which:—

Figure 1 is a side elevation of a traveling hoist exemplifying our invention: Fig. 2 a vertical longitudinal section of the same in the plane of line *d* of Figs. 1 and 3: Fig. 3 a side elevation of the right-hand end of the hoist, parts appearing in vertical section in the plane of line *e* of Figs. 2, 4 and 5. Fig. 4
20 a vertical section in the plane of line *b* of Figs. 1 and 3: and Fig. 5 a plan of a portion of one of the trucks, parts appearing in horizontal section in the plane of line *c* of Figs. 1, 2 and 3.

In the drawings:—1, indicates a track-beam, preferably of I-shape section, this track-beam to be properly supported overhead along the straight and curved course over which the hoist is to travel: 2, a horizontal member secured to the base of the track-beam and extending to each side thereof: 3, a pair of rails supported by the horizontal member, one rail extending along each side of the track-beam: 4, a U-shaped truck-body with its vertical arms straddling the track-structure: 5, a second truck-body of substantially similar construction and disposition: 6, truck-wheels mounted on the truck-bodies and engaging the track rails, each of the truck-bodies carrying four of these wheels, two for each of the rails: 7, bearings carried by the truck-bodies for the axles of the wheels: 8, a pair of electric motors carried by the truck 5, one motor at each side of the track structure: 9, a pinion on the armature shaft of each truck motor: 10, a gear
40 fast on the axle of one wheel at each side of truck 5 and engaged by the pinion of the appropriate motor: 11, a vertical king-bolt journaled centrally in each of the truck-bodies: 12, a pair of short beams straddling
55 each of the king-bolts and arranged trans-

versely of the truck: 13, a center bearing secured between each pair of beams 12 and engaging the appropriate king-bolt: 14, a pair of longitudinal beams connected together and forming a skeleton carriage straddling the lower portions of the two truck bodies and resting upon and secured to the transverse beams 12: 15, buffers secured to each end of the carriage: 16, a pair of transverse beams secured between the longitudinal beams of the carriage: 17, a horizontal pivot disposed between the longitudinal beams of the carriage and having its ends supported by the transverse beams 16, the axis of this pivot lying in the vertical
60 plane of the two king-bolts and of the transverse center of the track-structure: 18, a hoisting device having at its top a bearing engaging the pivot 17 whereby it is suspended from the carriage: 19, a hoisting
65 drum mounted in the lower portion of the hoisting apparatus with its axis parallel with that of pivot 17 and so disposed transversely that its hoisting rope will fall in the vertical plane of the king-bolts and of the axis of
70 pivot 17 and of the transverse center of the track structure: 20, the hoisting rope winding upon the hoisting drum: 21, an electric motor carried by the hoisting apparatus and geared to the hoisting drum, the illustration
75 showing worm gearing for this purpose: 22, an operator's cage secured to and suspended from one end of the carriage: 23, the operator's seat: 24, one of the controllers by which, through the medium of ordinary electrical
80 connections, the operator will control the two truck motors and the hoisting motor: 25, a brake mechanism engaging wheels of truck 4 and adapted to be controlled by the operator in the cage: 26, a shield supported by the
85 operator's cage between the cage and the hoisting rope: and 27, electrical conductors in the form of rails secured on opposite sides of the track-beam and adapted to be traversed by shoes on truck 5.

The electrical connections for conveying current to the truck motor and the hoisting motor from the conductors 27, and the mechanism for controlling the motors are not illustrated and may be substantially as usual
100 in traveling hoist or crane construction.

The hoisting apparatus is suspended from the carriage at such point that the load suspended by the hoisting rope will be imposed mainly upon truck 5 which is the motor-
110

driven traction truck. As the hoisting rope falls in the vertical plane of pivot 17 and the king-bolts and the transverse center of the track structure it follows that the load will impose no twisting strains upon the carriage or track structure and that the load is equably distributed at each side of the transverse center of the track structure. As the apparatus is moving along the track at considerable speed the tendency of the momentum for the load would be to impose more or less severe side strains as the apparatus takes a curve in the track, were it not for the fact that the hoisting apparatus is free to swing upon its pivot 17 and thus gradually but quickly accommodate the load to the new course of travel.

It is to be observed that each truck wheel is provided with a bearing at each of its sides, thus avoiding overhung wheel construction. The king-bolt connection between the trucks and the carriage permits of the apparatus freely passing any curves which the individual trucks will pass. The traction driving is done entirely at one of the trucks and the tractive power at this truck is applied at each side of the track system independently by independent truck motors the result being a peculiarly satisfactory driving of the apparatus around curves. The disposition of the hoisting apparatus nearer the traction truck than the other truck causes most of the load to be imposed upon the traction wheels.

