

J. M. MURPHY.
 PIPE CARRIER FOR SIGNALING SYSTEMS.
 APPLICATION FILED MAY 11, 1921.

1,402,435.

Patented Jan. 3, 1922.

Fig. 1.

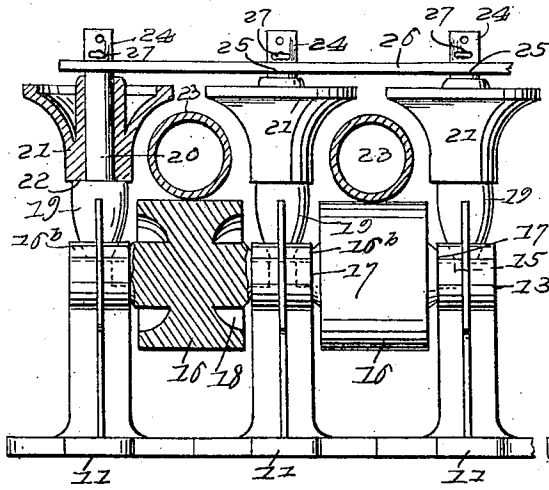


Fig. 2.

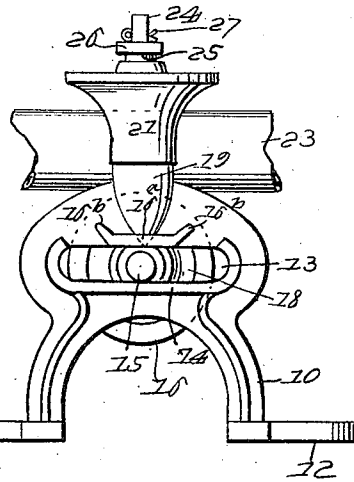


Fig. 4.

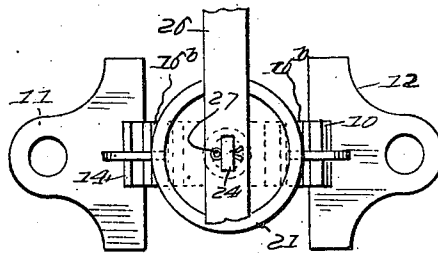
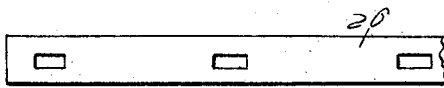


Fig. 3.

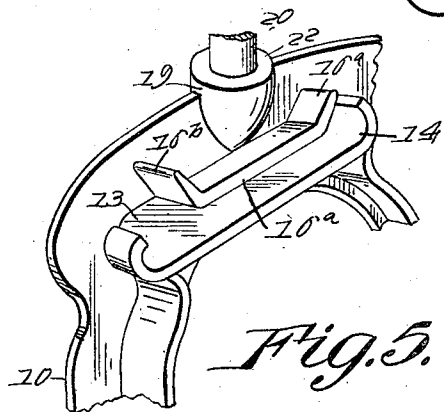


Fig. 5.

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PIPE CARRIER FOR SIGNALING SYSTEMS.

1,402,435.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN M. MURPHY, a citizen of the United States of America, and resident of Shamokin, in the county of Northumberland and State of Pennsylvania, have invented certain new and useful Improvements in Pipe Carriers for Signaling Systems, of which the following is a specification.

This invention relates to signal operating guiding mechanism, the said invention having for its object the provision of novel means for supporting signal operating rods or pipes which are employed to enable the switch or signal to be operated at a distance, as is now commonly done along railway tracks, there being a plurality of supporting members or brackets in spaced relation to each other extending along the track, in order that the switch operating pipe may be supported to have reciprocatory motion.

During the description, the element which is moved for the purpose of actuating the switch will be termed a "pipe", as that is the form of rigid element which is now most usually employed for communicating the motion of a switch operating lever to the switch or to a signal carrying bracket.

An object of this invention is to provide a pipe supporting and carrying device having novel means for minimizing the friction, and having means also which will prevent the parts from becoming rusted to a degree that they will prove inoperative, it being the purpose of the invention to provide a bearing for a supporting roller, the trunnion of which is loosely applied to its support in order that the said trunnion may not rust and become inoperative.

A still further object of this invention is to provide side guides or elements for engaging the sides and top of the pipe to prevent its dislodgment from the supporting roller; the said invention furthermore contemplating the production of a support of the character indicated which will wear evenly and which will not readily be impaired by use; the said invention further contemplating an arrangement of parts by which the lateral guiding members are free to rotate and are not restricted in their movement by any superimposed structure.

With the foregoing and other objects in view, the invention consists in the details

of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this application wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a sectional view of a pipe, showing it in operative relation to the supporting device;

Figure 2 illustrates a side elevation of one of the said supporting devices;

Figure 3 illustrates a top plan view of one of the journal brackets;

Figure 4 illustrates a plan view of a fragment of a tie bar; and

Figure 5 illustrates a perspective view of a fragment of one of the brackets.

