

No. 889,884.

PATENTED JUNE 2, 1908.

M. H. STRONG.
INSULATOR.

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Fig. 1.

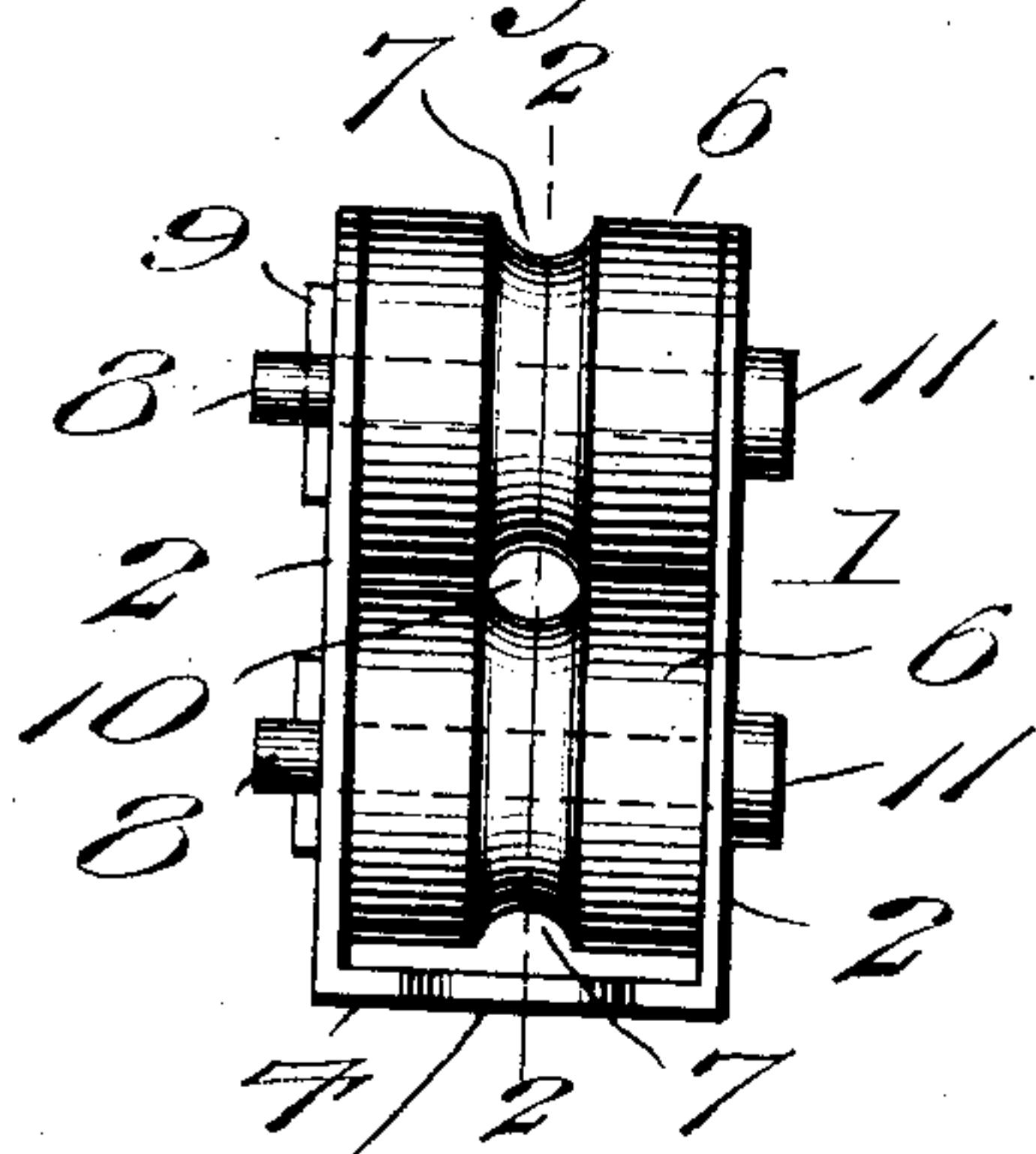


Fig. 2.

