(No Model.)

D. N. OSYOR.

SPLICING CLAMP.

No. 574,260. Patented Dec. 29, 1896.

Fig. 1.

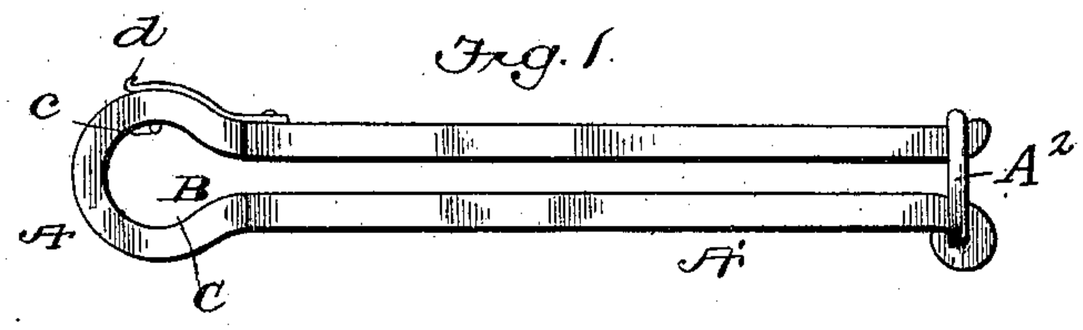


Fig. 2

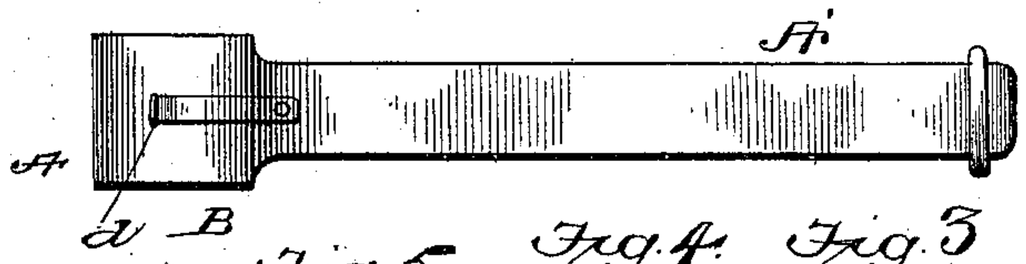


Fig. 5

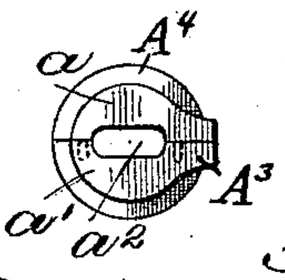


Fig. 4

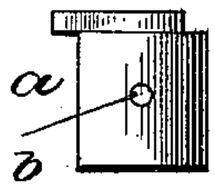


Fig. 3

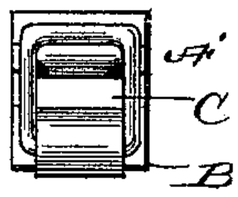


Fig. 6

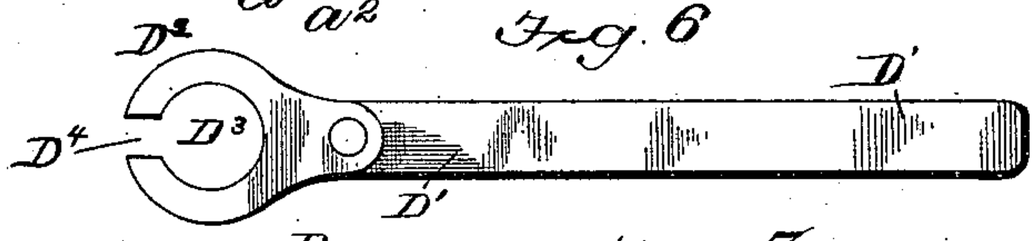


Fig. 7

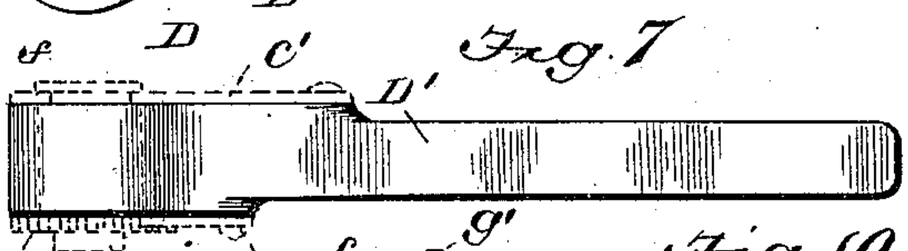


Fig. 8.

