

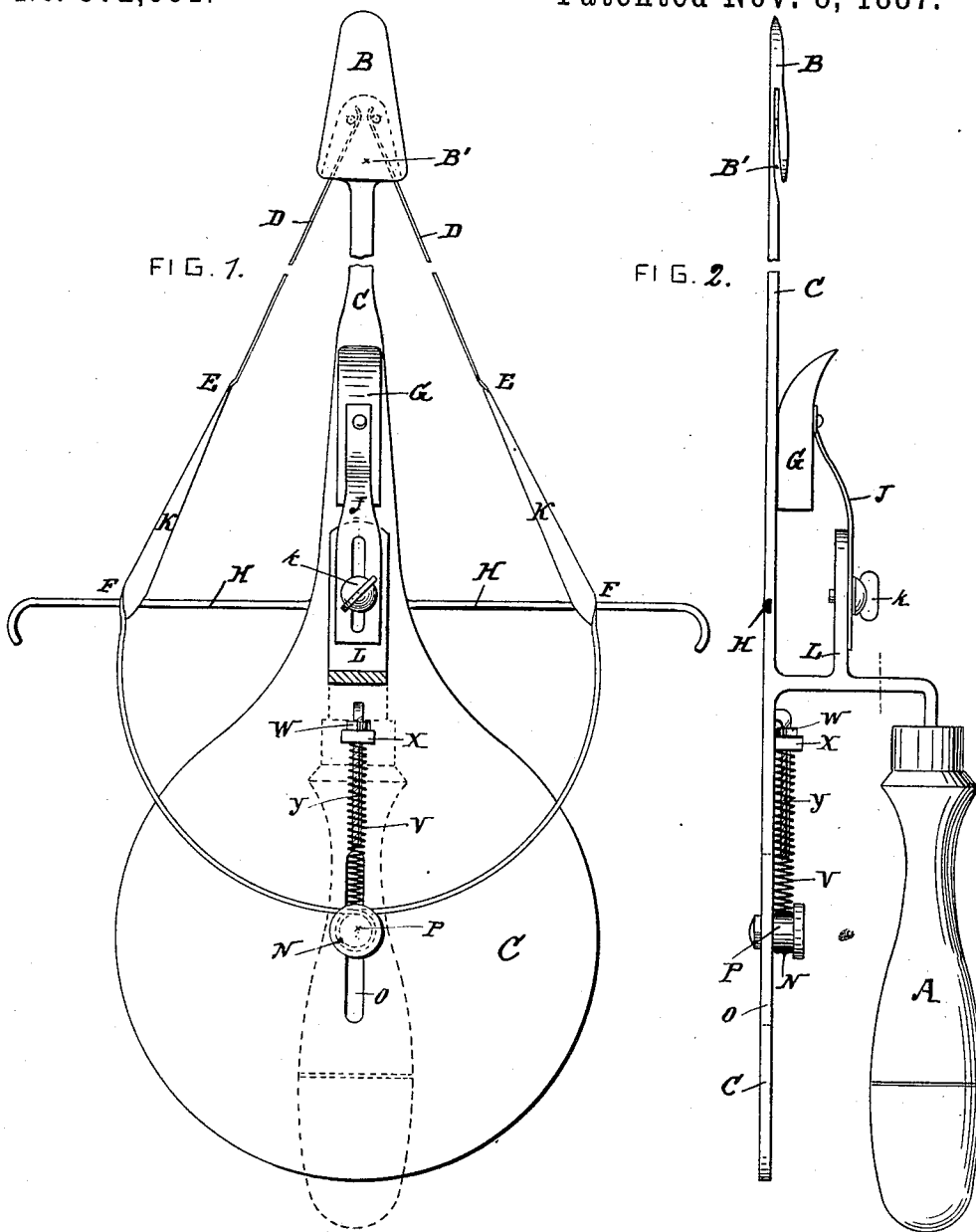
(No Model.)

H. DUDEN.

LACE CLIPPING OR CUTTING APPARATUS.

No. 372,661.

Patented Nov. 8, 1887.



WITNESSES

Wm. A. Lowe
Henry C. Roder

INVENTOR

Hermann Duden
by Will Brandler & Son
Attorneys

UNITED STATES PATENT OFFICE.

HERMANN DUDEN, OF NEW YORK, N. Y.

