

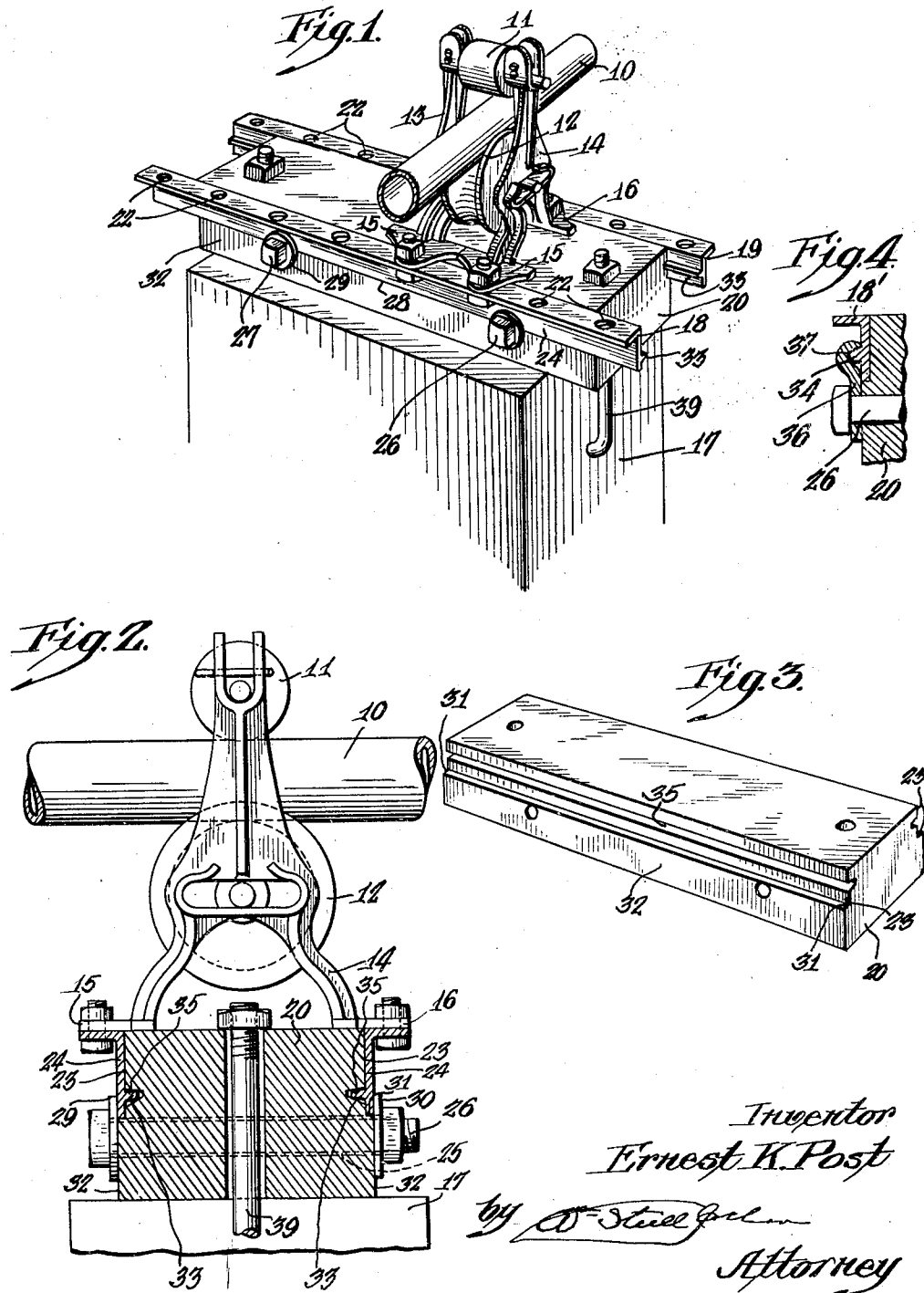
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PIPE CARRIER SUPPORT

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UNITED STATES PATENT OFFICE

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PIPE CARRIER SUPPORT

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My invention relates to a pipe carrier support to be placed intermediate a pier and the feet of one or more pairs of pipe carriers.

