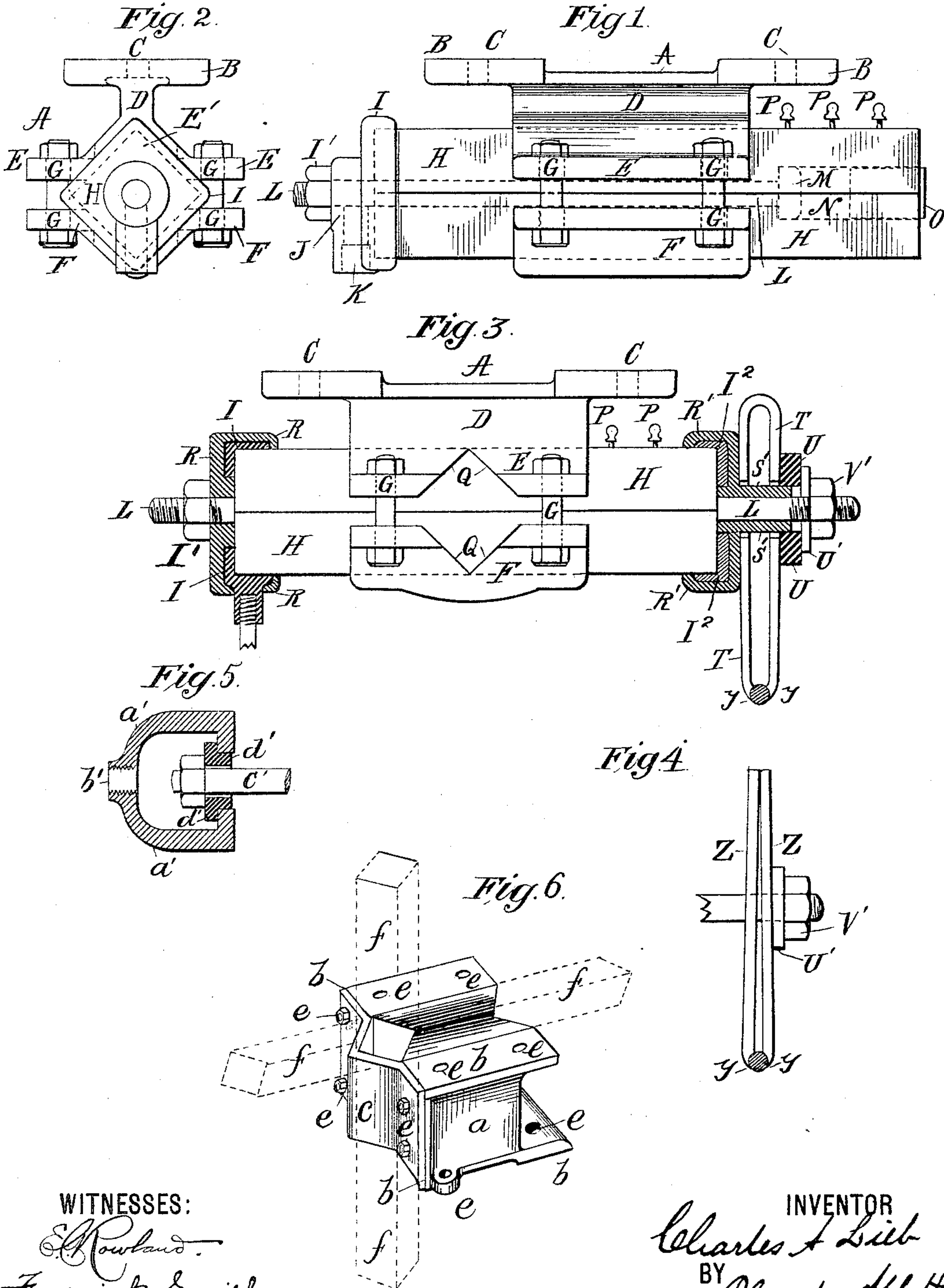


(No Model.)

C. A. LIEB.  
CAR HOUSE HANGER.

No. 454,487.

Patented June 23, 1891.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES A. LIEB, OF NEW YORK, N. Y.

## CAR-HOUSE HANGER.

SPECIFICATION forming part of Letters Patent No. 454,487, dated June 23, 1891.

Application filed November 18, 1890. Serial No. 371,794. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES A. LIEB, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented a certain new and useful Car-House Hanger, of which the following is a specification.