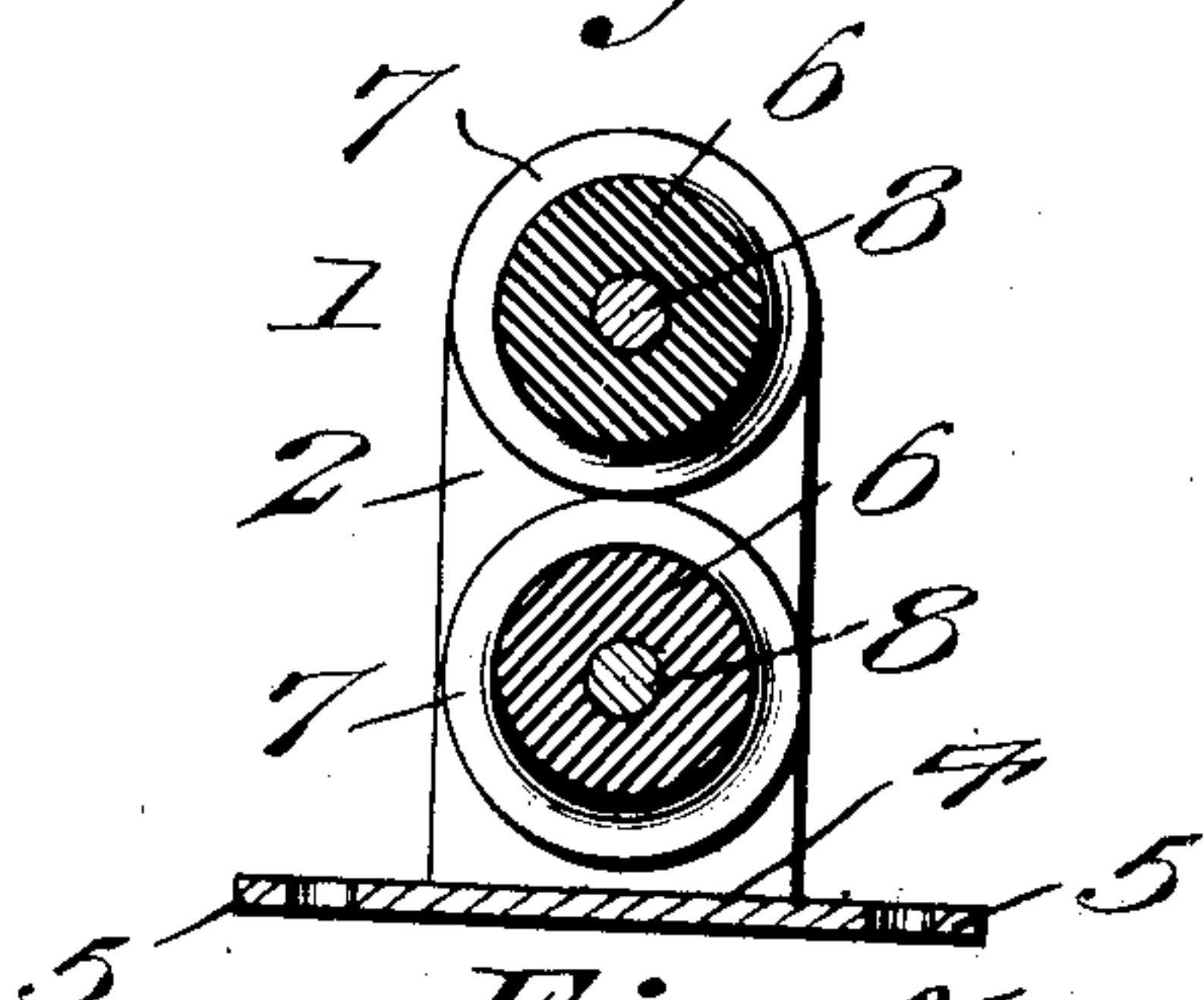
