

(No Model.)

G. H. DUVALL.
SASH CORD PLIERS.

No. 464,860.

Patented Dec. 8, 1891.

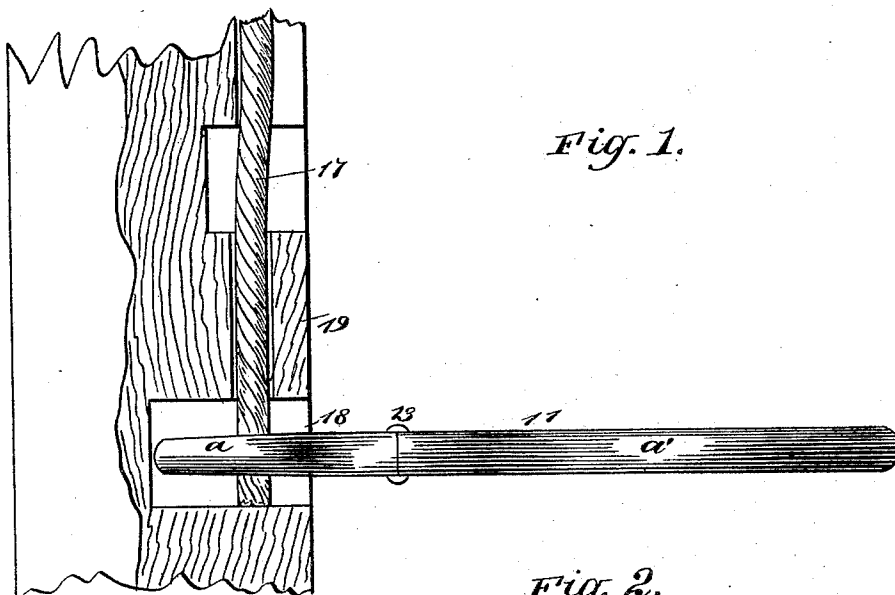


Fig. 2.

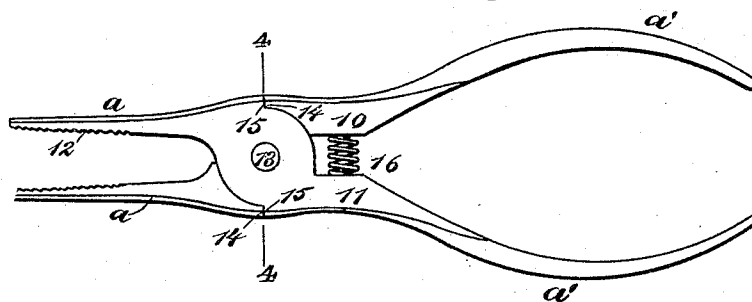
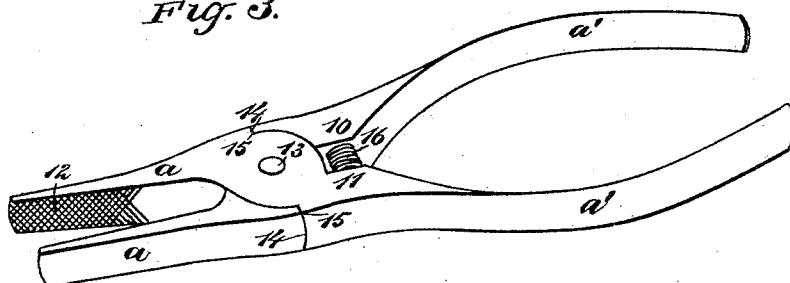


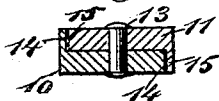
Fig. 3.



WITNESSES:

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Fig. 4.



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GRAFTON H. DUVAL, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND PHILIP R. WELLS, OF SAME PLACE.

SASH-CORD PLIERS.

SPECIFICATION forming part of Letters Patent No. 464,860, dated December 8, 1891.

Application filed July 30, 1891. Serial No. 401,121. (No model.)

To all whom it may concern:

Be it known that I, GRAFTON H. DUVAL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Sash-Cord Pliers, of which the following is a full, clear, and exact description.

My invention relates to an implement especially adapted for carpenters' use, and has for its object to provide pliers especially adapted for withdrawing sash-cord from the opening in the sash into which it is inserted for the purpose of knotting the cord or for otherwise securing it to the sash.

A further object of the invention is to provide a tool which will be at all times in readiness for immediate use and a tool capable of being expeditiously and conveniently manipulated.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improved tool, illustrating its application to the sash-cord, which cord is shown in position in a sash, the said sash being in section. Fig. 2 is a plan view of the tool. Fig. 3 is a perspective view thereof; and Fig. 4 is a transverse section taken, practically, on the line 4 4 of Fig. 2.

The pliers are constructed of two members 10 and 11, each of said members comprising a jaw-section *a* and a handle-section *a'*. The jaw-sections upon their inner faces are straight, and the said jaws for a portion of their length are preferably provided with serrations 12, or are otherwise roughened. The handle-sections *a'* are convexed upon their outer faces and are concaved upon their inner faces. Just back of the jaws of each member of the pliers the said members are provided with recesses, and at the recessed portions of the members they are placed one upon the other and connected by a pivot 13, as best shown in Fig. 4, whereby one section

is held to turn upon the other, and the recesses at the junction of the members of the pliers are so formed that the members substantially interlock and their upper and lower faces are flush, or practically so. In producing the recesses, shoulders 14 are formed upon one member, engaging with shoulders 15 upon the other member, and the two shoulders are normally held in engagement by a spring 16, located between the handle portions of the members, which spring may be of any suitable or approved construction. Thus normally the jaws are held in an open position, and said jaws, as their inner faces are straight, are spaced, yet parallel one with the other.

Great difficulty has been heretofore experienced by carpenters in drawing the lower end of the sash-cord 17 from the lower aperture 18 in a sash 19 for the purpose of knotting the cord, so as to prevent it from leaving the sash. The instruments usually employed to effect this result have been nails, awls, jack-knives, or anything convenient; but the withdrawal of the end of the cord has been attended with much difficulty, trial of patience, and labor.

The tool employed in the above specification, having its jaws spaced parallel and at all times normally open, may be expeditiously and conveniently employed to remove the end of the cord from the sash, as without the operator looking into the aperture 18, in which the lower end of the cord is located, the jaws of the tool may be pushed into the said aperture and the operator may be assured that the sash-cord is between them. By simply pressing in the handle-sections of the members of the tool the jaws close upon the cord and the latter may be readily drawn out from the sash. The moment that pressure upon the handles is relieved the jaws fly open again and remain in that position until again required for use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. As an improved article of manufacture, sash-cord pliers consisting of two members pivoted one upon the other, each member comprising a jaw, a handle-section, and an interposed pivoted section, the handle-sections being normally forced apart by a spring and the

jaws open and parallel, substantially as shown and described.

2. Sash-cord pliers consisting of two members pivotally connected, each member comprising a jaw-section having a straight inner face, a curved handle-section, and an intermediate pivoted section, and a spring normally forcing the handle-sections apart, whereby the jaws are held open and in parallelism, substantially as described.

3. Pliers for withdrawing sash-cord from window-sashes, the same consisting of two pivotally-connected members, each member comprising a jaw having its inner face straight

for the greater portion of its length and rough-
ened, a curved handle-section, and an intermediate pivoted section formed with opposite shoulders, and a spring normally forcing the handle-sections of the members in opposite directions, maintaining the jaws by the edge of the shoulders of the pivoted sections some distance apart and parallel with each other, substantially as set forth.

GRAFTON H. DUVAL.

Witnesses:

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