My invention relates to improvements in car-house hangers for electric wires; and it consists in the construction and arrangement of the parts, as hereinafter set forth, so that the hangers may be attached to the beams, posts, wall, or ceiling of the car-house in such positions, vertical or horizontal, as that the wires will be suspended on the desired lines; also, I employ certain novel means for insulating the wires and parts of the hangers, so that no current can escape therefrom to the damage either of the system or the property or individuals.

Figure 1 illustrates an elevation of one form of my hanger. Fig. 2 illustrates an end view of the devices shown in Fig. 1. Fig. 3 illustrates an elevation, partly in section, of an insulated hanger and insulated wire-clamps. Fig. 4 illustrates a modified construction of the wire-holding clamps. Fig. 5 illustrates an insulated means for the attachment of wires or other devices in a plane coincident with that of the hanger-bar. Fig. 6 illustrates a hanger adapted to hold the hanger-bar either vertically or horizontally and to be attached either to the wall or to the ceiling of the building or to posts therein.

Referring to Figs. 1 and 2, A is a casting having a base B, through which bolts or screws pass by means of the holes C C for attaching the base to its support. The base has also a web D at right angles to it and a plate E in the same plane with it, in which there is a longitudinal V-shaped recess E'.

F is the counterpart of the plate E, and they are both provided with bolt-holes G G, &c., whereby they may be clamped together by the bolts, as shown, to hold the hanger-bar H, which may be of any desired cross-section; but I prefer it to be angled to fit in angled recesses in the plates E and F. These recesses may also be of such cross-section as preferred.

I is a metal cap, which is firmly driven over the end of the hanger-bar to prevent it from

splitting or checking, if made of wood, to which is attached a boss J, in which a hole K is made, which may be threaded, if desired. The cap I also strengthens the hanger-bar for the reception of the needful device to sustain the wire or wires.

L is a bolt attached to the cap I by nut I', and having a head M, which is contained in a recess N in the end of the hanger-bar, so that it will be out of reach and that no current can pass from it. A plug of wood O may be driven into the open end of this recess after the bolt is in place, or other insulating material may be placed therein, if desired, to further secure insulation of the bolt.

P P P are supports for other wires—such as electric or telephone wires—whereby the same hanger-bar will serve various purposes, thus reducing the expense of fitting up the car-house and improving its appearance.

Referring now to Fig. 3, the castings are substantially the same as in Figs. 1 and 2, excepting that I also make a transverse V or other shaped recess, (shown at Q,) whereby the hanger-bar may be arranged at right angles to its position, as shown. It will of course be understood that the advantages of this feature of my invention may be secured if the plates E and F are practically square, so that the lower plate F may be set around one-quarter without making the cross-recess Q in it, because, if it be in the plate E, under these circumstances, then, all that will be necessary will be to set the plate F around, as stated, and then the single recess in it will co-act with the cross-recess in the plate E. At the ends, however, of the bar in this figure I show devices as follows: At the left an insulating-cap R is placed between the nut I' on the longitudinal rod L and the metallic end piece or cap I, and at the other or right-hand end of the bar I may place a similar cap I' and insulating material R' about it, and also I surround the bolt L with the insulating material, as at S', so that the current cannot pass to the clamps T, which hold the trolley-wire, and I place additional insulating material U between the nut V' on this end of the rod and the clamps, so that no current can pass from the trolley-wire through the clamps T and the washer U', which I prefer to place under the nut V', to the rod, from which it



might be transmitted to the castings E or F should cracks or checks be made in the hanger-bar H and water or other conductor of electricity get therein; also, by reason of this insulation I am enabled to attach an additional wire-supporting device on the other end of the bolt L, if desired, which would then be insulated; also, it is obvious that if the hanger-bar H be a long one—as, for instance, when used to cover two tracks—it will not be necessary that the bolt L shall pass entirely through it from end to end. It may be in two pieces, each suitably secured in the wooden hanger-bar.

The clamps for holding the trolley-wire may be made, as shown in Fig. 3, at T—that is to say, a piece of metal bent at about its center and having jaws Y Y on its ends, which are closed upon the wire by screwing up the nut V'; or it may be made of separate pieces of metal Z Z, (see Fig. 4,) having the jaws Y Y on their ends, which simply abut against each other at their rear ends. I do not show any insulation in this figure, because the clamps may be used without it, if desired.