The purpose of my invention is to provide supporting structure between a pier and the feet of one or more pairs of pipe carriers that will be easy and inexpensive to manufacture, easy and inexpensive to install and that will well meet the needs of service.

10 A further purpose is to provide a slab and angle supports therefore in which the angle supports are clamped in laterally against the slab and in which the clamping holds them against vertical movement.

15 A further purpose is to provide a base or slab member with angle members along the side of the slab clamped to the slab, easily adjustable along the slab and capable of being anchored in any adjustment.

20 A further purpose is to impress side angle members into the material of a slab adapted to be fastened to the top of a pair using outwardly directed upper flanges of the angles to seat the feet of one or more pairs of pipe carriers and bolts near opposite ends of the slab through the width of the slab below the lower edges of the vertical sides to compress the vertical sides into the material of the slab.

30 A further purpose is to anchor side angle members into a slab or by a clamp, by which they are held, preventing vertical movement of the angles.

35 A further purpose is to provide the vertical sides of angles that seat adjustably along opposite sides of a slab with longitudinal beads or ribs for vertically interlocking with the slab, either extending inwardly to fit grooves along the outside of the slab or extending outwardly to receive overlapping washer members held to place by bolts extending transversely through the slab below the lower edges of the vertical sides of the angles.

Further purposes will appear in the specification and in the claims.

I have elected to show one only of the forms of my invention, with a minor detail modification, selecting a form that is practical and efficient in operation and which well illustrates the principles involved.

Figure 1 is a perspective view showing a pair of pipe carriers supported upon a usual pier by structure embodying my invention.

Figure 2 is a vertical section through the structure shown in Figure 1.

Figure 3 is a perspective view of the slab member shown in Figures 1 and 2.

Figure 4 is a fragmentary vertical section corresponding generally to a portion of Figure 2 but showing a different form.

Like numerals refer to like parts in all figures.

Describing in illustration and not in limitation and referring to the drawings:—

Pipe carrier supports are normally for use upon railroads to provide an intermediate supporting connection between one or more pairs of pipe carriers and a pier, usually concrete, that has been suitably placed along the track.

The pipe members of which a fragment is indicated at 10 extend from a switch lever, not shown, to any operating point distant from the lever and at suitably spaced intervals are supported between upper and lower rollers 11 and 12 that have end support by a pair of carriers 13 and 14.

The carriers 13 and 14 are shown interchangeable, each comprising a standard supporting its end of the rollers and supported upon perforated feet 15 and 16 that are spaced from another direction longitudinal of the pipe.

Each carrying unit thus includes a pair of the carriers, spaced to support opposite ends of the rollers, and the intermediate rollers.

My invention is directed at the supporting connection between the perforated feet 15

and 16 of the carriers and the concrete pier 17 that presents its upper surface some little distance below the feet.

In the past this intermediate connection
5 between the pier and the pipe carrier feet has usually comprised an oak plank, fastened to the top of the pier by suitable hook bolts, with the feet of the pipe carriers bolted to the plank, or else comprised relatively expensive metal members.

In the illustrated embodiment of my invention, the perforated feet 15 and 16 of the standards are bolted to the horizontal upper flanges of angle members 18 and 19 that are
15 in turn adjustably mounted along opposite sides of an intermediate generally rectangular base having considerable length, here shown as slab 20 and are perforated at 22 at uniform intervals along their length, the
20 spacing between the perforations being that to adapt the adjacent perforations to register with the bolt holes on the feet of the assembled pipe carriers.

This permits a pipe carrying unit which
25 comprises a pair of pipe carriers to be placed at any desired position along the length of the angles and permits the angles to carry any desired number of carriers.

