C. L. PEIRCE, JR.

SECONDARY RACK.

APPLICATION FILED MAY 4, 1914.

1,152,211. Patented Aug. 31, 1915.

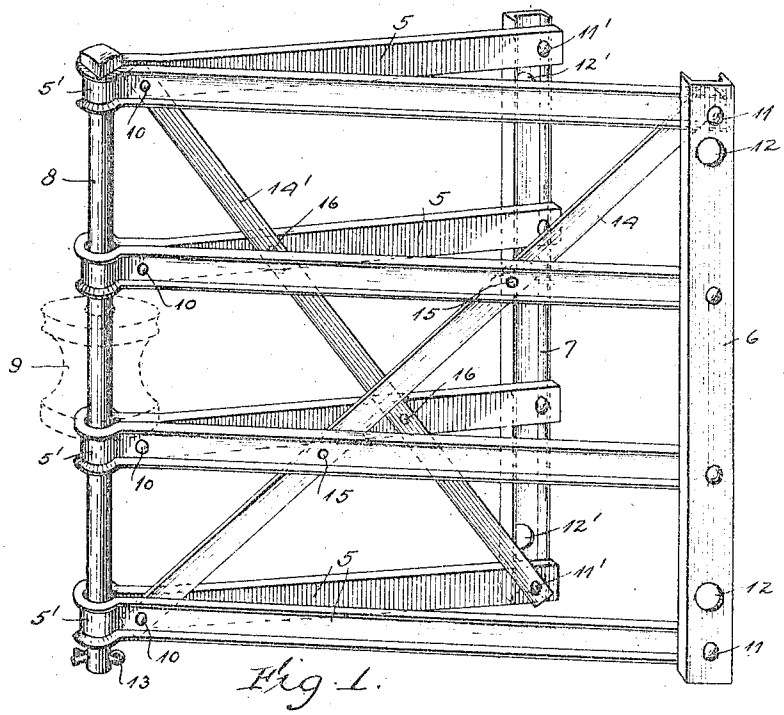


Fig. 1.

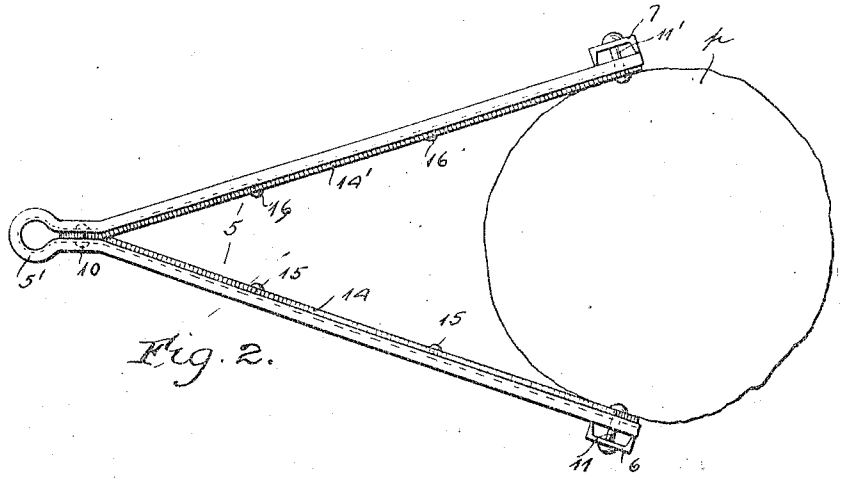


Fig. 2.

WITNESSES:

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SECONDARY RACK.

1,152,211. Specification of Letters Patent. Patented Aug. 31, 1915.

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To all whom it may concern:

Be it known that I, CHARLES L. PEIRCE, Jr., a citizen of the United States, and a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Secondary Racks, of which the following is a specification.

My invention relates to secondary racks and contemplates improved features of construction which will particularly adapt such racks for supporting heavy wires or cables at some distance from the supporting pole.

My invention relates to that class of racks in which wires, such as the secondary wires of a transformer circuit may be strung in vertical instead of horizontal alinement, this allowing the taking off of service wires without the aid of buck arms or spreader brackets. In prior racks the construction is such that the insulators and consequently the wires or cables tied thereto are close to the rack supporting pole, the racks being secured against one side of the pole. It is desirable in many cases to have the wires or cables at some distance from the pole, and the main purpose of my invention is therefore to produce a rack which will support wires or cables at some distance from the supporting pole and which is of such strength and which can be rigidly secured to the pole that it will not sag or swing laterally when heavy wires or cables are applied thereto. In general, the rack of my construction is of V-shape and adapted to receive at its outer end means for retaining insulators thereon and having its sides adapted to receive a pole between their ends and these ends being adapted to be secured to opposite faces of the pole.