We claim:—

1. A traveling hoist comprising, a track beam, a base-member therefor extending sidewise therefrom, rails supported by said base-member at an equal distance to each side of the beam, a pair of U-shaped truck-bodies with their vertical members straddling the pair of rails, wheels mounted in the truck-bodies and engaging the rails, a king-bolt supported by each truck-body, a skeleton carriage frame disposed below the track structure and having pivotal connection with each of the king-bolts, a pivot disposed longitudinally in the carriage with its axis in the vertical plane of the axes of the king-bolts, and a hoisting apparatus suspended from said pivot and having a hoisting drum disposed with its axis parallel with said pivot and so disposed that its hoisting rope will fall into the common vertical plane of said king-bolts and the axis of said pivot and the transverse center of said beam, combined substantially as set forth.

2. A traveling hoist comprising, a track beam, a base-member therefor extending sidewise therefrom, rails supported by said base-member at an equal distance to each side of the beam, a pair of U-shaped truck-bodies with their vertical members straddling the pair of rails, wheels mounted independent of each other in the truck-bodies and engaging the rails, a king-bolt supported

by each truck-body, a skeleton carriage frame disposed below the track structure and having pivotal connection with each of the king-bolts, a pivot disposed longitudinally in the carriage with its axis in the vertical plane of the axes of the king-bolts, and a hoisting apparatus suspended from said pivot and having a hoisting drum disposed with its axis parallel with said pivot and so disposed that its hoisting rope will fall into the common vertical plane of said king-bolts and the axis of said pivot and the transverse center of said beam, combined substantially as set forth.

3. A traveling hoist comprising, a track beam, a base-member therefor extending sidewise therefrom, rails supported by said base-member at an equal distance to each side of the beam, a pair of U-shaped truck-bodies with their vertical members straddling the pair of rails, wheels mounted independent of each other in the truck-bodies and engaging the rails, motors carried by the opposite sides of one of the truck-bodies independent of each other and each having operative connection with one of the wheels of the truck in such manner that wheels on the opposite sides of the track-beam are independently driven, a king-bolt supported by each truck-body, a skeleton carriage frame disposed below the track structure and having pivot connection with each of the king-bolts, a pivot disposed longitudinally in the carriage with its axis in the vertical plane of the axes of the king-bolts, and a hoisting apparatus suspended from said pivot and having a hoisting drum disposed with its axis parallel with said pivot and so disposed that its hoisting rope will fall into the common vertical plane of said king-bolts and the axis of said pivot and the transverse center of said beam, combined substantially as set forth.

4. A traveling hoist comprising, a track beam, a base-member therefor extending sidewise therefrom, rails supported by said base-member at an equal distance to each side of the beam, a pair of U-shaped truck-bodies with their vertical members straddling the pair of rails, a pair of bearings carried by each vertical member of each truck-body above the rails and straddling the vertical plane of the appropriate rail, wheels mounted in the truck-bodies between the pairs of bearings and supported at each side thereby and engaging the rails, a king-bolt supported by each truck-body, a skeleton carriage frame disposed below the track structure and having pivotal connection with each of the king-bolts, a pivot disposed longitudinally in the carriage with its axis in the vertical plane of the axes of the king-bolts, and a hoisting apparatus suspended from said pivot and having a hoisting drum disposed with its axis parallel with said pivot

and so disposed that its hoisting rope will fall into the common vertical plane of said king-bolts and the axis of said pivot and the transverse center of said beam, combined substantially as set forth.

5 5. A traveling hoist comprising, a track beam, a base - member therefor extending sidewise therefrom, rails supported by said base-member at an equal distance to each
10 side of the beam, a pair of U-shaped truck-bodies with their vertical members straddling the pair of rails, wheels mounted in the truck-bodies and engaging the rails, motor mechanism carried by one of said truck-
15 bodies and engaging wheels thereof, a king-bolt supported by each truck-body, a skeleton carriage frame disposed below the track structure and having pivotal connection with

each of the king-bolts, a pivot supported longitudinally in the carriage near the king-bolt 20 of the truck carrying said motor mechanism and having its axis in the vertical plane of the axes of the king-bolts, and a hoisting apparatus suspended from said pivot and having a hoisting drum located near one of said 25 king-bolts and so disposed with its axis parallel with said pivot that the hoisting rope will fall in the common vertical plane of the king-bolts and the axis of said pivot and the transverse center of said track-beam, 30 combined substantially as set forth.

VICTOR O. STROBEL.

ARTHUR E. HOGREBE.

Witnesses:

JENNIE V. STELLY,
CHAS. H. BROOKS.