

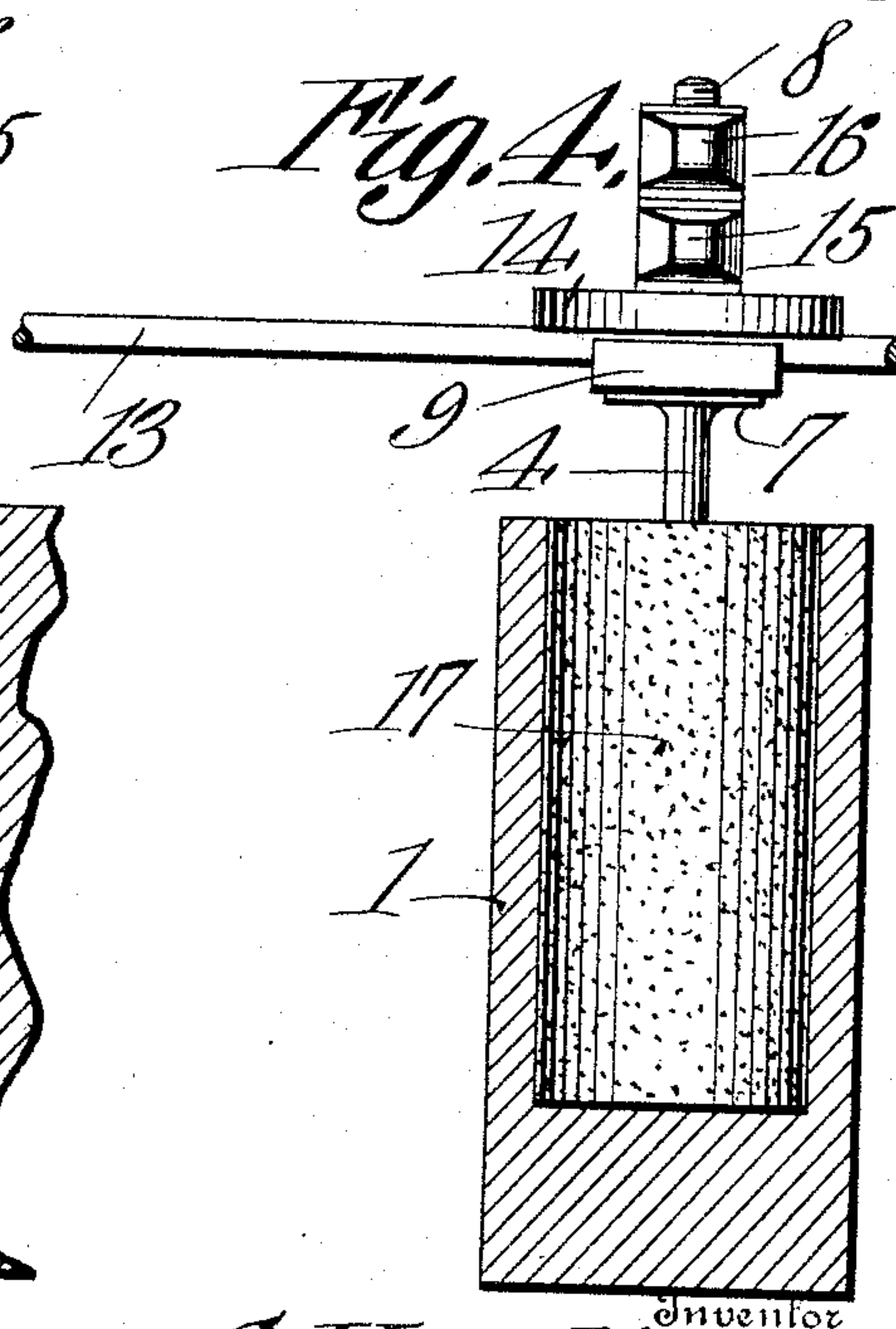
