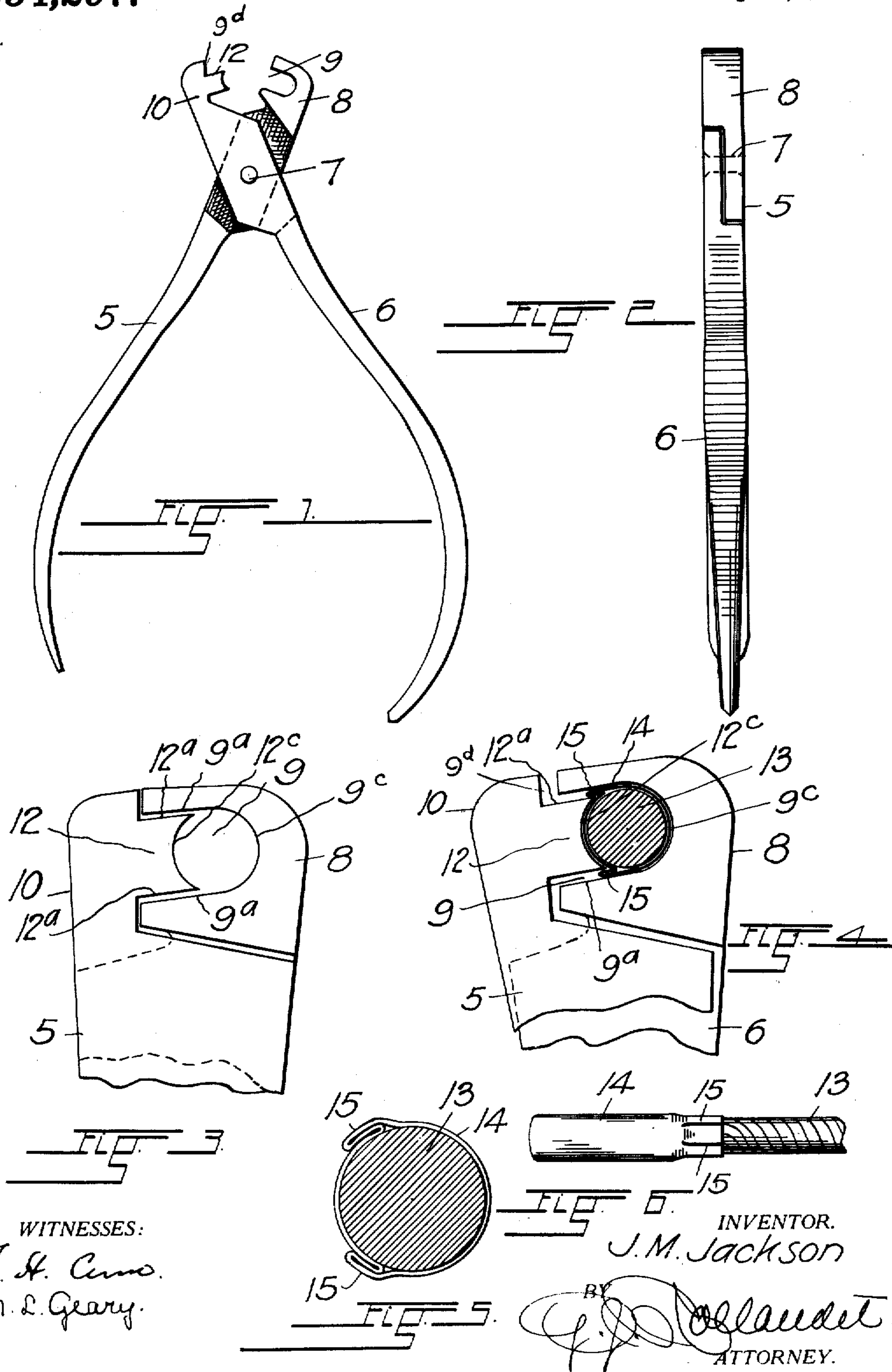


J. M. JACKSON.
 DEVICE FOR CRIMPING EXPLOSIVE CAPS.
 APPLICATION FILED JULY 7, 1909.

954,297.

Patented Apr. 5, 1910.



WITNESSES:
 F. H. Cunn.
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BY *[Signature]*
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UNITED STATES PATENT OFFICE.

JAMES M. JACKSON, OF DENVER, COLORADO.

DEVICE FOR CRIMPING EXPLOSIVE CAPS.

954,297.

Specification of Letters Patent.

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Application filed July 7, 1909. Serial No. 506,280.