In Fig. 5 I show a device whereby the wire may be attached to the hanger-bar and in the same plane with it. *a'* is a yoke-shaped piece of metal threaded at *b'* for the reception of the device for connecting the wire to it. *c'* is the longitudinal bolt corresponding to the bolt L in Figs. 1 and 3, and *d'* is a washer of insulating material placed between the piece *a'* and the bolt, so that no current can pass from the wire to the bolt.

In Fig. 6 I show a form of the hanger adapted to use under practically all conditions, and either to vertical or longitudinal supports, and it is adapted to hold a hanger-bar in almost any desired position. This is frequently very useful because of the difficulty often experienced in getting the wire into the needful line to render its use convenient and successful. In this form there is a main casting *a*, having surfaces *b b b*, with which the counterpart plate *c* will engage, the bolt-holes *e e* in them both coinciding in location and size, so that the plate *c* may be applied to whichever surface is first presented to it, and also the bolt-holes *e e* in the main casting on some other side or surface of it will be employed as the means for fastening it to a vertical or a horizontal support, as most convenient. Thus the hanger-bar *f* may be held under almost all conceivable circumstances, and by lengthening or shortening its projection beyond the casting (sawing off its rear end if necessary to prevent obstruction with adjacent things) the line or trolley wire may be brought into the desired position.

I do not limit myself to the details of construction described and shown, because it will be apparent to those who are familiar with this art that they may be departed from and still the essentials of my invention be employed.

I claim—

1. In a hanger, the combination of a base-plate provided with means whereby it may be fastened to a wall or beam, and a counterpart plate, each having recesses which conform substantially to the hanger-bar, bolts to draw them together, and means at the end of the hanger-bar for attaching the electric wires and said hanger-bar, substantially as set forth.

2. A hanger comprising an upper and lower plate having bolts for clamping them together, and recesses which conform substantially to the shape of the hanger-bar, which recesses run in different directions, substantially as set forth.

3. A hanger comprising, essentially, an upper and lower plate, bolts to clamp them together, a hanger-bar between them, and means to attach electric wires at both ends thereof, which are insulated from each other, substantially as set forth.

4. The combination of a hanger comprising two plates adapted to receive and hold a hanger-bar between them, a hanger-bar, an insulated bolt attached thereto, and clamps for the support of an electric wire, closed upon the wire by a screw-thread on the bolt, substantially as set forth.

5. A hanger embodying, essentially, a frame to support a wooden hanger-bar, said bar being provided with an insulated bolt, and clamps to hold the wire, operated by threads on the bolt and insulated from the bolt, substantially as set forth.

6. A hanger for electric wires, comprising a main casting having on a plurality of its sides means for attaching it to its support and on other surfaces means for attaching a plate whereby a hanger-bar may be clamped to it, substantially as set forth.

7. A hanger for electric wires, comprising, essentially, a main casting having on a plurality of its surfaces means for attaching it to its support, and a plate adapted to engage with more than one of the exposed surfaces of the main casting, substantially as set forth.

8. A hanger comprising two plates provided with bolts to clamp them together, a hanger-bar held between the plates, and a bolt attached thereto, the head whereof is inclosed within a recess in the bar, substantially as set forth.

9. A hanger comprising, essentially, an upper and lower plate, bolts to clamp them together, a hanger-bar held between them, which has a bolt for the attachment of the wires, the head whereof is held in a recess in the bar, which is plugged or filled with insulating material, substantially as set forth.

10. A hanger-bar for the support of overhead wires, comprising a wooden body part and metallic connection-pieces for the support of the wires attached to the body part by an insulated bolt, substantially as set forth.

11. A hanger-bar for the support of overhead wires, comprising a wooden body part,



the end whereof upon which the wire is supported is re-enforced by an insulated cap, substantially as set forth.

12. A hanger for the support of overhead  
5 wires, comprising, essentially, a wooden body-piece and a bolt running through the same, provided with means at both ends of the bar for the attachment of electric wires, substantially as set forth.

10 13. A hanger-bar for the support of overhead wires, comprising, essentially, a wooden body-piece and a bolt running through the

same, provided with means insulated from the bolt and also from the bar for the attachment of electric wires, substantially as set forth. 15

Signed at New York, in the county of New York and State of New York, this 14th day of November, A. D. 1890.

CHARLES A. LIEB.

Witnesses:

PHILLIPS ABBOTT,  
D. SOLIS RITTERBAND.