(No Model.) 2 Sheets—Sheet 1.

F. STITZEL & C. WEINEDEL.

DEVICE FOR SECURING WIRE TO RAILROAD RAILS.

No. 385,484. Patented July 3, 1888.

Fig. 1.

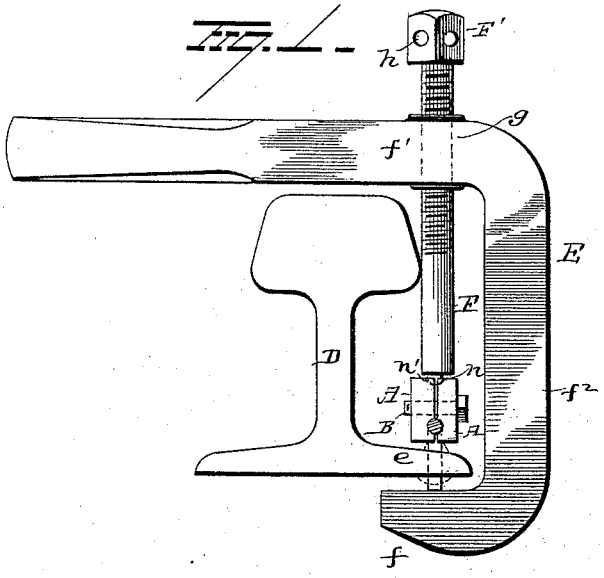


Fig. 2.

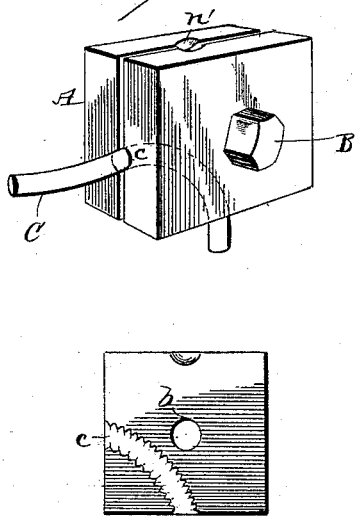
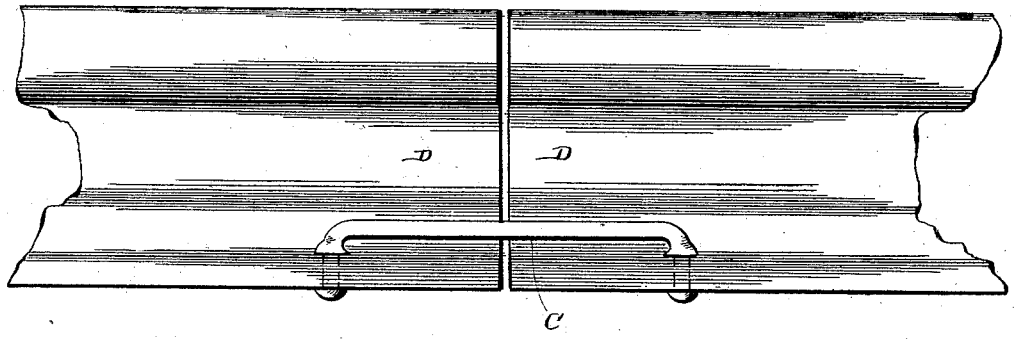


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

F. STITZEL & C. WEINEDEL.

DEVICE FOR SECURING WIRE TO RAILROAD RAILS.

No. 385,484. Patented July 3, 1888.

