(No Model.)

J. CROWTHER.

CABLE GUIDE PULLEY.

No. 406,820. Patented July 9, 1889.

Fig. 1.

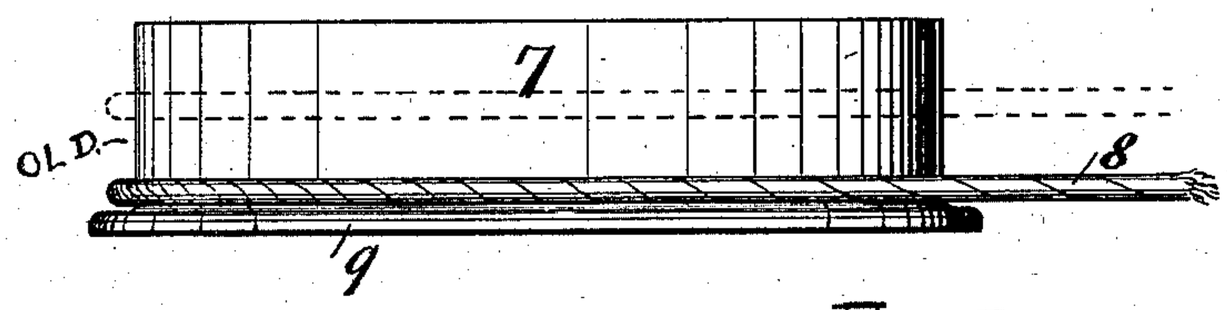


Fig. 2.

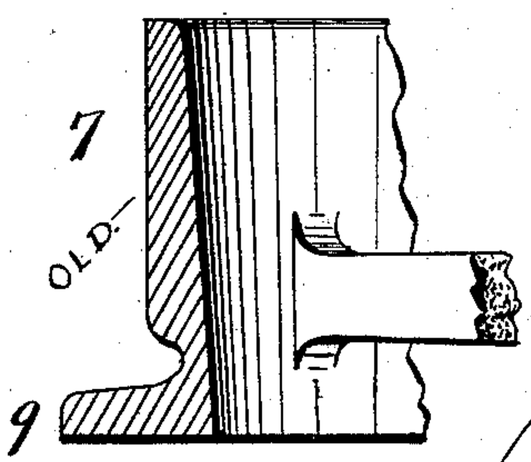


Fig. 3.

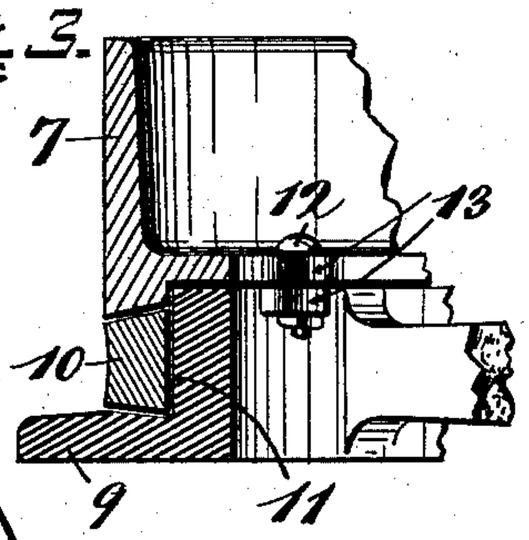


Fig. 4.