The slab 20 intermediate the angles is recessed at 23 along opposite sides so as to present seats for the vertical flanges 24 of the angles and is transversely bored at 25 near
30 opposite ends of the pier to loosely pass bolts 26 and 27 for holding the angles to place upon their seats.

Preferably the perforations 25 and bolts 26 and 27 are located beneath the lower edges 28 of the vertical flanges 24 of the angle, suitable washers 29 and 30 at opposite ends of
40 the bolts overlapping the lower edges of the vertical flanges to clamp these flanges inwardly against their seats.

The depth 31 of the recesses 23 is preferably made substantially equal to the thickness of the vertical flanges so that the outside
45 sides of these flanges lie substantially flush with the outside lateral faces 32 of the slab below the lower edges 31 of the seats 23.

I preferably provide the vertical flange of
50 each angle with a longitudinal rib or bead 33 in Figure 2 or 34 in Figure 4.

In Figures 1 and 2 these ribs extend inwardly and the seats 23 are provided with
55 corresponding grooves 35 that receive the ribs, the rib and groove connection between the slab and each angle locking the angle against upward movement after the bolts have been tightened.

In the form shown in Figure 4 I have
60 placed the rib 34 along the outside of the vertical flange of the angle, and in this event, provide the bolts 26 and 27 with special washer members 36 that hook over the rib at
65 37 so as to lock the angle members from any

upward movement after the bolts are tightened.

I preferably make the slab member 20 of material that is adapted to yield slightly under the squeezing action of the tightening of the bolts but optionally may make it of concrete or of any suitable material.

I have found a composition of asbestos and asphaltum such as that commercially known as "elastite" to be extremely cheap and yet
75 firm enough for the purpose. It does not require painting and will not rot. It makes a firm substitute for the present wood slab. Where the rib 33 is located along the inside of the vertical flanges a small rib extension
80 can be compressed laterally into the slab to form its own groove 35 before finding its ultimate seat. This is done by tightening the nuts of the transverse bolts 26 and 27. When the rib is large a seat is prepared for it during
85 the extrusion of the slab.

Preferably, I fasten the slab down to the tops of the piers by usual hook bolt connections 39 but optionally, may mould the slabs to form an integral portion of the pier, forming them directly upon the top of the pier with the seats 23 along opposite sides to receive the vertical flanges of the angle members.

Whether or not the slab is integral with the pier, I provide the transverse holes 25 to receive the bolts that hold the angles to place.

In either event, the installation is an extremely easy and rapid one.

When the slab is made separate from the pier (which is usually the case) the structure is preferably delivered already loosely assembled. The slab is set on top of the pier and fastened down by the hook bolts 39.

The angles 18 and 19 are then adjusted longitudinally to any desired position, the feet of the pipe carriers bolted to place through the perforations in the horizontal flanges 21 and the transverse bolts 26 and 27 tightened.

When the nuts are loosened, the angle irons 18 and 19 may be adjusted longitudinally along their seats 23 to accommodate their position to any needed position for the carrier.

Usually vertical adjustment will not be needed but in special cases where it is needed, it may be obtained by the insertion of lagging between the slab and top of the pier.

Though the slab forms a very convenient and effective base it will be evident that the working parts of the slab are its side surfaces within which the projections from the side members fit and against which the side members can be drawn; so that the base can be mounted as a unit upon the pier and its side faces will be maintained in fixed relation to receive the side members. Within the broader claims of my invention I have shown the base may vary greatly.

In view of my invention and disclosure variations and modifications to meet individual whim or particular need will doubtless become evident to others skilled in the art, to obtain all or part of the benefits of my invention without copying the structure shown, and I, therefore, claim all such in so far as they fall within the reasonable spirit and scope of my invention.

10 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. Pipe supports having feet, side members having vertical flanges to the bottoms of which are secured inwardly directed projections, a generally rectangular base adapted to connect said side members with a pier and to receive the projections from the side members and clamps passing into the body of the base, laterally engaging the side members to draw them toward and to hold them laterally against the sides of the base with their projections within the base.

