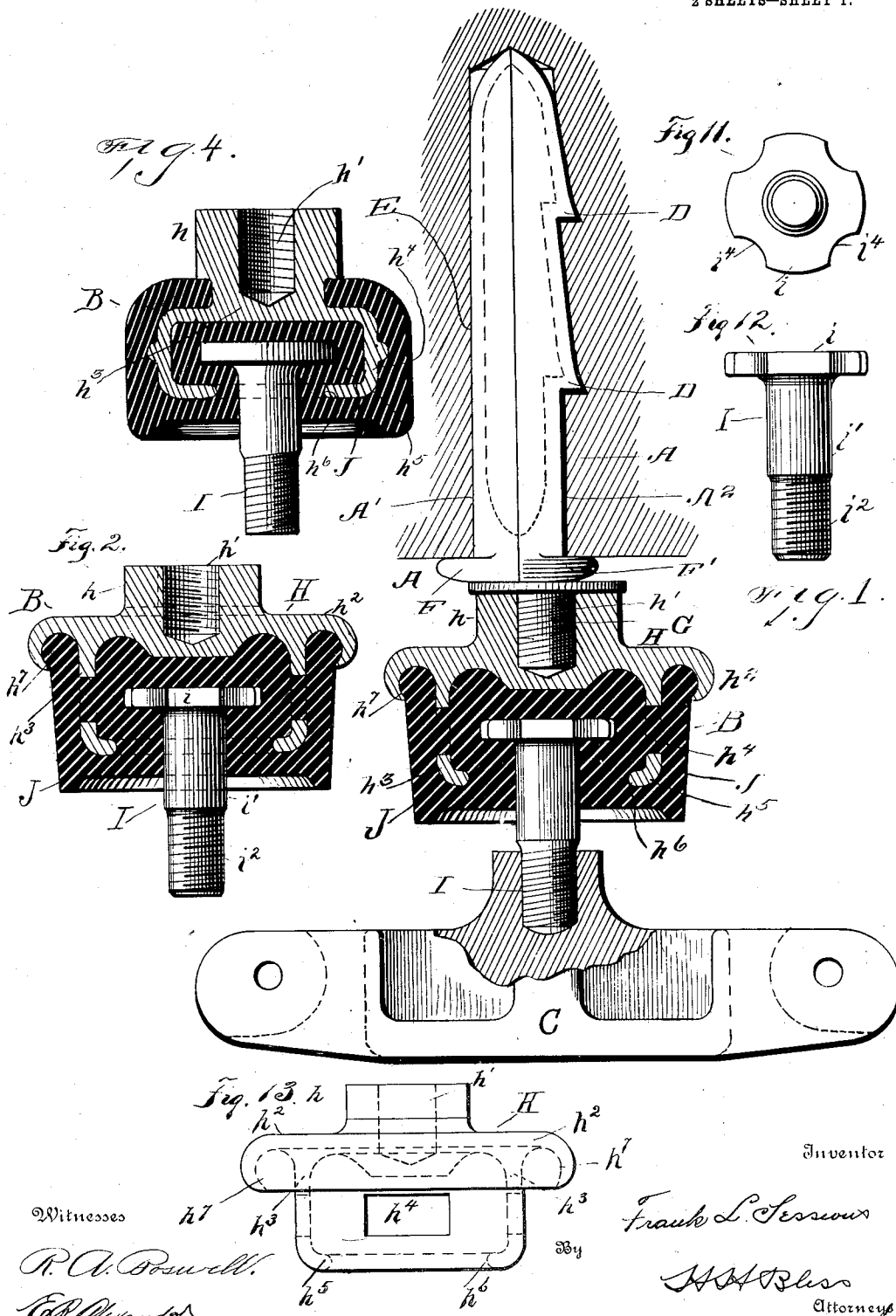


F. L. SESSIONS.
HANGER FOR WIRES.
APPLICATION FILED JULY 17, 1902.

936,370.

Patented Oct. 12, 1909.