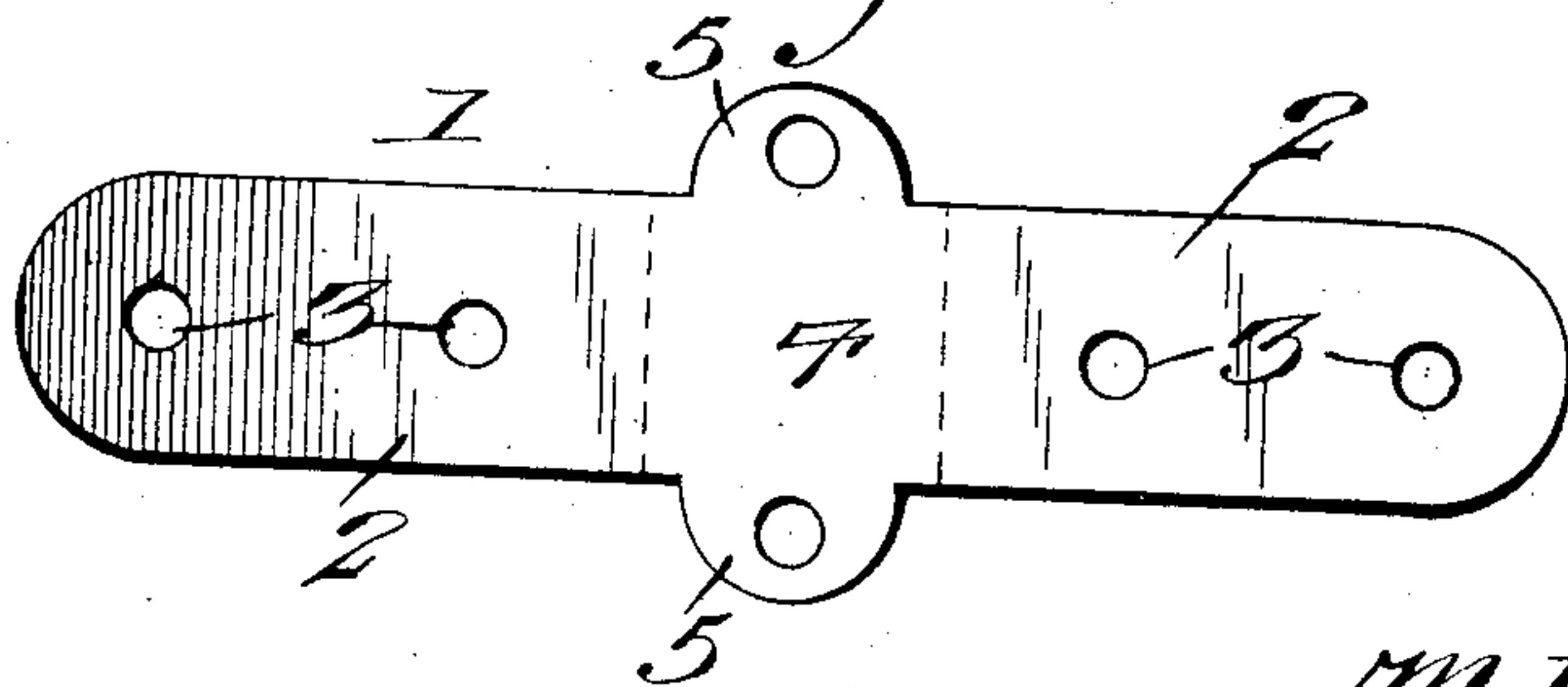


