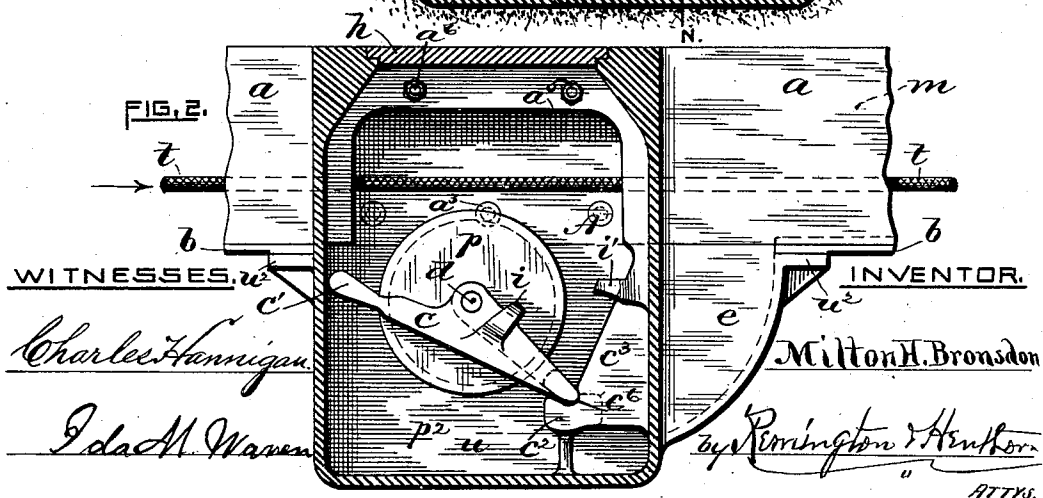
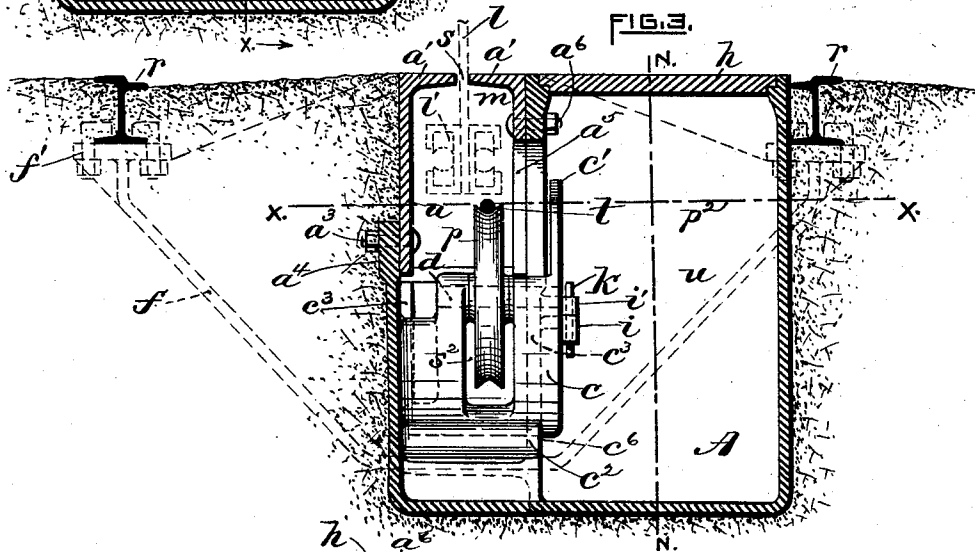
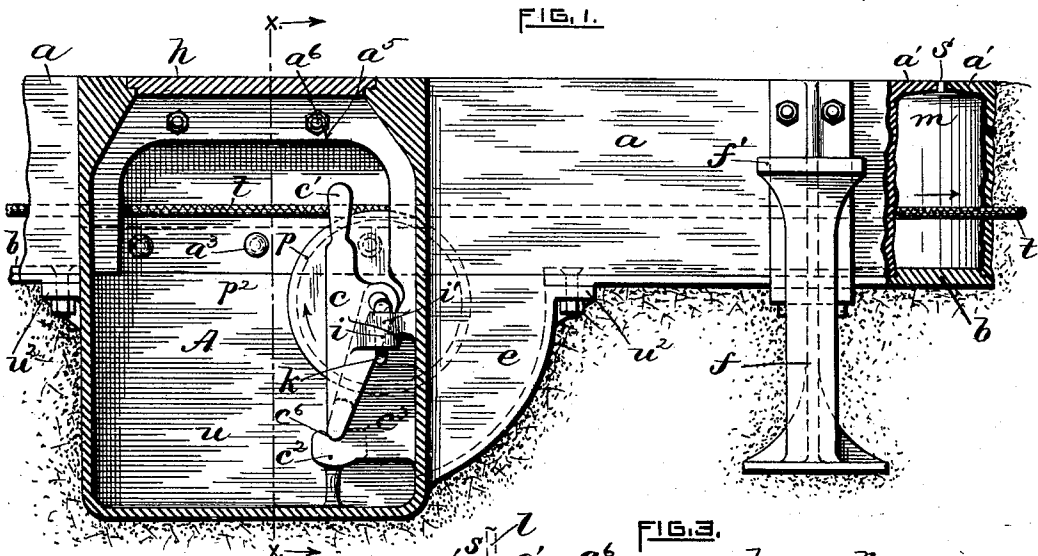