2 SHEETS—SHEET 1.



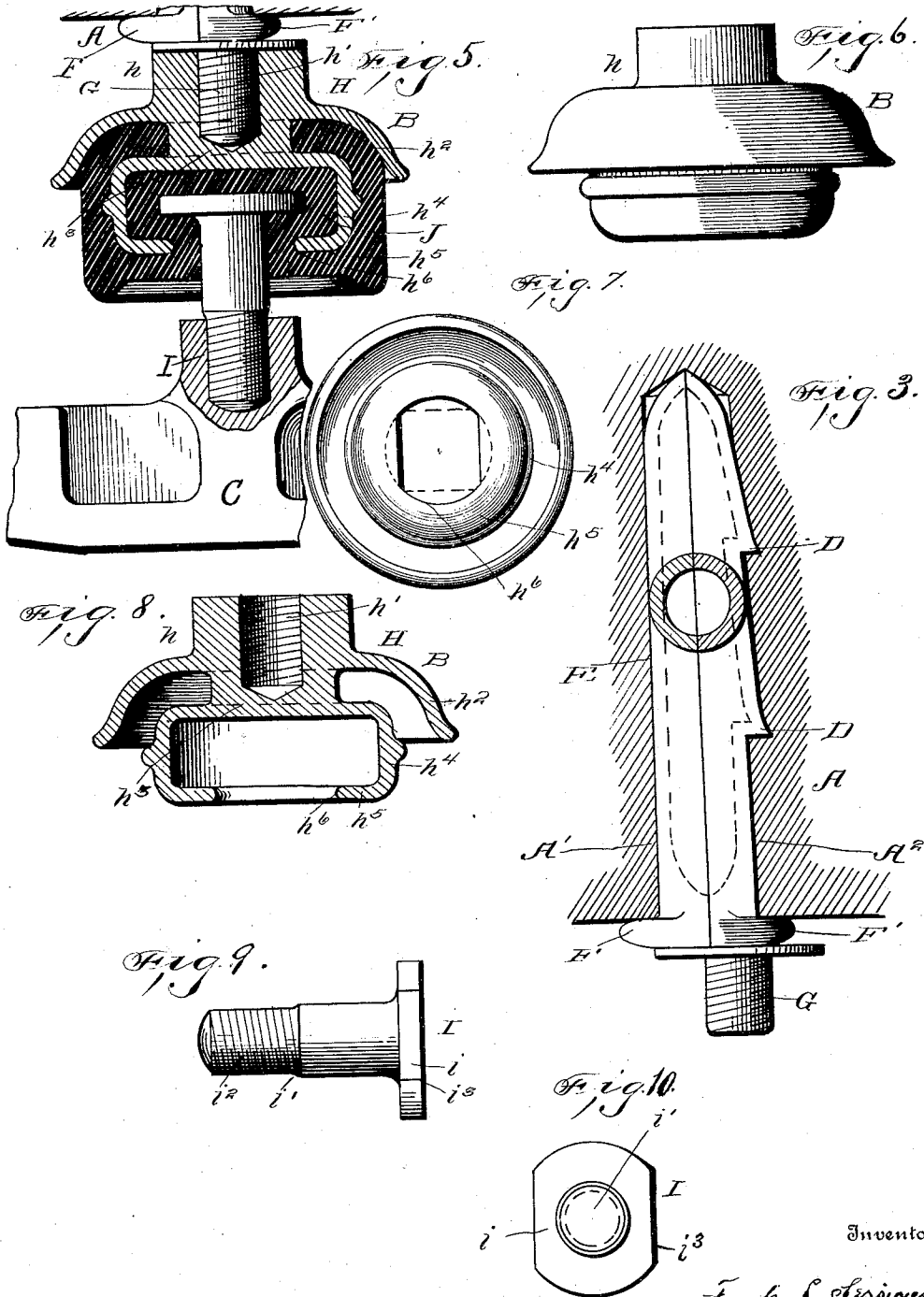
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UNITED STATES PATENT OFFICE.

FRANK L. SESSIONS, OF COLUMBUS, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE JEFFREY MANUFACTURING COMPANY, A CORPORATION OF OHIO.

HANGER FOR WIRES

936,370.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed July 17, 1902. Serial No. 115,977.

To all whom it may concern:

Be it known that I, FRANK L. SESSIONS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Hangers for Wires, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to an improved device for suspending wires, being particularly adapted for the support of electric wires from a body above the wire, as for instance from the roof of an entry in a mine.

