H. H. CUMMINGS.

TOGGLE.

APPLICATION FILED DEC. 4, 1909.

970,422. Patented Sept. 13, 1910.

Fig. 1.

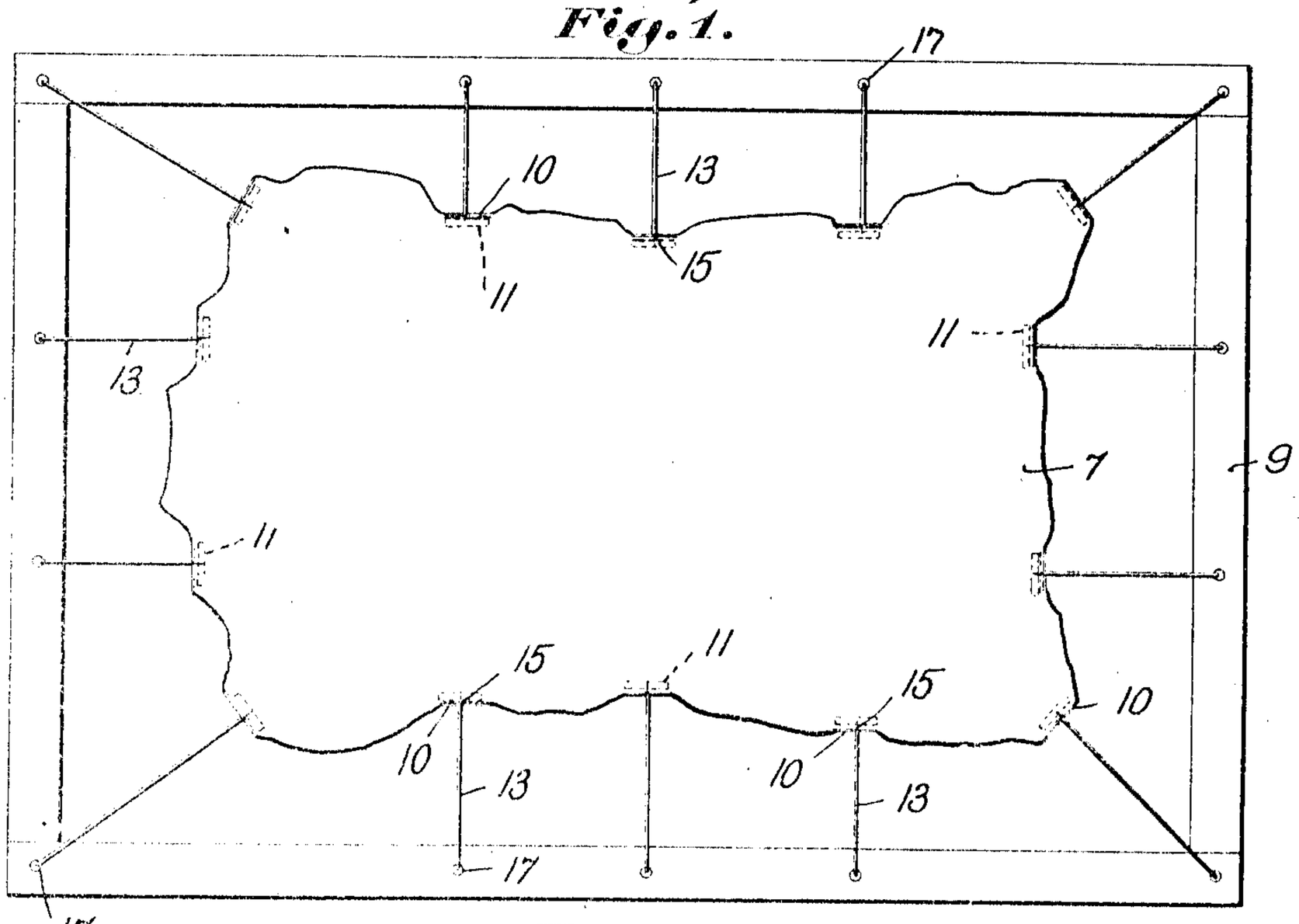



Fig. 5.