Another object of my invention is to provide efficient means for further strengthening the rack, diagonally extending brace arms secured to the rack sides being preferably provided.

The features of the invention can be readily understood by reference to the accompanying drawing in which—

Figure 1 is a perspective view of my improved rack, and Fig. 2 is a top view thereof.

The rack is in the form of a jib structure comprising any number of V-shaped jib frames 5 secured at their opposite ends to vertical bars 6 and 7 and supporting at their front ends a bolt 8 for receiving between the frames suitable insulators 9. Each jib frame may be of two pieces but preferably a single length of suitable bar is bent midway to form at the bend a loop or sleeve section 5′ for receiving the bolt 8. Channel bar can advantageously be used as this gives great strength but is very light. After bending, the limbs of each frame are secured together near the sleeve by a rivet 10 as shown, or spot welding may be resorted to. The ends of each frame are secured to the bars 6 and 7 either by rivets 11 and 11′ as shown, or they may be secured by welding. The bars 6 and 7 receive between them the support such as the pole *p*, and in the bars suitable bolt holes 12 and 12′ are provided. The bolt 8 is slipped through the successive sleeves 5′ and through the insulators and may be held in place by a cotter pin 13, as shown. By securing the vertical supporting bars 6 and 7 to the opposite faces of a pole, the inner ends of the rack sides firmly clamp the pole and the rack is rigidly secured against lateral swing when heavy wires are secured to the insulators. Where very heavy wires or cables are supported it may be desirable to brace the structure to prevent sagging thereof and I preferably provide brace bars 14 and 14′ for the sides of the rack, these brace bars extending diagonally. The bar 14 is shown extending from the upper end of supporting bar 6 to the front end of the lower jib frame.

The upper end of the brace bar may, as shown, be secured by the rivet 11 which connects the upper end of supporting bar 6 and the one limb of the upper jib frame, while the lower end is extended between the limbs of the lower jib frame and is received by the rivet 10 which holds these limbs together, rivets 15 securing the brace bar to the corresponding limbs of the intermediate jib frames. The other brace bar 14′ is shown as extending diagonally from the lower end of supporting bar 7 to the outer end of the upper jib frame, the rivet 11′ securing the lower end of bar 7 to the lower jib frame serving also to secure the lower end of the brace bar, while the upper end of the brace bar extends between the upper ends of the jib frame and is received by the rivet 10 which secures together the limbs of this jib frame, rivets 16 securing the brace bar to the corresponding limbs of the intermediate jib frames. These brace bars by being rig-

idly secured to the various jib frames lock these frames in alinement and prevent displacement thereof relative to the supporting bars 6 and 7, a very rigid yet very light structure resulting, no extraneous braces or supporting bars being necessary, the frame therefore requiring very little space for its support.

The structure shown is very efficient for supporting heavy wires and cables at a distance from the supporting pole, the rigid clamping of the pole by the rack sides and the rigid securing of the supporting bars to the opposite sides of the pole will prevent any lateral swing of the structure. The diagonal brace bars greatly strengthen the structure where extra heavy wires or cables are to be supported thereon. Instead of having the brace bars at angles with each other they could, of course, be parallel but the arrangement shown is more practical and gives the same results as though the braces were parallel. The brace bars will not interfere with ready spreading or contraction of the structure to fit the varying size of poles or other supports. Other changes and modifications may also be possible which would still come within the scope of the invention and I do not therefore desire to be limited to precisely what I have shown and described.

I claim the following:

1. In a secondary rack, the combination of a plurality of jib frames, supporting bars to which the inner ends of the frames are secured, an insulator retaining rod carried by the outer ends of the frames, and a brace secured to the various frames to hold them rigid with respect to their supporting bars.

2. In a secondary rack, the combination of a plurality of parallel V-shaped jib frames, supporting bars connecting together the ends of the jib frames and adapted to be secured to a support, an insulator retaining rod detachably received by the outer ends of the frames, and diagonally extending brace bars secured to the limbs of the V-frames to lock said frames rigidly with reference to their supporting bars.