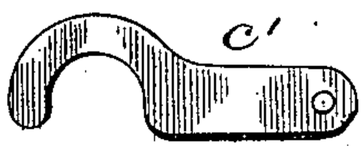


Fig. 9

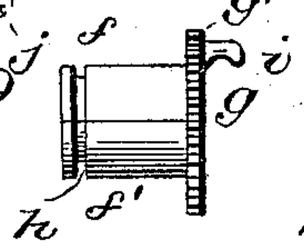


Fig. 10

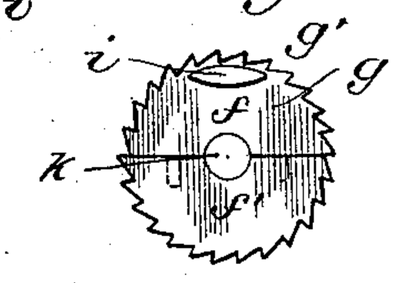


Fig. 11.

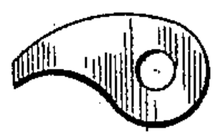


Fig. 12

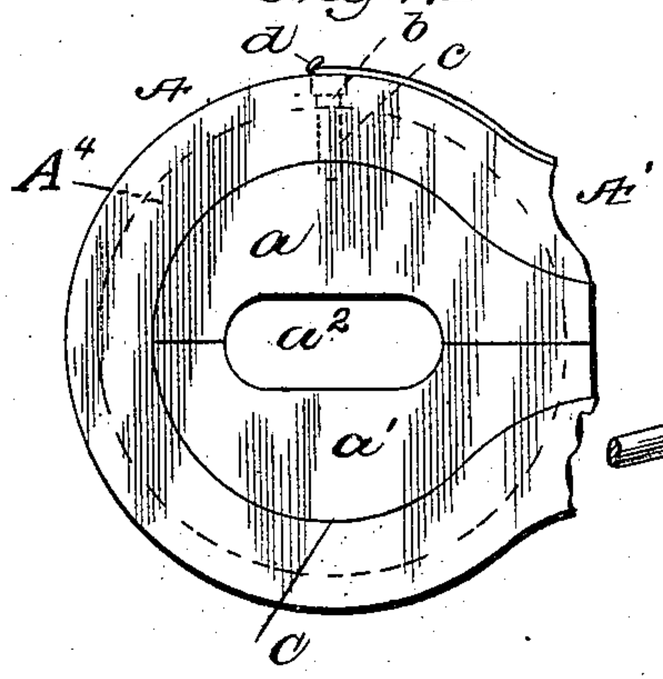
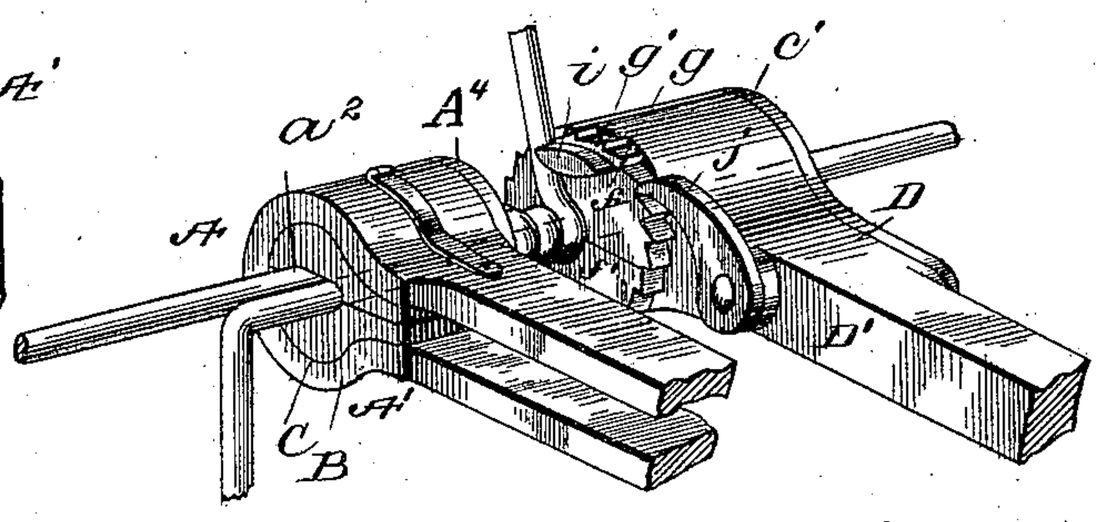


Fig. 13



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID N. OSYOR, OF COLUMBUS, OHIO, ASSIGNOR TO JOSEPH A. JEFFREY, OF SAME PLACE.