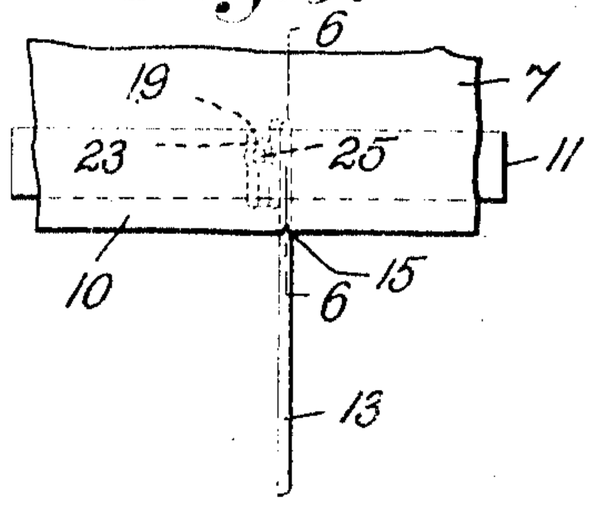



Fig. 6.

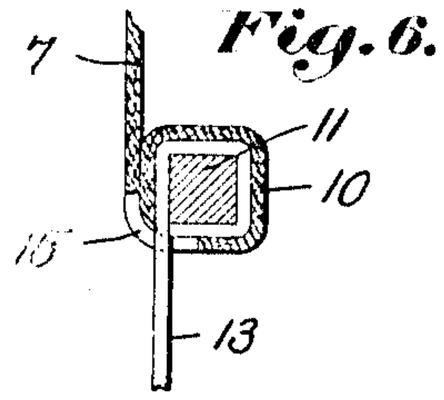



Fig. 4.

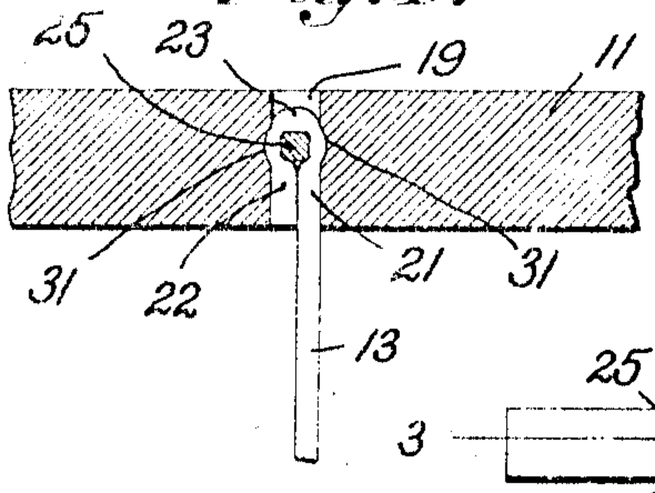



Fig. 3.

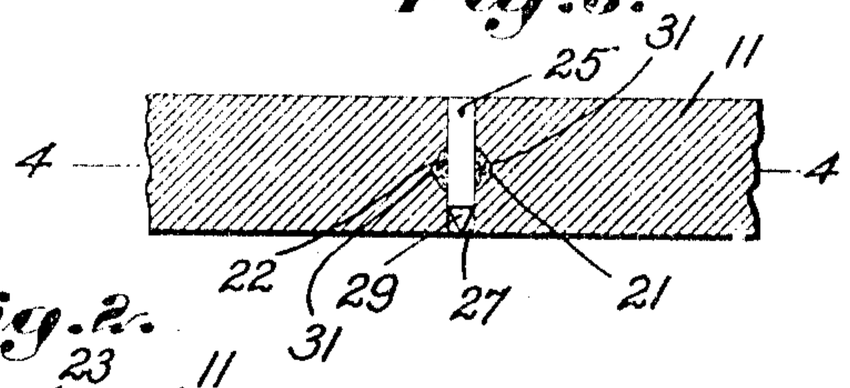
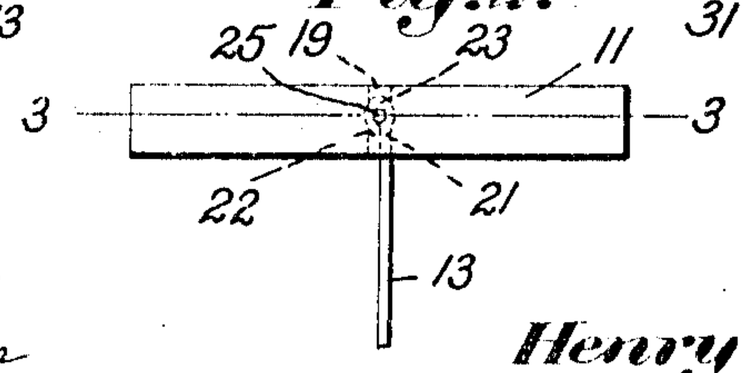