3. In a secondary rack, the combination of a tier of V-shaped jib frames, a supporting bar to which the ends of one set of limbs of the frames are secured and a supporting bar to which the ends of the limbs of the other set are secured, said supporting bars being adapted to be secured to a support, means at the outer ends of said frames for securing insulators, and a brace bar extending from one end of each of said supporting bars to the outer end of the frame extending from the other end of said supporting bar.

4. In a secondary rack, the combination of a plurality of horizontally extending V-shaped jib frames each formed by bending a single length of bar mid way its ends, corresponding limbs of the frames being in vertical alinement, a vertical supporting bar connected to the inner end of each set of limbs and adapted to be secured to a support, a sleeve formed at the bend of each frame, a rod detachably received in said sleeves for retaining insulators on the frames between the sleeves, and a brace bar extending from one end of each supporting bar to the outer end of the jib frame extending from the opposite end of the bar, each brace bar being secured to the respective limbs of the frames.

5. In a secondary rack, the combination with a plurality of horizontally extending V-shaped jib frames, each jib frame having its limbs secured together adjacent the apex thereof, the corresponding limbs of the jib frames being in vertical alinement, vertical supporting bars each secured to the inner ends of corresponding limbs, and brace bars extending from one end of each supporting bar diagonally to the outer end of the jib frame which extends from the other end of the bar, the outer ends of the brace bars being secured by the means which secures the limbs of the corresponding jib frames together at its apex, and the inner ends of said brace bars being secured by the same means which secure the supporting bars to the jib frame limbs.

6. In a secondary rack, the combination of a plurality of V-shaped jib frames, the corresponding limbs of said jib frames being in alinement, a supporting bar secured to the ends of each set of alined limbs and said supporting bars being adapted to be secured to a support, and a brace bar secured to one of said supporting bars and extending diagonally to the outer end of the jib frame extending from the other end of said bar, the outer end of said brace bar extending between the limbs of said jib frame and secured thereto and being also rigidly secured to the corresponding limbs of the intermediate jib frames.

7. In a secondary rack, the combination with a plurality of horizontally extending V-shaped jib frames having their corresponding limbs in vertical alinement, a vertical supporting bar secured to the inner ends of each set of alined limbs and said supporting bars being adapted to be secured to a support, an insulator supporting rod detachably received by the outer ends of said frames, a brace bar secured to the upper end of one supporting bar and extending diagonally downwardly and with its lower end engaging between the outer ends of the limbs of the lower jib frame and secured thereto and said brace bar being also secured to the alined intermediate limbs, and a brace bar secured to the lower end of the other supporting bar and extending upwardly and with its upper end between and

secured to the outer ends of the limbs of the upper jib frame and said bar being also secured to the alined limbs of intermediate jib frames.

8. In a secondary rack, the combination of a plurality of horizontally extending V-shaped frames, the corresponding limbs of said frames being in vertical alinement to form the side walls of the rack, a vertical supporting bar connecting the ends of each side wall, and a diagonal brace secured to the limbs of each side wall.

9. A secondary rack comprising a tier of horizontally extending V-shaped frames, the corresponding limbs of said frames being in vertical alinement, and a vertical supporting bar to which the ends of each set of limbs are secured, said bars being adapted to be secured to the opposite sides of a supporting pole.

10. A secondary rack comprising a tier of V-shaped jib frames arranged with their respective limbs in vertical alinement, vertical supporting bars to which the ends of each set of limbs are rigidly secured, said bars being adapted to be secured to the opposite sides of a supporting structure, and means for securing insulators between the bends of said jib frames.

11. A secondary rack comprising a plurality of horizontally extending V-shaped jib frames each formed by bending a length of bar midway its ends, corresponding limbs of the frame being in vertical alinement, a vertical supporting bar to which the inner ends of each set of limbs are secured, and said supporting bar being adapted to be secured to the opposite sides of a support, a sleeve formed at the bend of each frame, and a rod detachably received in said sleeves for receiving and retaining insulators on the frames between the sleeves.

In witness whereof, I hereunto subscribe my name this 27th day of April, A. D., 1914.

CHARLES L. PEIRCE, JR.

Witnesses:
CHARLES J. SCHMIDT,
S. B. CARR.