SPLICING-CLAMP.

SPECIFICATION forming part of Letters Patent No. 574,260, dated December 29, 1896.

Application filed December 6, 1893. Serial No. 492,938. (No model.)

To all whom it may concern:

Be it known that I, DAVID N. OSYOR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Wire Twisters or Splicers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figures 1 to 5 show the clamp or vise, Fig. 1 being a side elevation, Fig. 2 a plan view, Fig. 3 an end view of the same, and Figs. 4 and 5 being a plan and a side view, respectively, of the dies which form part of the clamp. Figs. 6 to 11 show a winder, shown for the purpose of illustrating the manner of using the clamp, Fig. 6 being a side view, and Fig. 7 a plan view, of the same, and Figs. 8, 9, 10, and 11 showing the various parts detached. Fig. 12 is a side view, enlarged, of the clamp-head, the dies being in place. Fig. 13 shows two wires partly spliced, the clamp and the winder being in position.

In the drawings my improved clamp is indicated as a whole by A, it having the cylindrical head B, with an open center C and the stock or handle A′. As shown, the clamp is formed of a metallic bar or strip bent to provide the head B and one or more arms forming the handle, one end of the strip being bent to encircle a wire strap A^2, which can be slipped over the other end of the bar to hold the two parts of the handle together and tightly clamp the walls of the head upon the dies *a a′*. These dies *a a′* are separable, being joined together by dowel-pins, and when so joined they are of substantially the same shape as the passage or space formed in the head of the clamp A, as will be seen upon examining Figs. 1 and 5. At A^3 each die is extended laterally, so as to form a stop to prevent the dies from rotating in the aperture C of the clamp-head. At one end each die is provided with a semicircular flange A^4, which bears against the side of the head B to prevent movement of the dies longitudinally of the wire. To further assist in holding the dies stationary in the head, I provide a pin *c*, which extends through a passage in the head B and is adapted to enter a socket *b* in one of the dies. The pin is secured to a flat spring *d*, mounted on the outside of the head in any suitable way.

Extending longitudinally through the dies there is an aperture a^2, substantially elliptical in shape and of sufficient size to inclose two wires to be spliced. Thus it will be seen that two wires may be placed side by side in the aperture a^2, and when the dies are slipped into the aperture C of the head B the spring-pin *c* engages with the aperture *b*, holding the dies against longitudinal movement, the lateral extension A^3 of the dies fitting between the two legs of the handle A′, thereby insuring against the rotation of the die in the head. Then the strap A^2 is slipped into place, which operates to draw the two ends of the handle together, tightly clamping the dies in place.

I have shown in the drawings a winder of one of the forms which can be used in connection with the clamp and will describe it below in order that the structure and mode of use of the clamp may be fully understood.

The winder (indicated as a whole by D) has a stock or handle D′, with a flattened head D^2, the latter having an open center D^3. At D^4 there is an aperture communicating with the open center, for a purpose to be described. In the open center D^3, I mount two blocks or dies *f f′*, joined together by dowel-pins and forming a cylinder whose diameter is equal to the diameter of the aperture D^3 in the winder-head. At one end the blocks or dies are provided with a flange *g*, upon which are ratchet-teeth *g′*. Engaging with the ratchet-teeth is a dog or pawl *j*, pivoted upon one side of the head D^2. (See Fig. 13.) The dies are free to rotate in one direction in the head, they being held from moving longitudinally by means of a latch-bar *c′*, pivoted to the opposite side of the winder-head and engaging with a groove *h*, extending around the other end of the dies.

i is a stud or projection extending out from the flange *g*, and is adapted to engage with one of the free ends of the wires to be clamped, as will be hereinafter described.

k is a cylindrical aperture in the dies *f f′*, of a size sufficient to inclose a single wire.

It will be seen that both the clamp and the winder are provided with means whereby the wires may be passed laterally into the open

center of the head. In the winder this is accomplished by means of the aperture D^4, and in the clamp it is accomplished by passing the wires between the two legs of the handle.

Having now described the parts of my clamp and winder, I will explain the operation of splicing.

