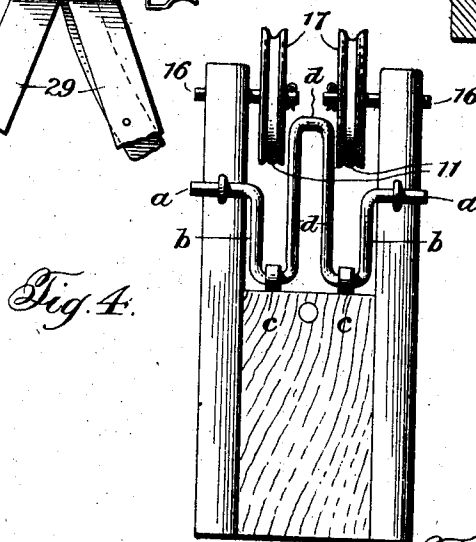
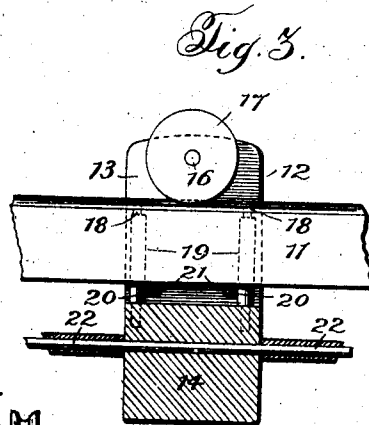
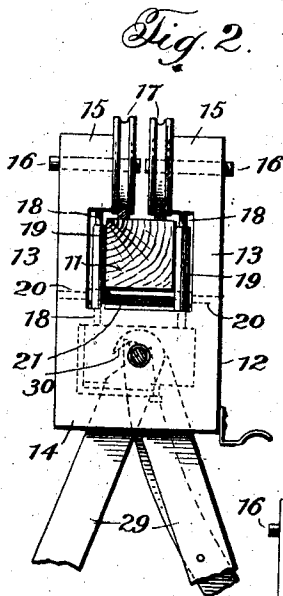
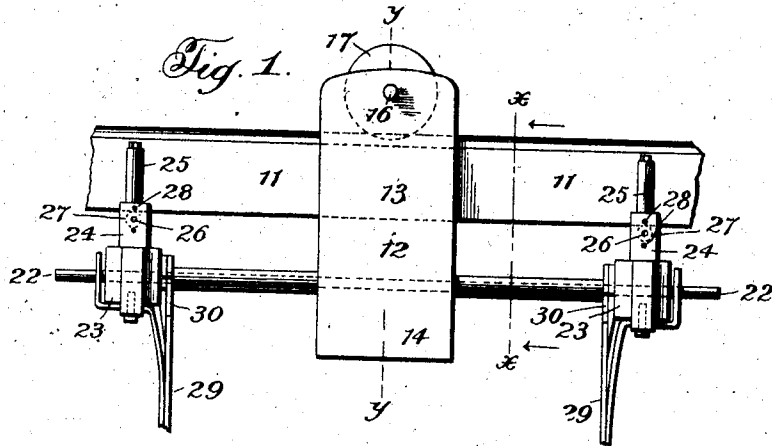


No. 834,740.

PATENTED OCT. 30, 1906.

T. W. LINGARD.
TRACTION DEVICE.
APPLICATION FILED JULY 25, 1906.



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UNITED STATES PATENT OFFICE.

THOMAS WM. LINGARD, OF OAK GROVE, ALABAMA.

TRACTION DEVICE.

No. 834,740.

Specification of Letters Patent.

Patented Oct. 30, 1906.

Application filed July 25, 1906. Serial No. 327,738.

To all whom it may concern:

Be it known that I, THOMAS WILLIAM LINGARD, a citizen of the United States, residing at Oak Grove, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Traction Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to traction devices which are arranged to travel on an elevated traction-way, such as a track or cable, for the purpose of supporting a carrier for freight or other material, and especially for use with such a carrier as is disclosed in my copending application for patent on freight-carrier, filed November 14, 1905, Serial No. 287,283, in which application the subject-matter of this application was previously disclosed.

This device is so constructed as to form a strong and efficient means for supporting and conveying the carrier, and it is provided with means which greatly reduces friction between it and the supporting track or cable. Effective means are embodied in the device whereby the carrier is steadied both while in motion and while at rest.

The details of construction and arrangement of parts contemplated by this invention are disclosed in the accompanying drawings, forming part hereof, wherein is shown for purposes of illustration a preferable embodiment of the invention.