Fig. 4

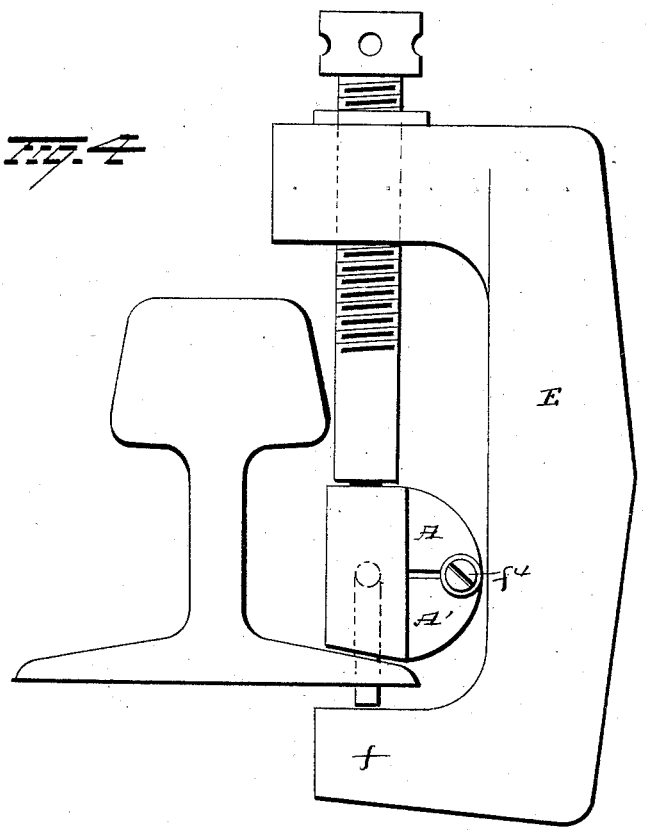


Fig. 5.

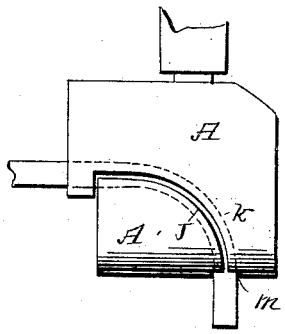
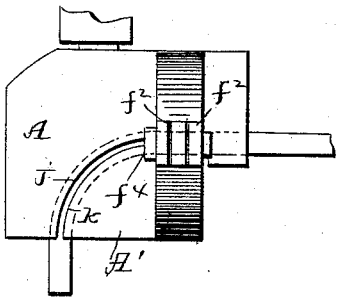


Fig. 6.



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UNITED STATES PATENT OFFICE.

FREDERICK STITZEL AND CHARLES WEINEDEL, OF LOUISVILLE, KENTUCKY, ASSIGNORS TO THE AMERICAN SEMAPHORE COMPANY, OF SAME PLACE.

DEVICE FOR SECURING WIRE TO RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 385,484, dated July 3, 1888.

Application filed March 9, 1888. Serial No. 266,699. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK STITZEL and CHARLES WEINEDEL, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Devices for Securing Wire to Railroad-Rails or other Conductors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to electrical connectors for railroad-rails or other devices, and more particularly to mechanism for securing the connectors to said rails or other devices.

The object of our present invention is to provide a simple and cheap device by which connecting-wires may be effectually secured to a railroad-track or other device to electrically unite the sections thereof.

A further object is to produce a device by which a connecting-wire that passes through a perforation in the flange or web of a railroad-track or other device may be quickly and easily "upset" at both sides of said flange or web at a single operation.

With these objects in view our invention consists in certain novel features of construction and peculiar combinations and arrangements of parts, as will be hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of our improved device in position for securing one end of the wire to the flange of a rail, the wire passing through the clamping-blocks being shown in dotted lines. Fig. 2 is a detached view of the clamping-blocks. Fig. 3 is a view showing the wire connecting the flanges of two sections of a railroad-track. Fig. 4 is a side elevation of a modified form of our invention. Fig. 5 is an end view of same. Fig. 6 is a detached view of the clamping-blocks shown in Figs. 4 and 5.

A A indicate two clamping-blocks, of metal or other suitable material, each provided with a central screw-threaded perforation, *b*, for the reception of a screw-threaded bolt, B, adapted to clamp said blocks together, for a purpose presently explained. The inner face of each block is furnished with a groove, *c*, which extends from the center of their bottom edges upwardly in a curved line and terminating at one side of said blocks slightly below the center of the same, as shown in Fig. 1. These grooves *c* align with each other throughout their entire length, and are provided on their faces with teeth or serrations *d*, so that a wire clamped between the blocks may be held tightly in the grooves and prevented from slipping while being secured to a rail or other device.

When the connecting-wire C is clamped between the blocks A and in the serrated grooves *c*, the free end of the wire is allowed to project somewhat below the bottom edge of the blocks, as shown in Figs. 1 and 5. The clamping-blocks and wire secured therein are now placed over the flange *e* of a railroad-track, D, and the protruding end of the wire passed through a perforation, *e*, in said flange. The connecting-wire C being held in position by means of the blocks A, as above set forth, a yoke or frame, E, is provided, having two arms, *f f'*, which extend at right angles to the portion f^2 and parallel with each other. The arm *f* of the yoke or frame E is inserted beneath the flange *e* and immediately under the protruding end of the wire C, while the arm *f'* projects over the blocks A, but removed some distance therefrom, as shown in Figs. 1, 4, and 5. This arm *f'* is furnished with a vertical screw-threaded perforation, *g*, which, when the yoke is placed in position, should be in the same vertical plane with the perforation in the rail-flange through which the wire passes. A clamping-screw, F, is passed through the perforation *g* and bears at its lower end upon the clamping-blocks, a short pin, *n*, being preferably secured in the end of the screw and adapted to enter a recess, *n'*, in the blocks and serve as a guide for the screw to prevent its lateral displacement upon the blocks. The upper end of the clamping-screw F is provided with a head, F', preferably having perforations *h* for the reception of a suitable tool by which to turn the screw; or, if desired, this head may be formed with flat faces for the reception of a wrench.