2 Sheets—Sheet 1.

No. 477,885.

Patented June 28, 1892.



(No Model.)

2 Sheets—Sheet 2.

M. H. BRONSDON.
CARRIER PULLEY FOR CABLE ROADS.

No. 477,885.

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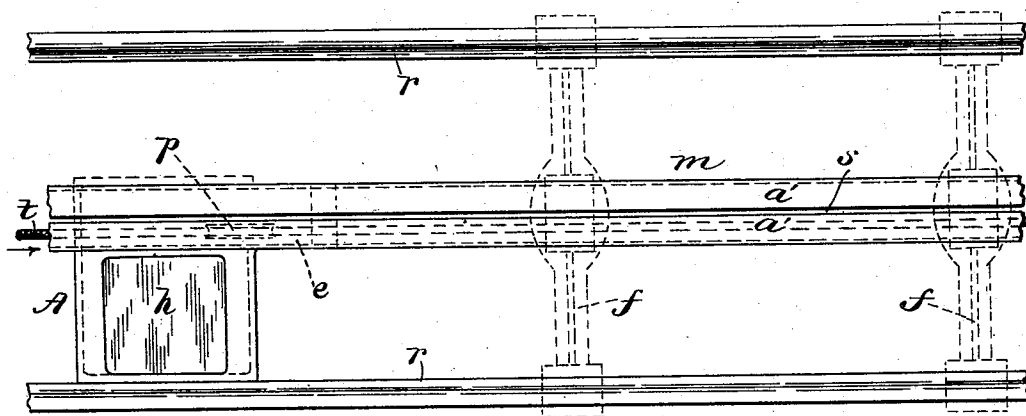


FIG. 5.

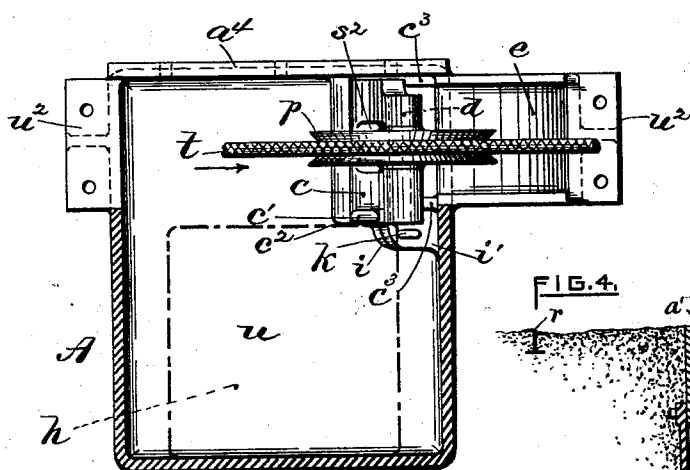


FIG. 4.

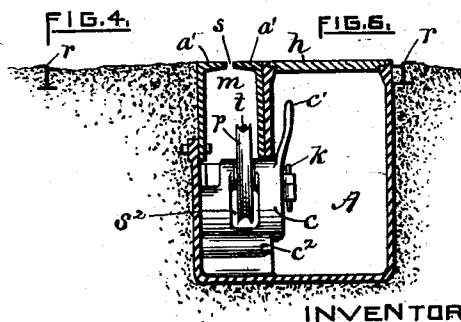


FIG. 6.

WITNESSES.

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UNITED STATES PATENT OFFICE.

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CARRIER-PULLEY FOR CABLE ROADS.