Like reference characters refer to corresponding parts in the several views of the drawings, whereof—

Figure 1 is a front view. Fig. 2 is an end view, partly in section, on the line *x x*, Fig. 1. Fig. 3 is a side view, partly in section, on the line *y y*, Fig. 1. Fig. 4 is a cross-sectional view showing a modification.

Having more particular reference to the drawings, a traction-way 11 is provided for supporting the carrier. The traction-way may be either an elevated track, as shown in Figs. 1, 2, and 3, or it may be formed of suspended cables, as shown in Fig. 4.

The traction device (designated by 12) includes upright members 13 and a connecting portion 14 at the bottom, whereby an inverted substantially-U-shaped frame is formed. Offsets 15 are attached to members 13 or made integral therewith near their upper end and on their facing surfaces. A shaft 16 is secured to each member 13 and its offset 15, and on each of said shafts is journaled a trac-

tion-wheel 17, the two wheels being complementary and capable of travel on traction-way 11.

Vertical shafts 18 are disposed between offsets 15 and member 14 on each side of traction-way 11, and on said shafts are rollers 19, which have contact with the sides of said traction-way, reduce friction, and steady the device. Horizontal shafts 20 are secured in members 13 and below traction-way 11, and these shafts carry rollers 21, which engage the bottom of traction-way 11 for a function similar to that of rollers 19.

When a cable is used to support the device, as shown in Fig. 4, rollers 19 and 21 may be dispensed with or not, as desired.

During use of a cable traction-way if rollers 19 and 21 are not used there is attached to each end of the traction device a rod *a*, fabricated to form downwardly-depending portions *b*, lying beneath traction-wheels 17 and carrying antifriction-rollers *c*, and to form a portion *d*, projecting upwardly between traction-wheels 17. The device formed by rod *a* serves to maintain the proper relative position between the cable and traction-way, rollers *c* engaging the cable on tendency of the traction device to "jump."

An arm or shaft 22 projects from each side of member 14 in line of and beneath traction-way 11. Near each end of arm 22 is attached a guide 23.

Projecting upwardly from guide 23 and arranged one on each side of the traction-way are standards 24, carrying antifriction-rollers 25, which are engageable by the traction-way. Supported in each pair of standards 24 is a shaft 26, carrying an antifriction-roller 27, engageable by the under part of the traction-way.

A plurality of apertures or seats 28 are formed in standards 24 for the reception of shaft 26 in order that the height of the same can be varied at will. Guides 23 constitute means in addition to traction device 12 for steadying the carrier on the traction-way.

The carrier proper is hung on arm 22 by bails 29, having slots 30 in their upper portions for removable attachment to said shaft. Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A traction device comprising an inverted-U-shaped frame, inwardly-projecting portions on the arms of said frame, a wheel on one of said projecting portions and arranged

to travel on a traction-way, vertical shafts disposed between and attached to said projecting portions and the bottom of said frame, and rollers on said shafts arranged to engage the sides of the traction-way.

2. A traction device comprising a wheel arranged for travel on a traction-way, an arm projecting from the traction device, and a guide on said arm arranged to engage the traction-way, said guide comprising a cross member attached to said arm, standards disposed on each side of the traction-way, and rollers on said standards and arranged to engage the traction-way.

3. A traction device comprising a wheel arranged for travel on a traction-way, an arm projecting from the traction device, and a guide on said arm arranged to engage the traction-way, said guide comprising a cross member attached to said arm, standards on said cross member, a shaft carried by said standards, and a roller on said shaft arranged to engage the bottom of the traction-way.

4. A traction device comprising a wheel arranged for travel on a traction-way, an arm projecting from the traction device, and a guide on said arm arranged to engage the traction-way, said guide comprising a cross member attached to said arm, standards on said cross member, a shaft carried by said standards, a roller on said shaft arranged to

engage the bottom of the traction-way, and means on said standards whereby height of said roller can be varied.

5. A traction device comprising a wheel arranged for travel on a traction-way, an arm projecting from the traction device, and a guide on said arm arranged to engage the traction-way, said guide comprising a cross member attached to said arm, standards disposed on each side of the traction-way, rollers on said standards and arranged to engage the sides of the traction-way, a shaft carried by said standards, and a roller on said shaft arranged to engage the bottom of the traction-way.

6. A traction device comprising a plurality of wheels arranged for travel on a traction-way composed of cables, and means on said device whereby each traction-wheel is kept in proper relation with the cable on which it travels, said means comprising a downwardly-depending portion lying beneath each traction-wheel, and an upwardly-extending portion disposed between the traction-wheels.

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

THOMAS WM. LINGARD.

Witnesses:

M. C. LINGLE,
WM. BAXTER.