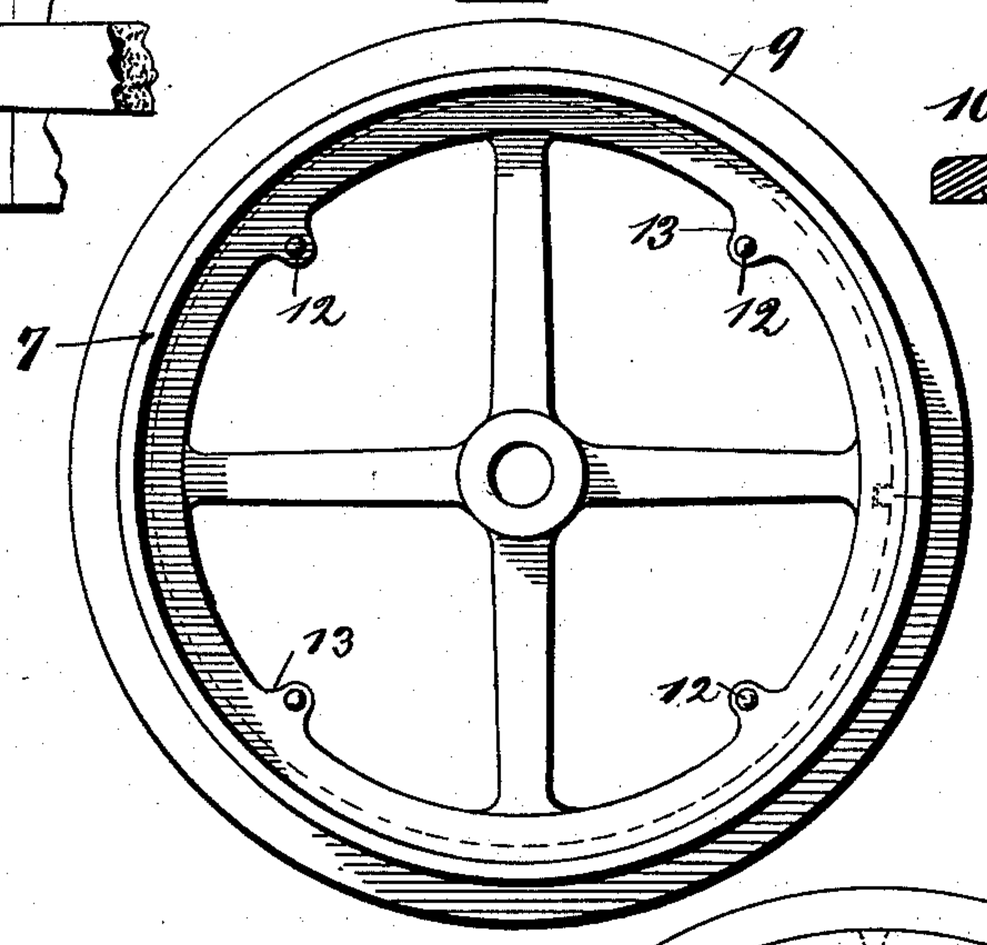


Fig. 5.

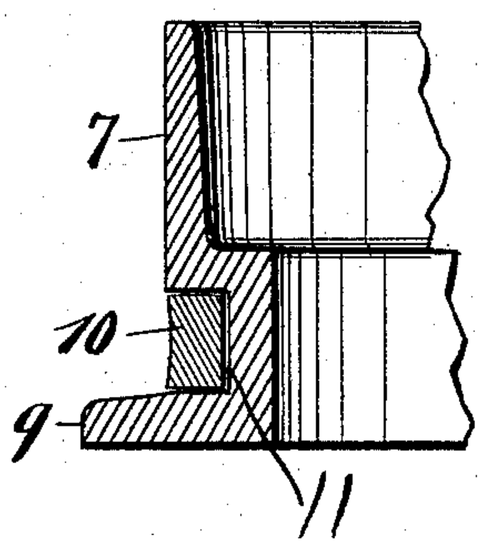
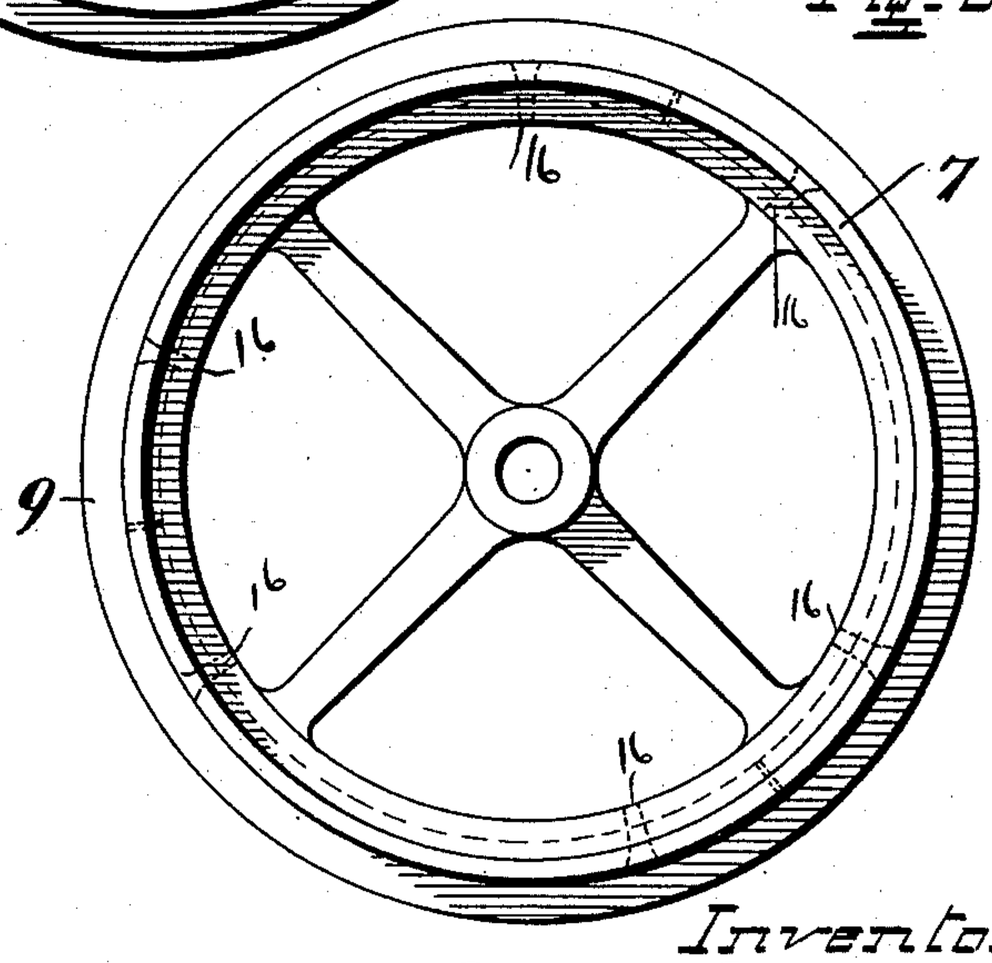


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN CROWTHER, OF ELMWOOD PLACE, OHIO.