In these drawings, I have illustrated in Figure 1, three brackets employed for retaining two supporting rollers and adapted to operate in conjunction with two pipes. In carrying out the invention, I employ brackets which are practically duplicates of each other, and therefore, a description of one will suffice as a disclosure of them all.

Each bracket 10 has feet 11 and 12 by which it is anchored in place, and each of said brackets has an elongated horizontally disposed bearing 13 with extended flanges 14, in order that the trunnions 15 of the supporting rollers 16 may rotate freely in the bearings and travel to some extent longitudinally of the flanges. The purpose of having the trunnion loosely journaled in order that it will travel with respect to the bearing and flange which it engages, is to insure against corrosion of the trunnion or bearing which might interfere with the rotation of the trunnion. Where devices of this kind are inactive for a length of time and the trunnion closely fitted the bearing, corrosion might occur which would cause an adherence of the trunnion and prevent its rotation, but by this device, there is no likelihood of a condition arising which would render the supporting roller inoperative. The trunnions project from shoulders 17 on the sides of the roller and these shoulders act in conjunction with the edges of the flanges as guides, and they prevent the displacement of the rollers and cause the trunnions to maintain an alinement. The rollers

are preferably cut away or recessed in their sides as shown at 18 in the interests of economy of material.

Each bracket has a boss 19 from which a spindle rises, the said spindle being round for the purpose of rotatably supporting the anti-friction guides 21. There is a shoulder 22 between the boss and the spindle, on which the anti-friction guides rest, and as shown in the drawings, these anti-friction guides are flared toward their top and their surfaces are concaved. When the brackets are properly located for supporting a roller, the peripheries at the upper ends of the anti-friction rollers overlie the pipe 23, which rests on a roller 16, and the periphery of one anti-friction member so nearly approaches the other as to leave an opening therebetween of less area than the diameter of the pipe, so that the pipe is prevented from dislodging from the roller, but the said pipe may move over the surface of the roller from side to side and engage either one of the anti-friction members which act as guards to prevent the dislodgment of the pipe from the supporting roller. The bearing flanges project from each side of each bracket, and hence, when they are being set up, the brackets are interchangeable.

The upper end of each spindle is angular in cross section, as shown at 24, and there is a shoulder 25 between the round portion and the angular portion, each of which shoulders serves as a support for a tie bar 26 having an aperture of the configuration of the upper end of the spindle, in order that it will fit thereover and rest on the shoulder, and these tie bars are retained in place by fastenings 27, such as cotter pins. From an inspection of the drawings, it will be apparent that the anti-friction members 21 are free to move axially of the spindle to a limited extent, but this freedom of motion insures proper action and also guards against friction which might interfere with their operation.

By reason of the construction and arrangement of parts, the roller of this invention will wear evenly on both sides and insure the alining of the pipe to a much better advantage, but also prove more durable and efficient than known devices. The tie bars in some of the types used at present, interfere with the free rotation of the roller and prevents it from turning.

The trunnion of the roller 16 is guided on the flange by a flange 16^a on each side of the bracket, and each of the last mentioned flanges is in spaced relation to the bearing flange, and they terminate at their ends in spaced relation to an upwardly projecting portion 16^b of the bearing flanges to leave

space to permit the trunnions of the rollers to be removed between the bearing and guide flanges.

I claim:

1. In a carrier for signal pipe lines, brackets having elongated bearings therein, said brackets being arranged in pairs, a roller having trunnions rotatably mounted in the elongated bearings of the brackets, spindles projecting upwardly from the brackets, anti-friction members rotatably mounted on the spindles and having concaved sides forming guards for preventing the dislodgment of a pipe.

2. In a carrier for signal pipe lines, brackets having elongated bearings therein, said brackets being arranged in pairs, a roller having trunnions rotatably mounted in the elongated bearings of the brackets, spindles projecting upwardly from the brackets, anti-friction members rotatably mounted on the spindles and having concaved sides forming guards for preventing the dislodgment of a pipe, the said spindles having upper ends angular in cross section and a shoulder between the said end and the spindle, a tie bar having apertures conforming in contour to the shape of the upper ends of the spindles and applied thereto, and means for holding the tie bars in place.

3. In a pipe carrier for signaling systems, brackets having horizontally elongated bearings and supporting flanges parallel therewith, a supporting roller having trunnions rotatably mounted to travel in the bearings on said flanges, spindles rising from the said brackets, shoulders at the junction of the spindles and brackets, anti-friction members rotatably mounted on the spindles and on the said shoulders, tie bars connecting the spindle of one bracket with the spindle of another, and means for holding the tie bar clear of the anti-friction members.

4. In a pipe carrier for signaling systems, brackets having horizontally elongated bearings and supporting flanges parallel therewith, a supporting roller having trunnions rotatably mounted to travel in the bearings on said flanges, spindles rising from the said brackets, shoulders at the junction of the spindles and brackets, anti-friction members rotatably mounted on the spindles and on the said shoulders, tie bars connecting the spindle of one bracket with the spindle of another, means for holding the tie bar clear of the anti-friction members, and means at the junction of the trunnions and supporting roller for holding the roller with the trunnions at right angles to the bearings.

JOHN M. MURPHY.