Fig. 3.



Witnesses

Phil. E. Barnes
A. S. Eimore

Inventor

M. H. Strong.

By

Victor J. Evans.

Attorney

UNITED STATES PATENT OFFICE.

M HARRISON STRONG, OF OZARK, MISSOURI, ASSIGNOR OF ONE-HALF TO SOLOMON E. BRONSON, OF OZARK, MISSOURI.

INSULATOR.

No. 889,884.

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To all whom it may concern:

Be it known that I, M HARRISON STRONG, a citizen of the United States, residing at Ozark, in the county of Christian and State of Missouri, have invented new and useful Improvements in Insulators, of which the following is a specification.

This invention relates to a wire, cable, or trolley insulator, especially designed for insulating electric wires and presents the idea of hanging, carrying and securing in place telephone, telegraph and electric current carrying wires, cables or trolleys and provides a simple and inexpensive method by means of grooved insulating rolls or insulators made of any proper material either rotary or stationary in action and the grooved insulating rolls or insulators journaled in a frame or casing and working and coöperating in pairs so that the peripheral grooves correspond and the insulators held in position in the frame or casing by means of an axle or journal pin of any desired material inserted through such frame or casing or grooved rolls or insulators and there secured in a positive position in the frame or casing which may be made of any desired material of any shape, size or strength necessary for protection and safety and stability in insulating high and low potential wires, cables or trolleys. With these and other objects in view and the placing of this idea of insulating wires, cables and trolleys and all other electric conductors in practical use by means of this invention and the novel features of its construction and the combination of the parts and their uses which are hereinafter more fully described, I present the accompanying drawing which shows the principle of the invention and the idea in its simplest form as a retaining insulator for a single low potential wire as used in telephone or telegraph line construction work.

In the accompanying drawings: Figure 1 is a side elevation of an insulator embodying the invention. Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1. Fig. 3 is a plan view of the casing blank prior to bending into shape.

Referring to the drawing, 1 designates a hanger, frame or casing used to hold the insulating rolls in position, illustrated in Fig. 3, and this frame or casing is made from a single piece of blank or sheet metal of the form illustrated in Fig. 3, produced by stamping,

cutting or otherwise formed, and comprising side portions or plates of Fig. 2, having bearing openings 3 and a base portion or plate 4, provided with transversely projecting, perforated ears 5; adapted to receive suitable fastening members for attaching and securing the casing or hanger device to a pole, tree, building or the cross arm of a pole or any other support where wires, cables or trolleys are to be hung or secured, and the peculiar construction of this device permits it to be installed in any position, either on the top or side of a pole; the top, bottom or end of a cross arm; underneath the cornice or on the side of a building, and is so designed that the wires, cables or trolleys may be threaded through the grooves of the rolls or insulators, or when the device is used on a vertical plane the axle or journal pin may be removed, and spikes, drive screws or other suitable device substituted and driven through the casing and grooved roller into the support to properly hold the insulator roll in position and thus adding strength. And it will be noted that arranged in the frame or casing 1 between the side plates 2, which are, as seen in Fig. 1 disposed and spaced in parallel relation, is a pair of coöperating rotary insulating members or rollers 6 provided with central peripheral grooves 7 and journaled in the frame by means of pintles, axle or journal pin 8 extending through the openings 3 and removably secured in place through the medium of retaining members in the form of cotter pins 9 as shown here entered through suitable transverse openings in the journal pins or axle, it being noted that for heavier use where the strain is greater or conditions such as to require a more stable axle that small bolts may be used as journal pins with threaded nuts or any other device for holding the rolls and casings in position.