To all whom it may concern:

Be it known that I, JAMES M. JACKSON, citizen of the United States of America, residing at Denver, in the county of Denver and State of Colorado, have invented certain new and useful Improvements in Devices for Crimping Explosive Caps, of which the following is a specification.

This invention relates to improvements in crimping devices of the class employed to secure the cap by which a charge of explosive matter is ignited in blasting rock for mining and construction purposes, to the combustible fuse.

The object of my invention resides in the provision of a simple device by which the cap is firmly secured in place upon the end of the fuse, and by which the joint between the two is rendered watertight so as to protect the fulminating substance contained in the cap, from moisture without the use of soap, tar or other similar substance commonly employed for that purpose. I provide, to this end, a device composed of two pivotally connected members, the jaws of which are constructed to engage the circumferential surface of the cap so as to double the metal of which it is composed in two folds which project tangentially to the said surface and are, by a second step in the operation, bent in conformity therewith.

In the accompanying drawings, in the various views of which like parts are similarly designated Figure 1 represents the device with its jaws in the open position, Fig. 2, an edge view thereof, Fig. 3, a view showing the closed position of the jaws, drawn to an exaggerated scale, Fig. 4, a similar view showing the fuse and cap in position between the jaws after the first step in the operation is performed, Fig. 5, a cross-sectional view of the fuse and the cap after having been subjected to the second step in the operation, drawn to a greatly exaggerated scale and Fig. 6, a side view of the fuse and cap after the operation is completed.

The improved crimping device, as shown in the drawings, consists of two members 5 and 6, pivoted together by means of a rivet 7 or analogous means and each comprising a handle and a jaw. The jaw 8 of the member 5 is formed in its inner edge with a comparatively deep transverse groove 9, the parallel sides 9^a of which terminate in a semi-circular end-surface 9^c. The opposite jaw

10 of the member 6 has an inwardly projecting tongue 12 whose sides 12^a are substantially parallel and which is formed in its end, with an arcuate depression 12^c, whose radius is approximately equal to that of the end-surface 9^c of the groove 9 in the other member. When the jaws are in the closed position, which is determined by the engagement of shoulders 9^a at opposite sides of the tongue 12 with the inner edge of the jaw 8, the tongue projects axially into the groove 9, and the distance between their ends is substantially equal to the diameter of the fuse upon whose extremity the cap is to be crimped.

In the operation which, as mentioned hereinbefore, is preferably performed in two steps, the end of the fuse 13 is inserted into the cap 14, and the open extremity of the latter placed between the jaws 8 and 10 as shown in Fig. 4 of the drawings. When the jaws are brought together by pressure exerted upon the handles of the two members, the surplus metal of the cap, whose diameter exceeds that of the fuse, is doubled into two folds 15, which when the operation is completed, project into the spaces, between the parallel sides of the groove 9 and the tongue 12, in tangential relation to the circumferential surface of the cap. In the second step of the operation, the fuse and cap are turned through an arc of about ninety degrees so that when the two jaws are again brought together, their arcuate end surfaces engage the folds 15, which in consequence are squeezed in conformity with the circumferential surface of the cap. This completes the operation and the joint produced as shown, exaggerated, in Fig. 5, not only secures the cap firmly upon the fuse, but will exclude moisture from the interior of the former, and thus protects the fulminating substance with which it is charged.

Having thus described my invention what I claim and desire to secure by Letters Patent is:—

1. A device of the class named comprising two coöperatively connected jaws formed at their inner edges respectively with a tongue and with a groove of greater width than said tongue and arranged to receive the same when the jaws are in the closed position.

2. A device of the class named comprising two coöperatively connected jaws one of which has a groove and the other a tongue projecting into said groove in spaced relation

to its sides, when the jaws are in the closed position.

3. A device of the class named comprising two coöperatively connected jaws one of which has a groove whose substantially rectilinear sides terminate in a semi-circular end surface, and the other a tongue having in its end an arcuate depression and projecting into said groove in spaced relation to said sides and said end surface, when the jaws are in the closed position.

4. A device of the class named comprising two coöperatively connected jaws, the closed position of which is determined by the engagement of their inner edges, one of the said jaws having a groove in its engaging edge and the other a tongue projecting into said groove in spaced relation to its sides.

5. A device of the class named comprising two coöperatively connected jaws, one of which has a groove the substantially rectilinear sides of which terminate in a semi-circular end surface, and the other a tongue having in its end, an arcuate depression whose radius is approximately equal to that of said end surface, said tongue projecting into said groove, in spaced relation to its sides, and at a distance from said surface substantially equal to its diameter, when the jaws are in the closed position.

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

JAMES M. JACKSON.

Witnesses:

G. J. ROLLANDET,
M. L. GEARY.