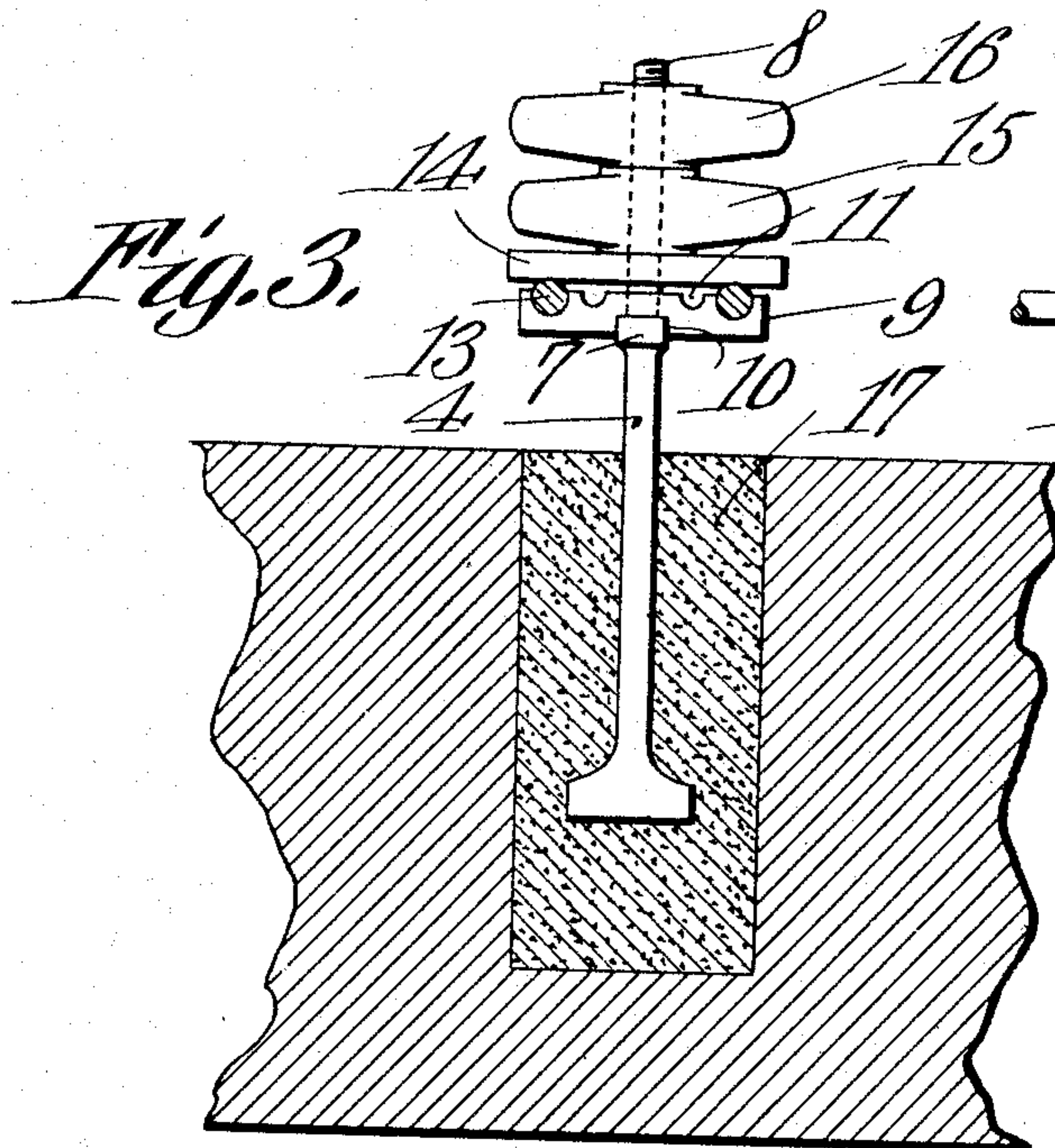
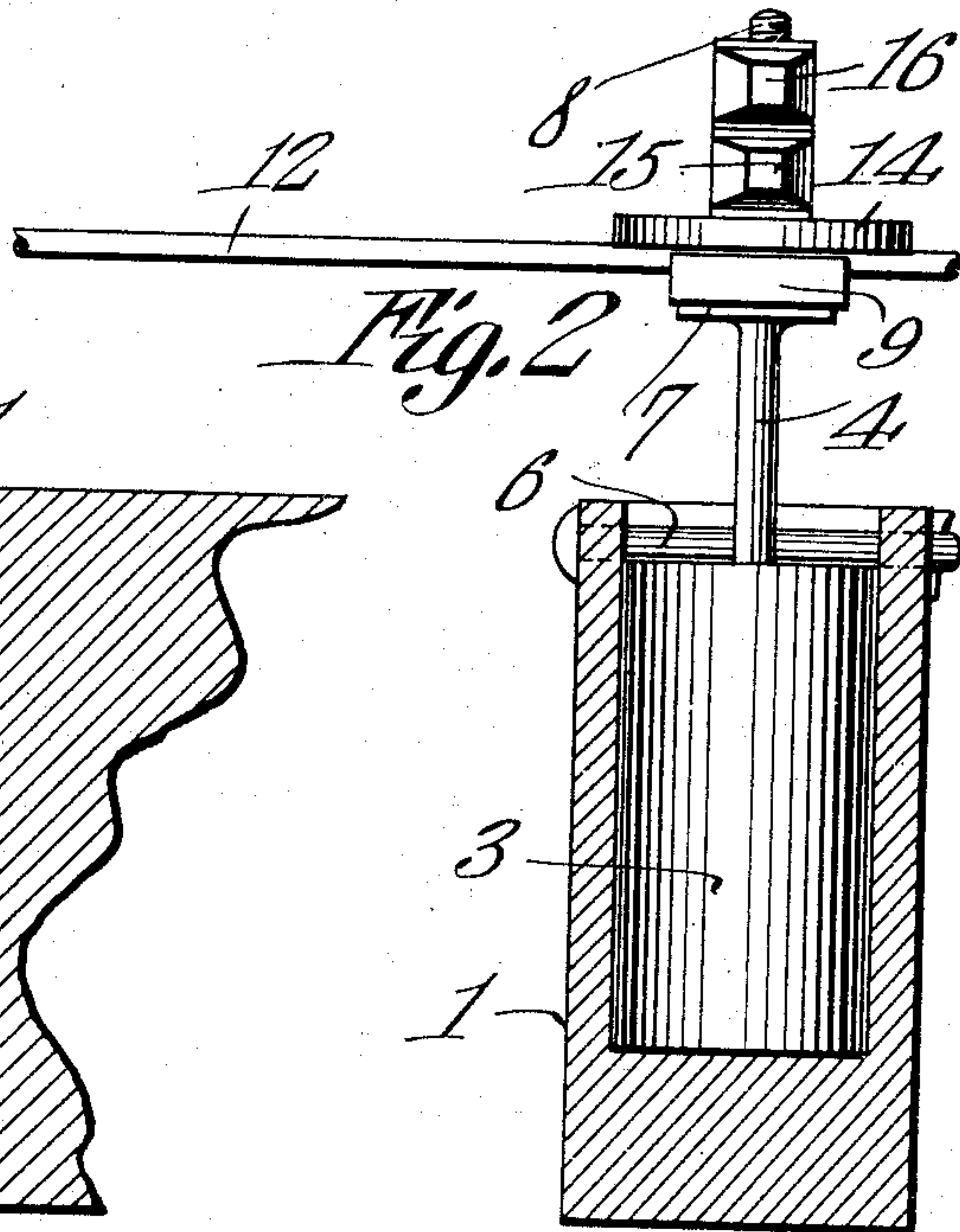