SPECIFICATION forming part of Letters Patent No. 477,885, dated June 28, 1892.

Application filed August 19, 1891. Serial No. 403,115. (No model.)

To all whom it may concern:

Be it known that I, MILTON H. BRONSDON, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Mounting Carrier-Pulleys for Cable Roads; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

In a pending application for United States Letters Patent, Serial No. 399,799, I have described and claimed a tunnel or cable-conduit of novel construction for cable roads.

My present invention also has relation to cable-tunnels, but more especially to a manner of mounting the cable-supporting sheaves or carrier-pulleys. Heretofore in roads of this class it has been the usual practice to mount such pulleys, or at least such as are used to support the straight portions of the cable, on fixed overhanging studs or shafts. It is well known that these supporting or loose idler-sheaves have to be renewed quite frequently. In making such renewals the operation is attended by considerable inconvenience and danger, because the mechanic or attendant is thus brought into close proximity to the continuously and rapidly traveling cable, which latter has been known to inflict serious bodily injuries to the workmen while making such repairs.

The object I have in view is to provide a simpler, safer, and at the same time stronger mounting for the carrier-pulleys or cable-sheaves.

To that end my invention consists, essentially, of a chambered casting, usually termed "curb-basin," arranged to be let into the street, the same being adapted to be located in and form a continuation of the cable-tunnel. Within the chamber is mounted a removable yoke carrying the cable-pulley and provided with means for securing the yoke in position when in use, all as will be more fully hereinafter set forth and claimed.

By means of my improved curb-basin the carrier-pulley and its bearing or yoke may be easily, quickly, and safely dismounted, when necessary, by first withdrawing the locking-key, then swinging the pulley-carrying yoke rearwardly and downwardly, and at the same time moving them laterally from the yoke frame or step. After being thus disconnected the workman next makes the necessary changes and replaces the yoke into the step, followed by swinging it forward to rest snugly against the basin-frame. During such forward movement of the yoke, &c., the pulley is brought upwardly into engagement with the traveling cable, the arrangement being such that the direction of the latter's travel causes the yoke to be maintained in contact with the frame, a removable key or catch being employed simply to lock the yoke in position.

In the accompanying two sheets of drawings, which I have prepared to illustrate my invention, Figure 1, Sheet 1, is a side elevation in partial section or taken on line N N, Fig. 3, showing the relation of the parts as in use. Fig. 2 is a similar view showing the pulley, &c., swung to their extreme rearward position. Fig. 3 is a transverse sectional view taken on line *xx* of Fig. 1. Fig. 4, Sheet 2, is a horizontal sectional view taken substantially on line *xx* of Fig. 3. Fig. 5 is a plan view, in reduced scale, showing the relative arrangement of the device to the cable-tunnel and track-rails; and Fig. 6 is a cross-sectional view, in reduced scale, showing the side of the tunnel uncut.

The following is a more detailed description of my invention:

A, referring to the drawings, indicates the curb-basin complete as in use, its relation to the cable-tunnel *m* and track-rail *r* being clearly represented in Figs. 3, 5, and 6. The form of the basin is substantially rectangular, having a main chamber *u*, which extends in a direction transversely of the track to the cable-tunnel, said extension communicating with and forming a part of the under side of the tunnel. The basin is provided at one side with a projection *e*, having a flange *u*², thereby adapting it to be secured to the tunnel-frame.

This projection is employed, mainly, as a chamber for the carrier-pulley *p*. By this arrangement I am enabled to make the basin smaller and lighter, yet at the same time affording ample room in the main chamber *u* for the accommodation of the workman. The interior of the basin is easily accessible by first removing the cover *h*.