Figure 1 shows partly in section and partly in side elevation a wire hanging mechanism embodying my improvements. Fig. 2 shows in section the insulating hanger. Fig. 3 shows in side elevation the fastening or roof bolt, the roof of the mine being shown in section. Fig. 4 shows a modified form of insulating hanger. Fig. 5 shows partly in section and partly in side elevation a wire hanging mechanism with another form of insulating hanger. Fig. 6 shows in side elevation the metallic part of the hanger which is below the fastening bolt. Fig. 7 is a bottom plan view of the same, and Fig. 8 is a vertical section of the same. Figs. 9 to 12 show details. Fig. 13 shows in side elevation the metallic part of the hanger which is below the fastening bolt in Fig. 1.

I have illustrated the invention as applied to the roof of a coal mine, the latter being conventionally illustrated in section.

The fastening device which supports the hanger is indicated as a whole by A, B indicating the hanger and C the wire carrier. The fastening device A is composed of two parts A' and A², these when fitted together being at most of their transverse lines substantially circular in section and constituting a plug or pin adapted to be inserted into an aperture drilled in the roof of the mine for their reception. The part A' has a shank E which is smooth upon its exterior surface; but the part A² is formed with outwardly projecting lugs or spurs D, which are adapted to be pressed or embedded in the coal. The part A² is first inserted into the hole and then the part A' is driven in by it serves somewhat as a wedge to force the

spurs or projections D of the part A² into the material at the side of the aperture, thus preventing the withdrawing of the fastener as a whole without the application of great force. The parts A', A² are each formed with a shoulder or flange as at F, F', which bear against the coal at the outer end of the socket or aperture therein. The part A² has a screw threaded extension or stem G for supporting the hanger.

The hanger B is shown as comprising the upper metal part H, the lower metallic part I, and the insulating part J. The part H is formed with a neck h having a threaded aperture h', the cover or guard flange h² having an annular recess or groove h³, the downwardly extending wall h⁴ having apertures h⁴ and the inwardly turned lip or flange h⁵, there being an aperture in the latter at h⁶. The lower metallic part I can be of the nature of a bolt, having a head i, the shank i', and the threaded lower end i².

The head i is of a diameter slightly smaller than that of the hole at h⁶ and may be recessed at i⁴ as shown. The insulating material J is inserted in such a way as to fill the chamber which surrounds the head i and the upper part of the shank i', and the orifices or apertures h⁴, the insulation extending down through the aperture h⁶ and then around the outside of the parts h⁵ and h³ and filling the annular recess h³. The insulation is therefore retained in place by the lip h⁵, the walls of the aperture h⁴ and of the annular recess h³. The insulation fills the recesses i⁴ and serves to prevent the rotation of the metallic part I within the hanger.

In the modified form of device shown in Figs. 5 to 8 the part H is formed with the neck h having a threaded aperture h', the cover or guard flange h², the cross plate h³, the downwardly extending wall h⁴ and the inwardly turned lip or flange h⁵, there being an aperture in the latter at h⁶ relatively oblong in shape. The head i of the metallic part I is on one diameter larger than the shorter diameter of the hole at h⁶, the larger diameter of this hole is sufficient to allow the insertion of the head which is afterward given a quarter turn before the insulating material is inserted. Being in some dimensions larger than the aperture h⁶ the downward strain is transmitted from the part I to the part H in such a way as to relieve

the insulating material from excessive stress. In this form of device the insulating material likewise fills the central chamber, extending down through the aperture h^6 and then down and around the outside parts h^4 and h^5 , and inward somewhat over the plate h^3 , the shield flange or guard h^2 covering more or less of the insulation.

In Fig. 4 is shown still another modification of the hanger in that here the shield or guard h^2 is dispensed with.

The insulation J may be formed of any of the several now well known materials, and inserted or molded in place by any of the methods that are understood for this purpose.

The wire carrier at C is connected to the threaded end z of the downward projecting metal part I, and is of such shape and character as to suitably support the wire, requiring however no detailed description here as any of the numerous styles of carrier can be employed.