The device and connecting-wire being placed in position on the rail, as above explained, the screw F is turned and made to bear upon the

block A and clamp the wire between the rail-flange and the arm *f* of the yoke E, thereby forming the end of the wire into a head, as shown in Fig. 3. At the same operation the wire between the block A and rail-flange will be upset or bulged, and thus the wire will be secured to the rail-flange and the slightest movement in either direction prevented. So secure will be the connection of the wire to the rail that moisture cannot find its way within the joint, and therefore the electrical connection between the wire and rail will not be impaired by rust caused by such moisture.

When one end of the wire has been secured to the rail-flange or other device, as above explained, the clamping-screw F will be unscrewed to relieve the pressure upon the clamping-blocks, and the yoke and screw removed. The clamping-blocks are then removed from the wire by simply unscrewing the bolt B, and clamped near the opposite end of the connecting-wire C. The above-described operation is then repeated in securing the free end of the wire to the adjoining rail-section.

In the modified form of our invention shown in Figs. 4 and 5 the clamping-blocks A A′ are made in the form shown in said figures, and provided with serrated grooves *j k* for the reception of the connecting-wire. The block A is preferably furnished with two perforated lugs, f^2, between which is inserted a perforated lug, f^3, formed on the block A′. A bolt, f^4, is inserted through the perforations of said lugs and thus produces a hinge for the blocks A A′. The upper block, A, will preferably be furnished with a depending flange, f^5, which extends below the top edge of the block A′ and prevents endwise movement of the latter. The wire is placed between the blocks in the serrated grooves and the blocks placed upon the rail flange, the protruding end of the wire passing through a perforation in the rail, and the arm *f* of the yoke E inserted beneath the flange and the end of the wire. The clamping-screw F being now turned the clamping-blocks are caused to clamp the wire tightly between them, and by continuing to turn the clamping-screw the end of the wire is clamped between the bottom of the rail-flange and the arm *f* of the yoke and flattened to a head. At the same operation the wire above the rail-flange is upset and allowed to spread within the countersunk portion *m* of the blocks A A′. The clamping-screw is now unscrewed a sufficient distance to permit the upper block, A, to clear the wire, when the entire device will be moved first a short distance parallel with the rail and then outwardly therefrom. The apparatus is then attached to the opposite end of the wire, and that end is secured to the next rail-section in the same manner as above described.

Slight changes might be made in the constructive details of our invention without departing from the spirit thereof; hence we do not wish to limit ourselves to the precise details of construction shown and described; but,

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device for holding wire the end of which is to be upset, the combination, with a yoke and a screw, of two clamping-blocks for holding the wire to be upset, substantially as set forth.

2. The combination, with a yoke, a screw passing through an arm of said yoke, and an arm of the yoke to form a bearing or support for the yoke, of two clamping-blocks having curved grooves for holding the wire in position, substantially as set forth.

3. The combination, with a yoke, a screw passing through one arm of same, and an arm of the yoke forming a support or bearing for the yoke, of two clamping-blocks having curved grooves for the reception of a wire to be held in position to be clamped, said grooves being provided with teeth or serrations, substantially as set forth.

4. In a clamping device, the combination, with a yoke carrying a screw, of two clamping-blocks having curved serrated grooves for holding a wire in position to be clamped, substantially as set forth.

5. In a clamping device, the combination, with a yoke, a screw passing through an arm of the yoke, a pin secured in the end of said screw, and an arm of the yoke forming a support or bearing for the yoke, of two clamping-blocks having a recess for the reception of the pin in the end of the screw, said blocks being provided with serrated grooves for the reception of a wire, and a screw-bolt passing through these clamping-blocks to clamp the wire between them, substantially as set forth.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

FREDERICK STITZEL.
CHARLES WEINEDEL.

Witnesses:
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