Fig. 2.




Witnesses:
Ernest A. Telfer
Carl L. Choate.

Inventor:
Henry H. Cummings
by Emery & Booth
attys.

# UNITED STATES PATENT OFFICE.

HENRY H. CUMMINGS, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO ANDREWS-BURR PAPER COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## TOGGLE.

970,422. Specification of Letters Patent. Patented Sept. 13, 1910.

Application filed December 4, 1909. Serial No. 531,319.

*To all whom it may concern:*

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, and a resident of Newton, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Toggles, of which the following description, in connection with the accompanying drawings, is a specification, like numerals on the drawings representing like parts.

This invention relates to toggles and the like, such for example, as are used in the leather industry in connection with lacings or cords for securing or stretching hides in frames employed in tanning or other processes and among other objects, said invention aims to provide novel and improved means for securing the toggle to its lacing or cord.

The character of the invention may be best understood by reference to the following description of an illustrative embodiment thereof shown in the accompanying drawings, wherein:

Figure 1 is a plan view of a hide secured to a frame by illustrative toggles and lacings embodying my invention; Fig. 2 is a full size view of one of the toggles; Fig. 3, on an enlarged scale, is a section taken on line 3—3 of Fig. 2; Fig. 4 is a section taken on line 4—4 of Fig. 3; Fig. 5, on an enlarged scale, shows the mode of attaching the toggle to the hide illustrated in Fig. 1; and Fig. 6 is a section taken on line 6—6 of Fig. 5.

Referring to Fig. 1 of the drawings, 7 represents a hide which is stretched or held within a usual frame 9, the edges of the hide being connected to said frame by oblong sticks or toggles 11 (Fig. 2) of squared or rectangular section, secured midway between their ends to lacings or cords 13. In connecting the hide to the frame said cords are inserted through slits 15 near the edge of the hide. To prevent the cords from tearing through said slits and to distribute the pull on the hide, it is customary to wind the portion of each cord adjoining its toggle several turns about the latter (see Fig. 5) in a direction such that when the cord is pulled, its tendency to unwind will cause the toggle to roll on the surface of the hide away from the edge thereof and in a direction opposite to the pull on said cord. An edge 10 of the hide is then laid about the toggle and the cord is pulled, causing the toggle to roll and wrap said edge portion of the hide tightly about the same (see Fig. 6). It will be apparent that the greater the pull on the cord the greater will be the tendency of the toggle to roll and, consequently, the greater will be the security with which the hide is held. After the toggles are secured to the hide as described the free ends of the cords are tied or secured to pins or in apertures 17 spaced at intervals in said frame. Heretofore, so far as I am aware, the cord or lacing 13 has been connected to the toggle 11 either by tying the cord about the toggle or by securing the cord thereto by a staple. Both of these modes of attachment are objectionable for a variety of reasons. Among others the cord is not held with sufficient security to the toggle and when pulled, under the heavy strain to which the cord is subjected, it is liable to slip or become detached from the toggle, and furthermore, in being fastened about or to the exterior of the toggle it bulges out and interferes with the free winding of the cord about said toggle.

My invention contemplates novel and improved means, which I will now describe, for effectively securing the cord to the toggle and without the objections above referred to.