The ends of the wires to be spliced are brought together and are placed between the two dies *a a'*, the wires then being slipped between the legs of the handle A' into the aperture B. The dies are slipped into place, where they are held by the spring-pin *c* and also by fastening the two ends of the handle together with the strap A^2. The ratchet blocks or dies *f f'* are then placed around one of the wires, the free end of the other wire being bent laterally. Then the wire being passed into the open head D^3 of the winder the blocks *f f'* are slipped into place, where they are held by means of the latch-bar *c'*. The free end of the wire is engaged by the stud *i*, and the free end of the wire is wrapped around the other wire, forming a splice, as in Fig. 13. When the free end has been wrapped around the other wire, the dies *f f'* are placed on the other side of the clamp and the other free end of the wire is wrapped similarly to the first one. When the operation of splicing has been completed, the dies can be removed quickly and readily by releasing the fastening devices and first sliding the handles longitudinally of the wires and then transversely thereof and then separating the dies.

One of the principal objects of the present invention is to provide a clamp for firmly clasping two wires side by side of such nature that the wires can be introduced into their chamber or cavity by a movement on lines radial to the wire, so as not to require the passing of either wire longitudinally into said chamber, and of such sort that after the wires have been thus introduced on radial lines the walls of the clamp will bear against the tops and bottoms of both of them and also against the outside edge of each, thus keeping them securely in place while the twisting or splicing is being accomplished.

I am of course aware that use has been made of various forms of tools of the class of tongs; but these would be entirely inapplicable for my purpose, as they would give no provision beyond mere friction for preventing the wires slipping laterally or taking inclined positions and thus impede and interfere with the producing of an effective and neat coiling of the wires adjacent to the clamp.

I am also aware that other tools and implements of the nature of screw-cutting dies have been used in each of which there was a handle, a head having an aperture entirely surrounded by a ring of metal, and, in conjunction therewith, a pair of cutting-blocks having an aperture at their center, these blocks being insertable into the head on lines transverse to the handle; but with such tools the rod to be tapped is always inserted endwise, and in practice it is never inserted unti lafter the cutter-blocks have been fastened in the head.

To accomplish my purpose, the handle part must be so constructed and related to the other member that both can permit of the inserting of the wire on lines radial to a wire, and there can be modification of the tool in this respect, it being merely essential to have two members, each with a passage to insert the wires on such radial lines. Thus in the construction illustrated the handle part and one of the blocks *a* or *a'* may be considered as one member of the clamp and the other block may be considered as the other member, and in case of the simplest construction one of them can be rigid with the head and the handle and the other loose and adapted to slide into proper relative position.

I do not herein make any claim to the construction of winder illustrated and described; but the claims herein are restricted to the clamp or holding device.

What I claim is—

1. A wire-clamp having two members movable as to each other, each member having a passage-way for the entrance of the wire, adapted to permit such entrance on lines radial to the wire, and one of said members having a laterally-prolonged handle, the walls of the wire-socket being adapted to bear against two wires on their tops and bottoms and the outer edge of each, substantially as set forth.

2. A wire-clamp having two members movable as to each other, each member having a passage-way for the entrance of the wire, adapted to permit such entrance on lines radial to the wire, and one of said members having a laterally-prolonged handle, the walls of the wire-socket being adapted to bear against two wires on their tops and bottoms and the outer edge of each, in combination with means for fastening the said members together after the insertion of the wires.

3. The combination with the separable clamp-blocks, of the handle adapted to secure said blocks together, said handle having the centrally open head in which said blocks are mounted, the parallel legs, and means for clamping said legs together, substantially as set forth.

4. In a wire-clamp, the combination with the separable clamp-blocks each having a lateral extention A^3, of the handle having an aperture adapted to receive said clamp-blocks and said extension, and means for securing said clamp-blocks in said aperture, substantially as set forth.

5. In a wire-clamp, the combination with a handle having an opening in the head, and an aperture or slot communicating with said opening for the insertion of wires, of the separable clamp-blocks adapted to be inserted in said opening in the handle on lines transverse to the handle, and means for securing

said blocks in said opening, substantially as set forth.

6. In a wire-clamp, the combination with the handle having a centrally open head, of the detachably separable clamp-blocks adapted to be inserted in said head and having a flange at one end, whereby said blocks are secured against movement transverse to the handle, substantially as and for the purposes set forth.

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

DAVID N. OSYOR.

Witnesses:

H. H. BLISS,

MARCUS B. MAY.