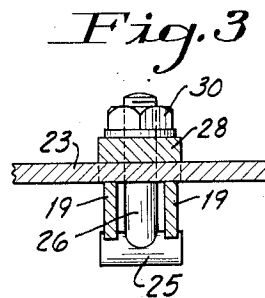
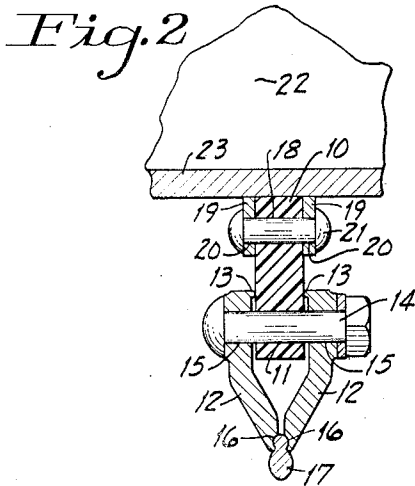
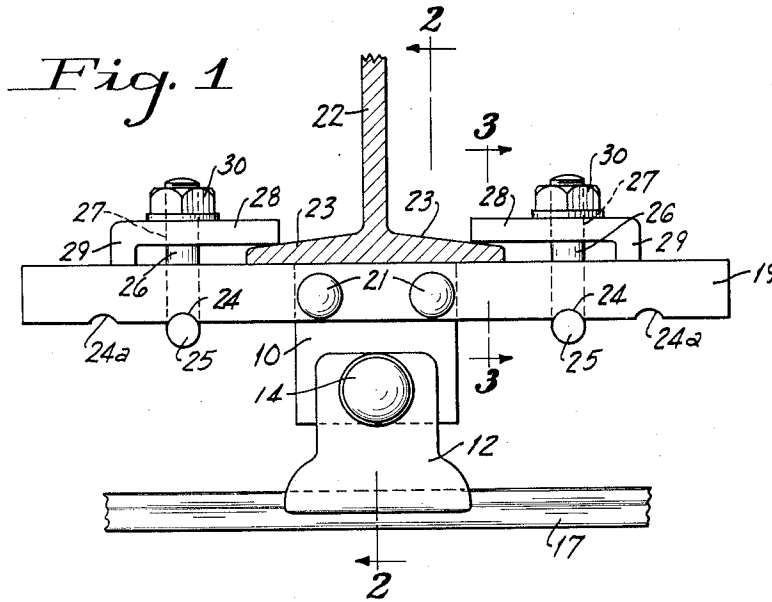


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COMBINATION HANGER AND CLAMP FOR  
SUPPORTING ELECTRICAL CONDUCTORS  
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## UNITED STATES PATENT OFFICE

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COMBINATION HANGER AND CLAMP FOR  
SUPPORTING ELECTRICAL CONDUCTORS

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2 Claims. (Cl. 174-163)

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My invention consists in a new and improved hanger clamp for the support of trolley wires and feeder wires from a flanged overhead support, such as an I-beam and for insulating the wires from the latter.

While my improved hanger clamp is especially intended for use in suspending trolley and feeder wires from the roof of a mine, it is also advantageously adapted to support the wires from any overhead structure.

Among the objects which I have in view are the following:

The provision of a novel and efficient hanger clamp which is more rigid and less liable to impairment in service than the types of hanger clamps now in common use, such for instance as the well-known bell and expansion bolt hanger clamp.

The provision of a hanger clamp which is more simple in construction and less expensive to manufacture than the present known hanger clamps.

The provision of an overhead hanger clamp which supports the wire at a shorter distance from the mine roof so that it may be successfully used in mines having low roofs on account of the relative thinness of the vein of coal being mined.

The provision of a hanger clamp which requires no boring or drilling of holes in the mine roof or the supports of the latter to receive the conventional expansion bolts.

The provision of a hanger clamp that is adjustable without substitution of parts for mounting on different dimensions of overhead supports, such as I-beams.

Other advantages will appear from the following description.

In the accompanying drawings, which illustrate a practical embodiment of the principles of my invention.

Fig. 1 is a side elevation showing the improved hanger clamp supporting a trolley wire and secured to an overhead beam which is shown in section;

Fig. 2 is a cross-sectional view of the same taken along the irregular line 2-2 in Fig. 1, and

Fig. 3 is a like section taken along the line 3-3 in Fig. 1.

Referring to the drawings, 10 indicates a block of dielectric material of high tensile strength, such as a hydraulically and thermally compressed material like the synthetic resin known by the trade-mark "Bakelite." The block 10 has flat parallel sides and upper and lower longitudinal edges. Spaced below its vertical center the block

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10 is provided with a transverse bolt hole 11. 12 indicates a pair of coacting jaw plates having horizontal pivotal ribs 13 adjacent their upper extremities which bear against the opposite sides of the block 10. A bolt 14 extends through the hole 11 in the block 10 and through registering holes 15 in the opposed jaws 12. The upper portions of the jaws are vertical and clear the sides of the block 10 below the ribs 13.

