No. 673,193. Patented Apr. 30, 1901.

A. F. CALLISON & W. S. BING.

MARKER AFFIXING TOOL.

(No Model.) (Application filed June 25, 1900.)

Fig. 1.

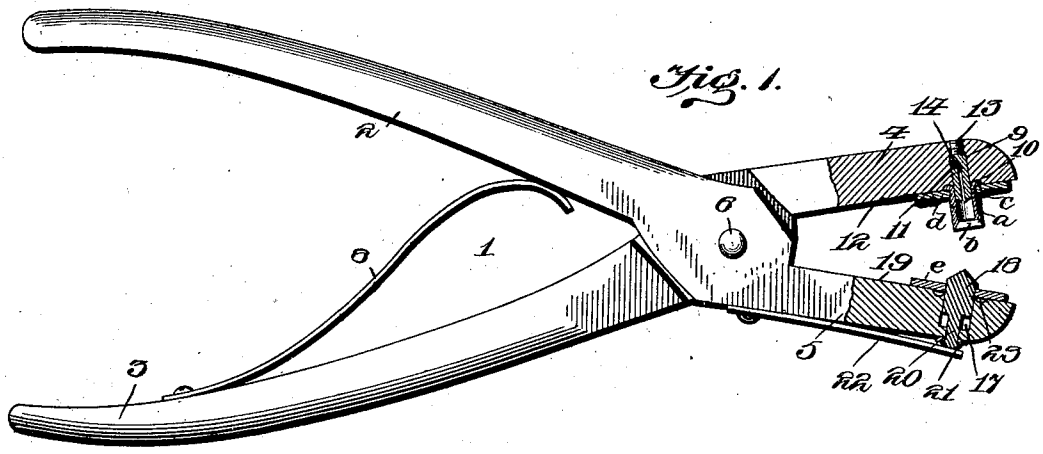


Fig. 2.

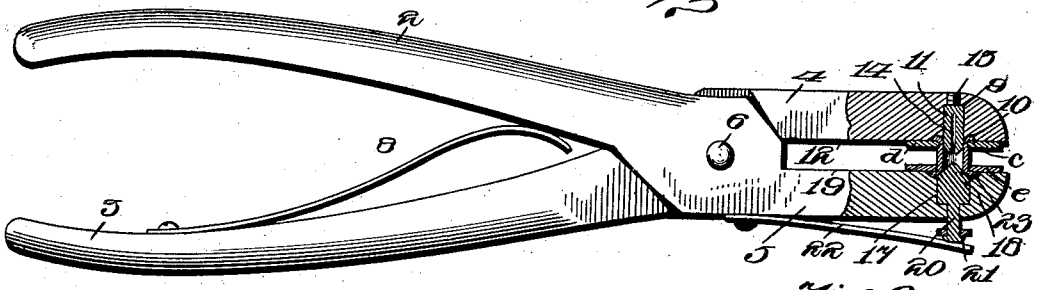


Fig. 6.

Fig. 3.

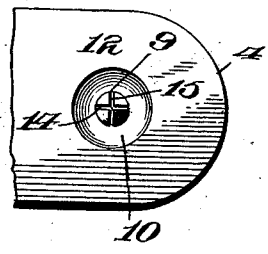


Fig. 4.

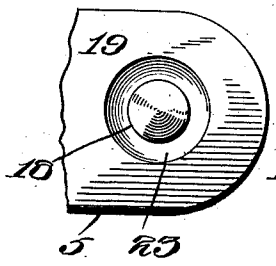
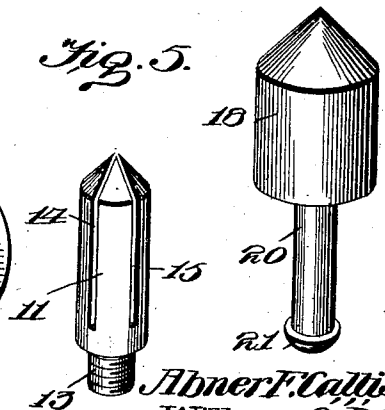


Fig. 5.



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MARKER-AFFIXING TOOL.

SPECIFICATION forming part of Letters Patent No. 673,193, dated April 30, 1901.

Application filed June 25, 1900. Serial No. 21,539. (No model.)

To all whom it may concern:

Be it known that we, ABNER F. CALLISON and WILLIAM S. BING, citizens of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented a new and useful Marker-Affixing Tool, of which the following is a specification.

Our present invention relates to a novel marker-affixing tool designed with special reference to facilitating the attachment to the ears of cattle of a marker or button, which is made the subject of a concurrent application for Letters Patent, Serial No. 16,473.

The object of the invention is to produce a simple device by means of which the members of the button may be presented to the ear of the cattle to perforate it and to permanently assemble the button upon the ear, with its shank passed through the perforation therein.

To the accomplishment of this object the invention in its preferred form comprehends a pair of pivoted members having jaws provided with simple and efficient means for retaining the elements of the button and for effecting the permanent assembling of the elements when the jaws are forced together by the compression of the tool-handles.

In its specific aspect the invention consists in the details of construction and arrangement hereinafter described, illustrated in the accompanying drawings, and succinctly defined in the appended claims.

In the drawings, Figure 1 is a sectional elevation of our tool, showing the elements of the button retained upon the jaws and ready to be applied to the ear of an animal. Fig. 2 is a similar view of the tool, showing the jaws brought together for the purpose of assembling the elements of the button. Fig. 3 is a detail view of the inner face of the upper jaw. Fig. 4 is a similar view of the lower jaw. Fig. 5 is a detail perspective view of the expansible holder, and Fig. 6 is a similar view of the upsetting-mandrel.