CABLE-GUIDE PULLEY.

SPECIFICATION forming part of Letters Patent No. 406,820, dated July 9, 1889.

Application filed October 16, 1888. Serial No. 288,235. (No model.)

To all whom it may concern:

Be it known that I, JOHN CROWTHER, a citizen of the United States, residing at Elmwood Place, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Cable-Guide Pulleys; 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 and figures of reference marked thereon, which form a part of this specification.

The invention relates to pulleys which are used to guide the cable in a cable-railway system, and more especially to those which are used on corners and curves. They are generally in a horizontal position, and have therefore on the lower edge of their respective rims 7 a flange 9, extending outwardly to prevent the cable 8 from dropping off. The rims are high enough to allow for the lift of the cable caused by the grip of the passing cars, which is generally higher than the ordinary position of the cable. (See dotted lines, Fig. 1.) Mostly, however, the latter rests in a position as shown in Fig. 1, and the friction being considerable at those points the pulleys wear as shown in Fig. 2. If the groove worn in the pulley-rim at that point reaches a certain depth, it interferes seriously with the lift of the cable, and as a consequence the whole pulley has to be thrown away, although in all other respects in a good condition. To overcome this unnecessary waste of material is the object of this invention, and I attain it in the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a pulley. Fig. 2 is a section of the rim, showing the groove worn in by the cable. Fig. 3 shows in a similar view my improvement. Fig. 4 is a top view of a pulley so improved. Fig. 5 is another section of a rim, showing a modified form of my improvement. Fig. 6 shows a top view of a pulley constructed as shown in Fig. 5.

That portion of the area of the pulley-rim mostly worn by the cable is smaller than the portion less worn, and for this reason I make this smaller portion of rim separable and fitting into a recess which I provide at the points mostly occupied and worn by the cable, by casting the rim incomplete and omitting as much of it as this smaller supplementary rim will occupy. To be more explicit, I refer to the drawings, Figs. 3 and 5, in which 7 is the incomplete rim, there being a recess 11 extending over the area mostly occupied by the cable, and of suitable depth. This recess for the supplementary rim may be formed by casting the pulley in two parts, one being of a lesser diameter, and finally connecting the parts, (see Figs. 3 and 4;) or it may be formed by coring the recess out directly in the main casting, as shown in Figs. 5 and 6. In either case the incomplete surface of the rim is completed by the supplementary rim 10, of the same or of different material as the pulley and in the shape of a removable ring, which fills out the recess and is flush where it meets with the other portions of the pulley. It may have between its horizontal joints a gentle depression to aid the cable in finding its normal position.

The construction of the supplementary rim is dependent on the way chosen for producing the recess 11 in the main portions of the rim. In case the form illustrated in Fig. 3 has been selected the supplementary rim can be made in the shape of a solid ring, which is dropped over the portion of the pulley with the smaller diameter, after which the other part of the rim is laid on and secured in place by means of bolts 12, passing through lugs 13. In the form of recess shown in Fig. 5 the supplementary rim necessarily must consist of sections held in place by screws 16, but otherwise constructed the same as the supplementary rim shown in Fig. 3. These seemingly different constructions, however, only relate to different modes of manufacture pursued in different workshops, and do not affect in any way the principal points of my invention, which are to provide a possibility of removing parts of the worn-out surface of the pulley-rim without sacrificing the rest of it. It is further apparent that it does not make any difference in my invention and with reference to its objects whether the renewable

supplementary rim, being in the general shape of a ring, consists of one integral piece of metal or of several sections forming one, nor does it make any difference in which particular way the recess making the main portion of the rim incomplete and receiving said supplementary rim is formed.

I claim as new—

1. A flanged cable-guide pulley having a recess in that portion of its rim adjacent the flange, which in ordinary pulleys of the kind is mostly worn, and a supplementary rim filling said recess and flush with the main portion of the rim at its junction therewith, substantially as shown and described.

2. A horizontal cable-guide pulley having an upright rim, a flange extending outwardly from the lower edge thereof, and a recess provided in the main rim near the junction of rim and flange, and a removable supplementary rim secured in said recess flush with the balance of the rim and completing the same, as shown and specified.

3. A flanged cable-guide pulley having a recess in that portion of its rim adjacent to the flange, which in ordinary pulleys of the kind is mostly worn, and a supplementary rim filling said recess and flush with the main portion of the rim at its junction therewith, said pulley being divided horizontally into two separable sections and having means for securing said sections together, substantially as shown and described.

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

JOHN CROWTHER.

Witnesses:
CARL SPENGEL,
ALLAN F. CHURCH.