2. A slab support for pipe carriers adapted to be held upon a pier, comprising a slab extending along the top surface of the pier and having horizontal bolt openings, horizontal bolts through the slab, clamps at opposite ends upon the bolts, angle plate pipe carriers held laterally against the slab by the clamps and ribs upon the angle plates interfitting with grooves in the slab to prevent vertical movement of the angle plates.

3. A slab support for pipe carriers adapted to be held upon a pier, comprising a slab extending along the top surface of the pier and having horizontal bolt openings, horizontal bolts through the slab, clamps at opposite ends upon the bolts, angle plate pipe carriers held laterally against the slab by the clamps and longitudinal ribs upon the slab sides of the angle plates, the material of the slab being such that the ribs and angle plates are embedded in the slab by the pressure of the clamps.

4. A slab support for pipe carriers adapted to be held upon a pier, comprising a slab extending substantially the width of the top surface of the pier and having horizontal bolt openings, horizontal bolts through the slab, clamps at opposite ends upon the bolts engaging the upper part of the slab, angle plate pipe carriers held laterally against the slab by the clamps and longitudinal ribs upon the angle plates engaged laterally by the clamps to hold the angle plates against vertical movement.

5. A slab support for pipe carriers adapted to be held upon a pier, comprising a slab extending substantially the width of the top surface of the pier and having bolt openings, bolts through the slab, clamps at opposite ends upon the bolts, angle plate pipe carriers held against the slab by the clamps and laterally interfitting rib-and-groove engag-

ing means for holding the angle plates against vertical movement.

6. A pipe carrier support, comprising a slab, angle plates extending longitudinally along the sides of the slab, a carrier laterally engaging the angle plates holding them together at their upper edges, clamps holding the angle plates together at their lower edges and rib-and-groove interfitting connections held to place by the clamps for preventing vertical movement of the angle plates.

7. A pipe support slab of compressible material, supporting angle plates along the upper sides of the slab engaging the sides of the slab and clamps on opposite sides of the slab pressing the angle plates laterally into the slab.

8. Pipe supports having feet, side members each having a horizontal top flange and a horizontal rib downwardly spaced therefrom, a fastening between the feet and the flanges, a slab intermediate and laterally seating the side members, horizontal bolts spaced from one another longitudinally of the slab and extending transversely through the slab under and across the side members, clamping connection between the bolts and side members pressing the side members laterally into opposite sides of the slab, a pier under the slab and a fastening between the pier and slab.

9. Pipe supports having feet, side members each having an outwardly extending horizontal top flange and a horizontal inwardly extending rib downwardly spaced therefrom, a fastening between the feet and flanges, a slab intermediate and laterally seating the side members, the rib extending laterally into the material of the slab, horizontal bolts spaced from one another longitudinally of the slab and extending transversely through the slab under and across the side members, clamping connection between the bolts and side members pressing the side members laterally into opposite sides of the slab, a pier under the slab and a fastening between the pier and slab.

10. Pipe supports having feet, side members each having an outwardly extending horizontal top flange and a horizontal inwardly extending rib downwardly spaced therefrom, a fastening between the feet and flanges, a slab of semiplastic material intermediate and laterally seating the side members, the rib extending laterally into the material of the slab, horizontal bolts spaced from one another longitudinally of the slab and extending transversely through the slab under and across the side members, clamping connection between the bolts and side members pressing the side members laterally into opposite sides of the slab, a pier under the slab and a fastening between the pier and slab.

11. Pipe supports having feet, side mem-

bers each having an outwardly extending horizontal top flange and a horizontal inwardly extending rib downwardly spaced therefrom, a fastening between the feet and flanges, a slab of asphaltic composition, said
5 slab being intermediate and laterally seating the side members, the rib extending laterally into the material of the slab, horizontal bolts spaced from one another longitudinally
10 of the slab and extending transversely through the slab under and across the side members, clamping connection between the bolts and side members pressing the side members laterally into opposite sides of the
15 slab, a pier under the slab and a fastening between the pier and slab.

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