The toggle herein embodying my invention may be similar in outline to the toggle 11 described. Referring to Figs. 2 and 4, this toggle at a point preferably midway between its ends may be provided with a hole 19 which may be bored or otherwise formed transversely of the length of said toggle. This hole is adapted to receive an end portion of the cord 13 which may be doubled on itself to form a bight 23 comprising leg portions 21 and 22 of sufficient thickness substantially to fill said hole. The bight is tucked into one end of said hole and extends herein nearly to the opposite end of said hole. To secure said bight into said hole a peg 25 may be driven or otherwise introduced into a hole 27 punched or otherwise formed transverse to and intersecting with the hole 19 referred to, said hole being preferably offset from the longitudinal axis of said toggle to provide a substantial extent of material to resist the pull on said peg as more fully hereafter described. The peg 25 may be of any material or form desired, but in practice a wooden peg of squared or sub-

stantially rectangular section is found to be very effective. To permit the peg to be readily inserted between the closely lying leg portions 21 and 22 of the bight 23 without injury or mutilation thereof, the peg may be formed with a wedge end 29 which when forced into said hole 27, spreads said leg portions and is followed by the body of the peg which tightly pinches or compresses said leg portions against the wall of the hole and prevents withdrawal of said cord therefrom. In practice, it is found convenient to make the toggle of soft wood although any material may be used as desired. When soft wood is used it is found that the pressing of the portions of the bight by the peg as described, compresses or forms indentations 31 (Fig. 4) in the adjacent portions of the wall of the hole, the portions of the cord crowded into said indentations increasing the resistance to the withdrawal of the cord from the toggle. A peg of squared or rectangular form is very effective for holding the cord since the corners of said peg cooperate with the wall of the hole 19 and resist any tendency of the cord to render around the peg. If the squared peg is driven into a circular hole the corners of said peg will be dulled or rounded sufficiently to prevent cutting the cord or other injury thereto. If desired, glue or any adhesive may be used further to secure said bight into said hole 19 or to further secure said peg 25 into its hole 27.

While I have illustrated the toggle herein as used for connecting a hide to a frame, it will be understood that said toggle may be used for a variety of other purposes.

By my invention is provided a connection between the cord or lacing and the toggle which is extremely simple and compact in construction, and being contained within the toggle is neat in appearance and does not interfere in any way with the winding of the cord about the toggle. Not only is the cord held to the toggle with greater security than by any means hitherto known to me, but also the connection may be made more expeditiously and with less cost than by previous methods.

Having described one embodiment of my invention without limiting myself thereto, what I claim as new and desire to secure by Letters Patent is:

1. As an article of manufacture, a toggle having intersecting holes therein, a cord having a bight entered in one of said holes, and a peg in the other of said holes between the legs of said bight for holding said cord in said toggle.

2. An article of the class described, comprising a toggle, a cord having a bight tucked into a hole in said toggle and a wedge peg for pinching the legs of said bight against the wall of said hole.

3. An article of the class described, comprising a toggle 11, a cord 13 having a bight 23 within a hole in said toggle and a wedge pointed peg 25 set in a hole in said toggle and between the legs of said bight.

4. An article of manufacture, comprising an elongated stick, a cord having an end portion entered in a transverse hole intermediate the ends of said stick and a peg permanently secured in said stick and pinching said cord end portion against the wall of said hole to secure said cord to said stick.

5. In an article of the class described, a toggle, a cord and means for securing one to the other comprising a squared peg permanently driven into said toggle across said cord for binding an end portion of said cord against the wall of a hole in said toggle.

6. In an article of the class described, a toggle, a cord and wedge means crossing an end portion of said cord and permanently pinching the latter in a hole in said toggle.

7. In an article of the class described, a toggle, a cord having a portion contained within a hole in said toggle and a peg and an adhesive for securing said cord within said hole.

8. An article of the class described, comprising a toggle, a cord having a bight of sufficient thickness substantially to fill a hole in said toggle and a wedge peg for spreading leg portions of said bight and pinching said portions against the wall of said hole.

9. A device of the class described comprising a toggle, a cord having a bight tucked into a hole in said toggle, a peg for pinching the legs of said bight against the wall of said hole and an adhesive further to secure said bight in said toggle.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HENRY H. CUMMINGS

Witnesses:
EVERETT S. EMERY,
HENRY T. WILLIAMS.