A hanger of the character I have selected to describe is for many purposes superior to any with which I am acquainted. In mines, such as coal mines, it is frequently desirable to support wires as close as possible to the roof because of the reduced height of the rooms, and when the parts are constructed and arranged in the way I have described an insulated support is provided which projects but two or three inches from the roof surface. Again it is frequently necessary to temporarily suspend wires, as for instance in rooms or chambers where limited operations are to be performed for the time being; and for such places it is desirable that suspending devices be provided which shall be of reduced cost and which can be quickly put in place or withdrawn. But a single bolt or fastening device A is required with the present construction, whereas it has been customary to employ hangers of such nature as that two fasteners had to be combined with each hanger, this not only increasing the cost incident to the devices, but also the labor and expense incident to putting them in place. By forming the part H with the upwardly extending neck h having an internal threaded socket adapted to fit the downwardly projecting stem G a single pin or fastener can be used and by securing the threaded rod or bolt I in the manner described the wire carrier can also be fastened by a single support.

What I claim is:—

1. In a hanger for electric wires and similar purposes, the combination with an upwardly extending fastener as at A, and a wire carrier as at C, of an intermediate hanger having the metallic part H secured detachably to the fastener and having a down-

ward cup-like extension h^3 and the laterally extending insulator guard and retainer h^2 , the lower metallic part I detachably secured to the wire carrier and the insulator J arranged to surround the upper part of the metal portion I and also the cup-like extension of the metal portion H, substantially as set forth.

2. In a hanger for electric wires and similar purposes, the upper metallic part H provided with suspension means, and having a downward extension, the lower metallic part I having means for supporting a wire carrier, and the insulator J arranged to surround the upper part of the metal portion I and to pass through and exteriorly surround the downward extension of metallic part H, substantially as set forth.

3. In a hanger for electric wires and similar purposes, the combination of the upper metallic part H provided with suspension means and having a downward cup-like extension with laterally disposed apertures therein, the lower metallic part I having means for supporting the wire carrier, and the insulator J arranged to surround the upper part of the metal portion I and to extend through the laterally disposed apertures and to surround the downward extension of the metallic part H, substantially as set forth.

4. In a hanger for electric wires and similar purposes, the upper metallic part H provided with suspension means and having the annular recess for receiving and retaining the insulation and the cup-like extension having the inwardly turned lip or flange h^6 and the apertures h^4 for receiving and retaining the insulation, in combination with means for supporting a wire carrier, said means having its upper part situated in said downward extension and surrounded by insulation.

5. In a hanger for electric wires and similar purposes, the combination of the upper metallic part H, having a downward box like extension h^3 with the relatively oblong shaped aperture h^6 therein, a lower metallic part I having a relatively oblong shaped head, adapted to be inserted through said aperture h^6 into the interior of said box like extension and given a quarter turn so as to have the ends of the said head overlie the edges of the said aperture and the insulator J arranged to surround the head i and fill the box like extension h^3 , substantially as set forth.

6. In a wire hanging mechanism, the split wedge bolt A, adapted to be embedded in the material of a supporting wall comprising the wedge part A' and the part A² having some points of its material engaging surface more remote relatively to the bolt axis than other lower points, and having at its lower

extremity means for supporting the hanger, said means being independent of the wedge part A, substantially as set forth.

5 7. In a wire hanging mechanism, the combination with the split wedge bolt A adapted to be embedded in the material of a supporting wall comprising the wedge part A' having the laterally extending shoulder F at its lower end, and the material-gripping
10 part A' having the screw-threaded pin G at its lower end, of the wire hanger having the threaded socket h' adapted to receive the pin G.

15 8. In a wire hanging mechanism, the combination with the split wedge bolt A adapted to be embedded in the material of a supporting wall comprising the wedge part A' having the smooth-faced cap F at its lower end, and the material-gripping part A' having
20 the screw-threaded pin G at its lower end, of the wire hanger having the projection h, in which is the socket h' adapted to

receive the pin G, said projection being designed to normally contact with the lower face of the cap F.

25 9. In a wire hanging mechanism, the combination with the split wedge bolt A, adapted to be embedded in the material of a supporting wall flanged at its lower end comprising the wedge part A' having the smooth
30 faced cap F at its lower end, and the material-gripping part A' having the screw-threaded pin G at its lower end, of the wire hanger having the projection h, in which is the socket h' adapted to receive the pin G,
35 said projection being designed to normally contact with the lower face of the cap F.

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

FRANK L. SESSIONS.

Witnesses:

PERCY C. DIERDORFF,
G. B. NORRIS.