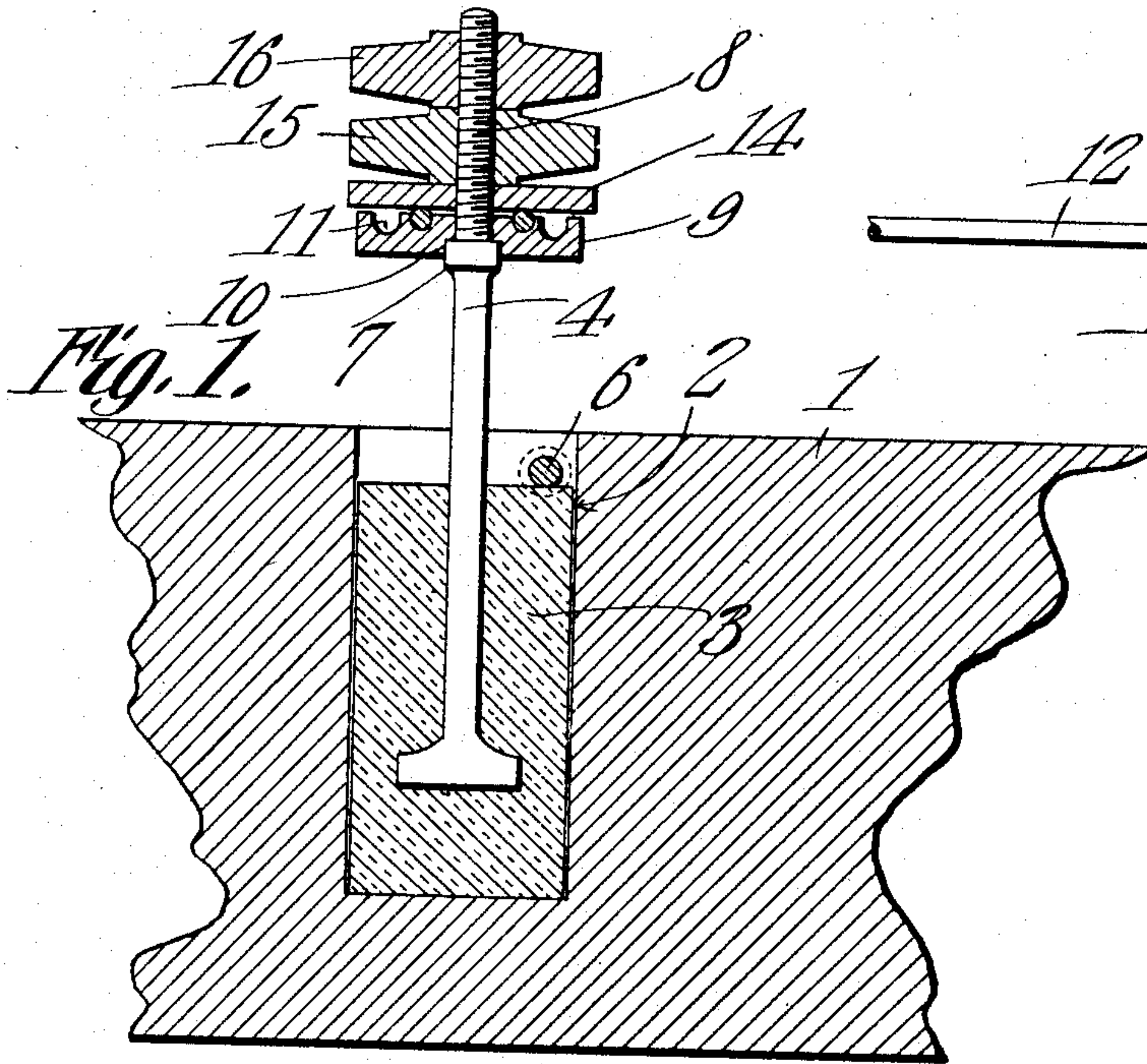
C. C. HARDIN.