Referring to the characters of reference employed to designate corresponding parts in the several views, 1 indicates our tool or set employed for the purpose of affixing the marker described in the concurrent application aforesaid. The tool consists of a pair of pivoted members comprising handles 2 and 3 and upper and lower jaws 4 and 5. The members are pivoted in any approved manner at a point intermediate of the jaws and handles, as by a pintle 6, and the handles are normally urged apart by a spring 8 to cause the approach of the jaws. The upper jaw is provided with a transverse cylindrical recess 9, surrounded by a shallow transversely-curved annular groove 10, and into the recess 9 is fitted an expansible holder 11, having its expansible end projected beyond the inner face 12 of the jaw and provided at its opposite end with a threaded shank 13, screwed into the jaw below the bottom of the recess 9 and serving to retain the holder in the jaw, but in a manner to permit of the transverse expansion of the inner end of the holder. The holder may be rendered expansible in any suitable manner, but preferably by forming it with a pair of right-angularly-disposed diametrical kerfs 14 and 15, as shown in Fig. 3 of the drawings. The opposite or lower jaw 5 is provided, opposite the recess 9, with a cylindrical mandrel-socket 17 of about the diameter of the shank *a* of the marker or button. Within this socket is movably mounted a cylindrical mandrel 18, the inner end of which, or that end opposed to the jaw 4, projects beyond the inner face 19 of the jaw 5 and is of conical form for the reception of the interiorly-beveled extremity *b* of the shank *a*.

For the purpose of yieldingly retaining the mandrel in its projected position, as indicated in Fig. 1 of the drawings, we provide said mandrel with a reduced shank 20, extending through the rear face of the jaw and provided with a head 21, against which bears a leaf-spring 22, screwed or otherwise permanently secured at one end to the rear or under side of the jaw 5. Surrounding the mandrel 18 the inner face 19 of the jaw 5 is provided with an annular transversely-curved upsetting-groove 23, the inner edge of which is designed to aline with the outer edge of the conical end of the mandrel when the mandrel is forced to the bottom of its socket by the assembling of the button members.

In use the cylindrical shank *a* of the marker is slipped upon and firmly retained by the expansible holder 9, the upset end *c* of the shank being seated within the groove or recess 10, and the permanent marker-head *d*

lying against the inner or under face 12 of the jaw 4. The attachable head *e* of the marker is then slipped over the mandrel to rest upon the face 19 of the jaw 5 and the device is ready for the attachment of the marker upon the ear of the animal. The animal's ear having been presented between the jaws the handles are compressed to cause the beveled end *b* of the shank *a* to pierce it and present the interiorly-beveled face of the shank to the conical end of the mandrel 18. Continued pressure upon the handles will cause the mandrel 18 to be depressed to the bottom of its socket against the resistance of the spring 22 until the conical face of the mandrel is alined with the adjacent edge of the upsetting-groove 23. As the pressure upon the handles is maintained the end of the shank *a*, which has now passed through the attachable marker-head *e*, will be forced to expand and will move from the conical end of the mandrel into the upsetting-groove 23, which will turn the end of the shank back upon itself or against the under face of the head *e* to permanently assemble said head upon the shank by upsetting the beveled end of the latter. The release of the handles will then cause the jaws to separate, removing the holder 11 and mandrel 18 from the opposite ends of the shank *a* and permitting the mandrel to be returned to its normal position under the impulse of the spring 22.

From the foregoing it will appear that we have invented a simple, inexpensive, and highly-effective tool by means of which an identifying button or marker may be readily applied to the ear of an animal; but while the particular construction of the tool specified in detail is believed at this time to be preferable we do not wish to be understood as limiting ourselves to the precise form or arrangement disclosed, as, on the contrary, we reserve the right to effect such structural modifications and variations as may fall properly within the scope of the protection prayed.

What we claim is—

1. A marker-affixing tool comprising a pair of relatively-movable members, one of which is provided with an annular upsetting-groove, and a movable mandrel coöperating with the groove and having a conical end, and means for limiting the depression of the mandrel to retain the conical face thereof in alinement with the adjacent edge of the upsetting-groove.

2. A marker-affixing tool comprising a pair of pivoted members, one of which is provided with an annular upsetting-groove, and a movable mandrel coöperating with the groove and having a conical end, means for positively limiting the depression of the mandrel to retain the conical face thereof in alinement with the adjacent edge of the upsetting-groove, and a laterally-expansible holder extending from the other member.

3. A marker-affixing device comprising a pair of relatively-movable members, one of said members being provided with a holder and a surrounding annular groove and the other of said members being provided with a mandrel-socket surrounded by an annular groove, a mandrel movably mounted in said socket and provided with a conical end designed, when the mandrel is urged to the bottom of the socket, to be retained in alinement with the inner edge of the annular groove, and a spring exerting its pressure in a direction to project the mandrel.

4. A marker-affixing device comprising a pair of pivoted members comprehending opposed jaws, a pair of handles, and a spring intermediate of the handles, a slitted holder removably retained in one of the jaws and having its end projecting beyond the face thereof, said jaw being provided with a transversely-curved annular groove surrounding the holder, the other of said jaws being provided with a mandrel-socket surrounded by an annular, transversely-curved groove of greater diameter than the groove in the first-named jaw, a mandrel located in the mandrel-socket and provided with a conical end and with a stem projecting from its opposite end and extended beyond the outer face of the jaw, and a spring carried by said jaw and bearing against the stem of the mandrel to project it normally beyond the face of the jaw.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

ABNER F. CALLISON.
WILLIAM S. BING.

Witnesses:
FRED. J. BURKHARDT,
J. M. HAMILTON.