The cable-tunnel *m*, hereinbefore referred to as a pending application for patent, is composed of two continuous angle-irons *a*, reversely arranged and having the upper members *a'* separated, so as to form a narrow central slot *s*, along which the grip-lever *l* travels, and a continuous bottom plate *b*, arranged to receive and support the two sides *a*. The tunnel or conduit itself is supported at suitable intervals by foundation-yokes *f*, provided with flanges *f'*, to which the track-rails *r* are secured. The side of the tunnel-frame adjacent to the main chamber *u*, and also that of the basin itself, may be cut away, as at *a⁵*, Figs. 1, 2, and 3, the two parts being secured together by bolts *a⁶*, as clearly shown. To the bottom portion of the basin, below the tunnel-chamber *m*, is formed a strong interior extension *c²*, having an upper groove *c⁶*, which serves as a step for the pulley-carrying frame or holder *c*. The holder is provided with two upwardly-extending arms or sides separated from each other, thereby forming a space *s²* between them to receive the pulley *p*. (See Fig. 3.) The corresponding ends of the arms are bored out or otherwise fitted to serve as bearings for the pulley shaft or arbor *d*, the pulley in such case being fixed to the shaft. I prefer this arrangement, because then the shaft is supported on each side of the pulley, thereby rendering the device stronger and more serviceable. The pulley itself is provided with a peripheral groove, in which the cable is guided and runs, as common. The inner side of the frame contiguous to the holder *c* is provided with two ribs or projections *c³*, having inclined faces, the same, as drawn, extending downwardly and forming a supporting-tie for the step portion *c²*. The side of the holder adjacent to these ribs is also beveled to engage therewith, thereby forming a strong abutment, as shown in Fig. 1. In order to prevent a possible separation of the parts when in use, I provide ears *i i'*, secured to the front of the holder and rib, respectively. Through these is passed a key or pin *k*, thereby locking the parts together. (See Fig. 1.)

As hereinbefore stated, my improved curb-basin is located between the cable-tunnel and one of the track-rails, and at the same time it also forms a continuation of the tunnel. As drawn, one side of the latter is cut away, as at *a⁵*, the other side being secured by bolts *a³* to the rear portion or flange *a⁴*, Fig. 3, the relative arrangement of the parts as in use being clearly represented in Figs. 1, 3, 4, and 6. Now in case, say, it becomes necessary to

remove one of the carrier-pulleys the workman first lifts the cover *h* of the manhole or basin. He next withdraws the key *k* and, grasping the handle *c'*, swings the holder *c* toward the left, or against the direction of the cable, Fig. 2, thereby dropping the pulley away from the traveling cable. The holder and pulley may now be lifted or slid laterally into the main chamber *u*, and, if necessary, removed therefrom. After the changes or repairs have been effected the holder, &c., are introduced into the basin and onto the step, the holder at the same time being forced rearwardly into position, after which it is swung forward or upwardly, the moving cable upon engaging the pulley materially assisting until the holder *c* is brought into contact with the ribs *c³*, when finally the key *k* is inserted, thereby locking the parts in position and completing the operation.

In Fig. 6 the tunnel *m* is represented as intact, except that the portion of the bottom plate *b* contiguous to the basin-frame is cut away. It will be seen that in this case the holder and pulley may be vibrated back and forth equally as well as though the side of the tunnel itself were removed, thereby saving the cost of cutting away the frame *a*.

By means of my present improvement it will be seen that the curb-basin is comparatively inexpensive. It can be easily and quickly located and secured to the cable-tunnel. The carrier-pulley will wear longer without renewal by reason of its being supported between the two bearings formed in the yoke. It can be quickly removed when necessary and without danger to the workman.

I claim as new and desire to secure by United States Letters Patent—

1. In a cable road, the combination, with the curb-basin *A*, arranged to be secured to the cable-tunnel, of the holder or yoke *c*, adapted to axial and lateral movement, supported in a bottom step or bearing, a freely-turning carrier-pulley mounted in said holder, and means for locking the holder to the basin-frame, substantially as hereinbefore described, and for the purpose set forth.

2. The combination, with a curb-basin provided with a covered manhole and arranged to be secured to a cable-tunnel frame and having a step, as *c²*, and ribs *c³*, of a U-shaped or two-armed holder *c*, fitted to the said step and arranged to bear against said ribs, a carrier-pulley secured to a shaft-mounted to revolve in the holder, the pulley being located between the said two arms, and a key for locking the holder to the basin-frame, substantially as hereinbefore described.

3. In a cable road, the combination, with the cable, cable-conduit, and curb-basin, of a carrier-pulley supporting said cable, a pivotally-mounted yoke or holder carrying the pulley, having the yoke-pivot below and at substantially right angles to the longitudinal axis

of the cable, and a loose key arranged to lock the yoke to the basin when in use, substantially as described.

5 4. In a cable road, the combination, with the cable, cable-tunnel, and curb-basin provided with a manhole, of a pulley supporting said cable, a hinged or jointed yoke or holder mounted in the curb-basin and carrying said pulley, and a stop or abutment located at the

forward side of the holder to receive the thrust or pressure of the latter, substantially as hereinbefore described.

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

MILTON H. BRONSDON.

Witnesses:

CHARLES HANNIGAN,

GEO. H. REMINGTON.