The jaws 12 depend below the block 10 and their lower portions converge toward each other, as shown in Fig. 2, and at their extremities they are provided with coacting grooves 16 in which the wire 17 is engaged, the tightening of the nut on the bolt 14 causing the jaws to swing toward each other, pivoting on the ribs 13 to firmly grip and hold the wire.

Adjacent the top edge of the block 10 the latter is provided with horizontally spaced apart transverse holes 18. 19 indicates a pair of flat parallel horizontal metal bars, which may be cut from steel of narrow gauge, which bars fit against the opposite sides of the block and are provided with holes 20 registering with the holes 18 in the block. 21 indicates rivets snugly fitting the holes 18 and 20, thus firmly and permanently securing the bars 19 to the block 10.

The block 10 is of sufficient vertical dimension that there is a substantial space between the upper ends of the jaw plates 12 and the lower edges of the horizontal bars 19 to completely and permanently insulate the bars from the jaw plates. The top edges of the bars 19 are disposed in the same horizontal plane as is the top edge of the block 10, so that when the assembled block and bars are placed beneath the overhead beam 22, which is provided with the bottom flange 23, the block and bars will fit snugly against the flat bottom surface of the flanged beam.

The lower edges of the spaced pair of bars 19 are provided with aligned pairs of arcuate notches 24 which are engaged by the cylindrical head 25 of the T-bolts 25, the threaded ends of which extend upwardly between the spaced bars 19 and through the bolt holes 27 in the clamp plates 28, the outer ends of which are provided with depending flanges 29 which bear on the top edges of the bars 19 while the inner ends overlap the flanges 23 of the beam 22 and are firmly clamped down thereon as the nut 30 is screwed down on the threaded end of the bolts 25.

To enable the hanger clamp to be readily attached to beams having different overall width of flanges, the bars 19 may be provided with additional notches in their lower edges as indi-

cated at 24a in Fig. 1 so that the T-bolts and clamp plates may be properly positioned to engage the flanges of the beam to which the hanger clamp is to be attached.

Thus different sizes of hanger clamps are not required as a clamp of the selected standard size may be readily and quickly secured to beams of many different widths.

My improved hanger clamp may thus be secured to any type of overhead beam provided with bottom flanges, whether of I-beam, T-beam, railway rail shape or other shape.

My improved hanger clamp may be much more quickly applied to an overhead support than is possible with other forms of hanger clamps now in use, and as quickly removed.

My improved hanger clamp has no loose or separate parts which might become misplaced, but it is an assembled unit which is easy to handle.

I claim:

1. In a hanger clamp for suspending an electric conductor from an overhead support which is provided adjacent its lower surface with opposed lateral flanges, the combination of a block formed of dielectric material having parallel sides, a pair of elongated parallel metal bars in spaced relation to each other fixedly secured to the opposite sides of said block and extending beyond the opposite ends of the block, said bars being arranged to fit up against the bottom of the flanges of the overhead support, T-bolts having portions arranged to engage aligned pairs of notches in the bottom edges of said bars and having their stems extending up between said bars, clamp plates having holes through which the stems of said T-bolts extend upwardly, said clamp plates arranged to overlap the edges of the flanges of the overhead support and nuts arranged to be screwed down against the said plates to force said plates into engagement with said flanges, and means secured to and depending from the lower portion of the dielectric block for engaging the electric conductor, said means being spaced sufficiently from the metal bars to insulate the electric conductor from said bars, there being provided a plurality of spaced apart pairs of said notches to be selectively engaged by said

bolts and thus enable the hanger clamp to be secured to overhead supports of different overall width.

2. In a hanger clamp for suspending an electric conductor from an overhead support which is provided adjacent its lower surface with opposed lateral flanges, the combination of a block formed of dielectric material having parallel sides, a pair of relatively elongated parallel metal bars in spaced relation to each other fixedly secured to the opposite sides of the block and extending beyond the opposite ends of the latter, said bars being arranged to fit up against the under surface of the overhead support, T-bolts arranged to engage the bars from beneath and to extend upward between the bars, clamp plates having holes through which said bolts extend, said clamp plates being arranged to overlap the edges of the flanges of the overhead support when the hanger clamp is in place, nuts arranged to be screwed down on the bolts against the clamp plates to force the clamp plates into engagement with the flanges, means secured to and depending from the lower portion of the dielectric block for engaging the electric conductor, said means being spaced sufficiently from the metal bars to insulate said means from the metal bars, and depending flanges on the outer ends of the clamp plates which engage the top edges of the bars to space the horizontal portions of said clamp plates from the bars and cause the free extremities of the clamp plates to be forced downwardly into engagement with the upper surfaces of the flanges of the overhead support as the nuts are tightened on the bolts.

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