INSULATOR.

APPLICATION FILED JULY 22, 1909.

955,065.

Patented Apr. 12, 1910.



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Witnesses

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UNITED STATES PATENT OFFICE.

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INSULATOR.

955,065.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed July 22, 1909. Serial No. 508,998.

To all whom it may concern:

Be it known that I, CORNELIOUS C. HARDIN, a citizen of the United States, residing at La Fayette, in the county of Walker and State of Georgia, have invented a new and useful Insulator, of which the following is a specification.

This invention has reference to improvements in insulators especially adapted for use on telegraph and telephone lines, and its object is to provide a strong and rigid insulator not liable to injury and which will firmly hold wires of different gages without the necessity of tying the wires to the insulators and at the same time permitting the ready removal of the wire from its support at will.

In accordance with the present invention there is provided a metallic stem seated in an insulating block which may be housed in a cross arm and this stem carries a grooved member adapted to receive the wires which are held in the grooved member by a cover plate or washer in turn secured by suitable nuts, preferably wing nuts, one of which may be utilized as a lock nut.

The invention will be best understood from a consideration of the following detail description taken in connection with the accompanying drawings forming a part of this specification, in which drawings—

Figure 1 is a vertical section through the improved insulator and stem carried thereby, the insulator being shown as housed in a cross arm. Fig. 2 is a section through the cross arm, in a plane at right angles to that of Fig. 1, with the insulator structure in elevation. Fig. 3 is a view similar to that of Fig. 1 but with the wire clamping members in elevation and showing a different type of insulation. Fig. 4 is a section similar to that of Fig. 2 but illustrating the form of the invention shown in Fig. 3.

Referring to the drawings, there is shown a portion of a cross arm 1 which may be taken as typical of any suitable support whether it be a cross arm or not.

Formed in the cross arm at an appropriate point is a cavity 2 which for convenience, especially in wooden cross arms, may be an ordinary auger hole.

Adapted to the cavity 2 is a block 3 of porcelain or other suitable insulating material in which is inserted one end of a pin 4, the inserted end terminating in an expanded

head 5 which may be of tee form or otherwise shaped.