In connection with the drawing herewith presented for light construction work the rollers or insulators are arranged in a frame, the grooves 7 coöperate to form a centrally disposed opening 10 through which, or in which the conducting wire is threaded or may be engaged, and further that the pins 8 are each removable thus releasing the rollers and insulators and each pin is provided at one end with a head 11 which bears on the adjacent side plate 2 while the pin or nut 9 bears on the other side plate for holding the journal

pin or axle and side plates in place. Further describing this simple form of a telephone insulator as shown in the drawing the rollers or insulators may be made of porcelain, glass or
 5 any other insulating material but in the use of this telephone insulator which is especially designed to be used as rollers whether the peripheral groove comes in the center of the porcelain or not. The size of the groove de-
 10 pending upon the size of the wire used in the construction work, the grooves in the insulator being made to correspond to the various standard sizes of wire, both bare and covered, in use. This simple form of insulator
 15 being especially designed for preliminary or temporary construction work for telegraph or telephone lines run through the timber where the insulators are fastened to trees or limbs, and providing a simple and economical
 20 method of engaging and disengaging wire and repairing the work and by use of this insulator it protects the wire from wear and breakage as it permits free movement of the tree or limb without injuring either the insu-
 25 lator or wire and provides a quick, simple and easy method of hanging and stretching wire as it will be noted that the wire when engaged between these two rollers may be stretched any reasonable distance and when
 30 so stretched and fastened that the slack is evenly distributed over the whole line as it becomes self compensating and moves most freely wherever the greatest strain comes on the wire, returning to its normal position
 35 when the strain is removed, with the least possible injury to the whole line or that part of it located between the two fastening points. While this form of an insulator is designed for construction work in a timbered
 40 country, it is just as serviceable and economical in ordinary or standard construction work.

In practice, the form of insulator presented in this drawing, the blank sheet of
 45 metal after being stamped is bent into shape to the position of side plates 2 as in Fig. 1, after which the rollers are secured in the frame by means of the journal pins 8, as will be understood.

50 In the use of this insulator in ordinary or standard construction work, where it is desired to hold the engaged wire in a rigid position at the insulator, the ordinary method of a tie wire across the top and through the
 55 groove of the upper roller may be used, but I present the idea of confining the wire by plugging between the wire and the groove with a pin or hollow wedge made of soft metal or other substance having a concave
 60 face, or by clamping an open ring of wire around the wire on either side of the insulator, and when deemed necessary securing this ring or plug to the wire by the use of sol-

der, cement, tape or other substance. The plugs or rings can be made and applied by
 65 this method by any person doing this kind of construction work and using these insulators. This being an improvement over the present method of securing wires to an insu-
 70 lator as by the use of this method of securing wire it presents a simple means of repair of construction work and does not injure the main wire by twisting or burning and may be readily removed from the main wire in case
 75 it is desired to take it down or remove it to some other position.

Having described this simple form of insulator as shown by the drawing for the purpose of presenting the idea of its use in a
 80 simple way, I claim the use of this insulator made to embrace its necessary features and that this insulator when embracing these features and used for high potential wires, cables and trolleys can be made of any mate-
 85 rial, strength or size to meet the varying conditions of insulating and carrying electric wires, cables and trolleys, the size and strength of the insulator would increase cor-
 90 respondingly as would be necessary to protect heavy or high voltage wires, cables or trolleys from the elements by roofing the cas-
 95 ing or frame with rubber, galvanized iron or any other practical material thus preventing snow, ice and water from accumulating on the insulator and its connection to the pole
 100 or other support, as the use of this insulator will eliminate this bad feature of proper insulation and absolutely protect and keep the wire, cable and trolley from falling, even
 105 though the insulating rolls should be broken as the wire would then be held in place by the two axles or journal pins and the casing.

Having described my invention what I claim is:

An insulator comprising a frame formed
 105 from a blank of sheet metal shaped to present a pair of side plates having bearing openings and a base plate provided with transversely projecting perforated ears, pintles
 110 arranged in the bearing opening and extended transversely through the frame between the side plates, a pair of grooved insulating rollers arranged in the frame and journaled for
 115 rotation respectively on said pintles, the latter being provided with heads to bear on one of the side plates, and retaining pins entered transversely through the pintles to bear on the other side plate and adapted for securing the pintles removably in place.

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

M HARRISON STRONG.

Witnesses:

C. S. LOWTHORP,
 SOLOMON E. BRONSON.