(No Model.)

H. L. BAILEY.

COUPLING FOR TELEGRAPHIC AND OTHER WIRES.

No. 302,972. Patented Aug. 5, 1884.

Fig. 1.

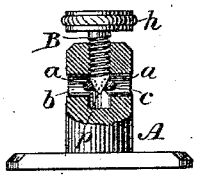


Fig. 3.

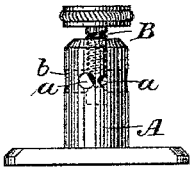


Fig. 2

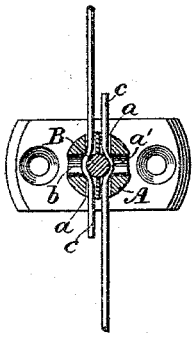


Fig. 4.

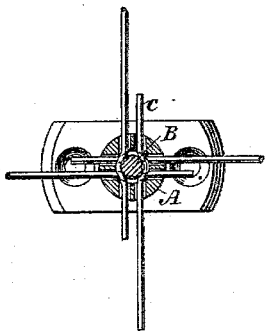
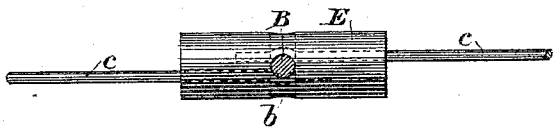


Fig. 5.



WITNESSES

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COUPLING FOR TELEGRAPHIC AND OTHER WIRES.

SPECIFICATION forming part of Letters Patent No. 302,972, dated August 5, 1884.

Application filed June 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY L. BAILEY, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Couplings for Telegraphic and other Wires, of which the following is a specification.

My invention relates to couplings which are employed for uniting the separate ends of electrical or other wires, or for attaching such wires to a stationary support; and its object is to provide a mode of attachment which, while forming a perfect electrical contact between the conductors, shall also mechanically clamp or bind them together in the most secure manner without diminishing their tensile strength, and which shall at the same time permit them to be readily detached or separated from each other or from the support whenever necessary.

In a coupling constructed in accordance with my invention, a longitudinal strain upon one or more of the conductors which are united by the coupling serves merely to clamp them together with increased firmness, instead of tending to detach or disconnect them, as in the case of devices ordinarily used for this purpose.

In the accompanying drawings, Figure 1 is a vertical transverse section of a coupling embodying my invention, constructed to serve the purpose of an ordinary binding-post; and Fig. 2 is a horizontal section of the same. Figs. 3 and 4 are modifications of the coupling shown in Figs. 1 and 2. Fig. 5 illustrates another form of my invention, in which the coupling is supported by the wires themselves, instead of being attached to a stationary support.

Referring first to Figs. 1 and 2, A is the body of a stationary coupling, which may correspond in outline with the ordinary binding-posts heretofore used for like purposes. Two parallel holes, *a a*, extend horizontally through said body at right angles to its axis, and are preferably placed at an equal distance from the center of the body. A third hole, *b*, preferably of a somewhat larger diameter than the holes *a a*, extends diametrically across the body and intersects said holes *a a* at a right angle. The ends of one or more wires, *c c*, are inserted within or through the holes *a a*, as shown in Figs. 1 and 2, and are secured therein by means of the screw B. This screw may be provided with the ordinary milled head, *h*, or with a slotted head, and is conical at its lower extremity, *p*. When the screw is turned downward, the tip of the point *p* enters the space between the wires *c c*, and by continuing its downward movement the conical point is forced between the wires, which latter are spread apart and slightly bent at *a' a'*, the bent portion being at the same time forced into the transverse hole *b*. The wires are thereby securely clamped within the body A, since the portions *a' a'*, being bent out of alignment with the holes *a a*, are held in place by the shoulders formed by the sides of the transverse hole *b*, which securely hold the wires, and which resist any longitudinal strain which may be brought against them. The wires should be so inserted into the coupling or post that a longitudinal strain upon either or both wires will tend to turn the screw B to the right—that is, so as to drive it farther between the wires, thus forcing them farther apart and locking them more securely in place.

The holes *a a* in the body A may be made of any convenient size; but in practice it will be found preferable, when it is desired to unite different sizes of wires at different times by means of one coupling or binding post, to form the holes of sufficiently-large diameter to accommodate the largest size of wire which may require to be connected, since the unnecessary largeness of the holes when small-sized wire is applied will not prevent the latter from being firmly grasped. It is preferable to form the hole *b* of a diameter equal to that of the holes *a a* for the free admission of the bent portion of the wire. In this construction, however, care should be taken that the diameter of the shank of the screw slightly exceeds the distance between the outermost sides of the holes *a a*, so that when the smallest size of wire is inserted the screw, when forcing them against the outer sides of said holes, will bind them sufficiently to hold them in place.

In Fig. 3 I have shown a binding-post in which the holes *a a* are of different diameters.

This construction may be useful when the post is to be employed for uniting two wires of different sizes. In this case it will be preferable to form the hole *b* of as large diameter as the diameter of the largest of the holes *a a*.

Fig. 4 shows an arrangement whereby two pairs of wires inserted at right angles to each other may be clamped by a single screw.

The construction will be readily understood from the foregoing explanations.

My invention as applied to a suspended wire-joint for telegraphic or other purposes is illustrated in Fig. 5, in which the shell or casing E performs the functions of the body A in the binding-post form. This shell may be any convenient form of cross-section, and should be of sufficient length to afford a rigid bearing for the ends of the wires. The wires are secured within the shell in the same manner as in the binding-post form hereinbefore described. It is preferable in making this form of coupler to have the holes for the wires extend only part way through the body, as shown in the figure. The wires can then only be inserted in such manner as to insure their more perfect locking under any increase of longitudinal strain by reason of their tendency to turn the screw B in the proper direction to force it farther between the wires.

While my invention is especially adapted to telegraphic purposes, on account of the improved electrical as well as mechanical contact which it secures, yet it is equally well adapted to connect or secure the ends of wires or rods for any purpose.

I do not desire to specifically confine myself to the forms of coupling shown. They may be made for one, two, three, or four wires, to be held by one screw, B, and all may be of different sizes. The lateral hole need not be in the exact plane of the wires, but may be a little below that plane, as I find in practice that to be an excellent modification.

I claim as my invention—

1. In a wire-coupling, the combination, with the body of the coupling, of one or more holes formed therein for receiving the wire or wires, one or more transverse apertures intersecting said wire-holes in approximately the same plane, and a conical pin or screw having its axis perpendicular to the plane of intersection of said wire-holes and transverse apertures, the inclined surface of which pin or screw is adapted to clamp said wire or wires by deflecting the same laterally into the transverse aperture or apertures, substantially as set forth.

2. A wire-coupling provided with two or more sets of openings for receiving wires, and a screw having a conical point adapted to bear angularly against the said wires, whereby the longitudinal strain exerted by the latter will tend to increase the pressure of the screw-point thereupon by causing the latter to turn.

3. A wire coupling provided with two or more sets of openings for receiving one or more sets of wires, and with a screw having a conical point adapted to partially intercept all of said openings at the same time.

4. A wire-coupling provided with two or more openings of different diameters, and with a screw or pin having a conical point adapted to intercept all of said openings at the same time.

5. The combination, substantially as hereinbefore set forth, of two or more sets of wires, a common support into which each of said wires extends, and a screw having a conical point adapted to impinge angularly against all of said wires.

In testimony whereof I have hereunto subscribed my name this 25th day of June, A. D. 1883.

HENRY L. BAILEY.

Witnesses:
DANIEL W. EDGECOMB,
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