The insulating block 3 may be held in place by a cross pin 6 extending through the walls of the cross arm and traversing the cavity or bore 2.

At an appropriate distance above the cross arm the pin 4 is formed with an elongated boss or enlargement 7, the elongation extending preferably in the direction of the length of the wires to be supported. Above the boss 7 the pin 4 may have a threaded extension 8 for a purpose which will presently appear.

Seated on the boss or enlargement 7 is a block 9, preferably though not necessarily rectangular in outline and this block is formed on the under face with a recess 10 shaped to conform to the shape of the boss 7 so that the block 9 is anchored on the stem 4 above the boss 7 against turning thereon.

On the upper surface of the block 9 there are formed grooves 11 of different diameters to accommodate conductors 12—13 also of different diameters.

The plate or block 9 has a centrally located perforation for the passage of the threaded end 8 of the stem 4.

The grooves 11 are somewhat less in depth than the respective conductors 12—13 so that these conductors when seated in the grooves will project slightly above the upper face of the said block or plate 9. Applied to these conductors is a washer 14 shown in the drawings as circular, but it will be understood that a square washer, or one conforming to the general shape of the block or plate 9 may be employed. A circular washer, however, will always engage the conductors when seated in the grooves in proper relation thereto.

Applied to the threaded stem 8 above the washer 14 are two thumb-nuts 15—16, the thumb-nut 15 acting as a clamp nut for forcing the washer 14 against the conductors 12 or 13 or both as the case may be, while the nut 16 is utilized as a lock nut for the nut 15.

It will be understood, of course, that ordinary nuts may be utilized in place of the thumb-nuts 15 and 16 but the latter provide a ready means for clamping the wires or conductors in place without the necessity of special tools.

Where it is desirable to remove or change the pin 4, the insulating block 3 of Figs. 1 and 2 is used, but where the pins 4 may remain permanently in position in the cross arms or other supports 1, then some other type of insulating material may be used as indicated at 17 in Figs. 3 and 4.

Any suitable insulating material which may be applied in a liquid or semi-liquid state or even in a melted state, may be poured into the cavity 2 while the pin 4 is held therein in proper position and after the insulating material has hardened the pin will be anchored therein against any attempt at removal short of the destruction of the insulating material 17.

Plaster of paris or rosin or similar material may be used as the insulating material 17 of Figs. 3 and 4. In these last-named figures the pin 4 and parts carried thereby are the same as shown in Figs. 1 and 2.

While the block or plate 9 is shown as provided with two grooves of different sizes on each side of its central point where pierced by the threaded portion 8 of the stem 4, it will be understood that a greater or a less number of grooves may be employed as may be desired.

When the insulator is formed before being placed in the hole in the cross arm some protecting material, such as rosin or coal tar, in a liquid state, is poured into the hole to seal the same against the entrance of moisture and so protect the cross arm from decay.

What is claimed is:

1. An insulator comprising a stem seated at one end in insulating material and beyond the insulating material formed with a boss or enlargement and a threaded extension, a block or plate having on one face a seat for the boss or enlargement on the stem and on the other face formed with parallel grooves, a clamp member on the threaded portion of

the stem in operative relation to the grooved face of the block or plate, and clamp nuts applied to said threaded stem.

2. An insulator comprising a stem seated at one end in and locked to insulating material and beyond the insulating material formed with a boss or enlargement of rectangular contour, a block or plate having a rectangular seat on one face for receiving the boss or enlargement of the stem and on the other face formed with parallel grooves, a clamp plate adapted to the grooved face of the block or plate, and clamp screws adapted to the stem beyond the boss or enlargement and adapted to force the clamp plate into contact with conductors seated in the grooves in the block or plate.

3. An insulator comprising a stem formed at one end with an enlargement, a block of insulating material surrounding the enlarged end of the stem, the said stem being formed beyond said block with a rectangular boss or enlargement and a threaded continuation, a grooved plate or block having on one face a seat adapted to receive the boss or enlargement on the stem and clamping means for holding conductors in the grooves of the block or plate comprising a washer adapted to the stem beyond the boss or enlargement thereon and wing nuts adapted to the threaded extension of the stem.

4. An insulator comprising a stem having clamping means at one end for receiving and holding a plurality of conductors and an insulating block in which the other end of the stem is anchored.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

CORNELIOUS C. HARDIN.

Witnesses:

EMMA JONES,
MAUDE COOPER.