LACE CLIPPING OR CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 372,661, dated November 8, 1887.

Application filed March 9, 1887. Serial No. 230,245. (No model.)

To all whom it may concern:

Be it known that I, HERMANN DUDEN, a citizen of England, at present residing at New York, State of New York, have invented a new and Improved Lace Clipping or Cutting Apparatus, of which the following is a specification.

My invention relates to an apparatus for clipping or cutting the loose threads connecting the various figures which lie above or below the body of the woven material produced on a loom or lace machine of any description.

My invention consists of the various improvements hereinafter more fully described.

In the accompanying drawings, Figure 1 is a top view of my improved cutting apparatus, with the working-handle removed and shown only in dotted lines. Fig. 2 is a side view of the same, partly in section, with the spring-cutters omitted.

A suitable plate, C, terminates at its forward end in a spade or blade, B, rounded and pointed on its forward end and made hollow or with cavities B' at its after part, to receive the ends of a spring, D. This spade B may form a part of the plate C, as shown in the drawings; or the same may be attached to the same by rivets or otherwise. This spring is held secured to the spade B by being passed with its free ends into the cavities or grooves and by being bent outwardly around pins, as indicated by dotted lines in Fig. 1. Thus spontaneous withdrawal of the free ends of the spring is prevented. The sides of this spring from E to F are twisted to form sharp edges or knives K, resting near their ends upon a guard, H, attached to the plate C. The guard H protects, likewise, the spring cutting-blades on the return motion, or when the tool is moved backward, from being broken or damaged, and from cutting the fabric or woven material. To the plate C a handle, A, is attached, raised some distance above the plate, for operating the apparatus. To a projection, L, on the handle a spring, J, is attached, supporting at its outer end a presser foot, G. This spring J is attached to the projection L by means of a screw, k, working in a slot in said spring, to regulate the position of said spring and of the presser-foot G, whose forward end should be slightly in advance of the forward ends of the knives K. This presser-foot G is pressed upon

the surface of the plate C by the action of said spring J. The central part of the spring D forms a loop, N, coiled around a pin, P, moving freely in a slot, O, in the plate C. To the inner side of spring D, at the loop N, a spiral spring, V, is attached, the other end of which is attached to a stud or collar, X, placed upon a screw, Y. The screw Y is fastened at its forward end to the plate C, while its free end supports the spiral spring V. The stud X is attached to a nut, W, working upon the screw Y, to regulate the position of the stud X, and consequently the tension of the spring V.

The operation is as follows: The operator takes hold of the handle A and passes the rounded and pointed-off projecting spade or plate B under the loose thread or threads of the woven fabric, which is stretched upon a frame. By this operation the loose threads are lifted and are then stretched out to their full length by the spring D until its cutting-edges reach the part of the material where these threads are woven into the fabric, when the threads meet the outward sharp edges of the spring-cutters or knives K, and are cut off on both sides simultaneously, being held by the presser-foot G during the operation. During this operation of cutting the threads the spring-cutters are compressed or moved inward, and then spring back again to their normal position as soon as the threads are cut. The spring motion of these spring-cutters may be increased or diminished by means of the auxiliary spiral spring V. The plate C protects the fabric or woven material from being soiled by the operator.

This apparatus may be used single by an operator, or two or more may be attached side by side to a cross-bar and moved simultaneously upon or below the fabric, care being taken that the under side of the plate C will always be next the body of the material.

What I claim is--

1. In combination with a plate, C, provided with a spade, B, at its forward end, the bent spring D, parts of which form cutting-edges or knives K, said spring being attached to a spring-actuated bolt, P, at its central part, and fitting loosely with its forward ends in the spade B, and presser-foot G, with spring J, arranged to operate in the manner and for the purpose set forth.

2. The combination of plate C, carrying spade B at one end and handle A at the other end, with a loop-shaped spring, D, connected at its free ends to the spade B, parts of the spring being made with a knife-edge, and with a tension device to regulate the tension of the spring, substantially as specified.

3. The combination of spring D, having

cutting-edges or knives K, plate C, with spade B at its forward end, spring V, presser-foot G, spring J, and guard H, substantially as described.

HERMANN DUDEN.

Witnesses:

L. A. CHANDLER,
HENRY E. ROEDER.