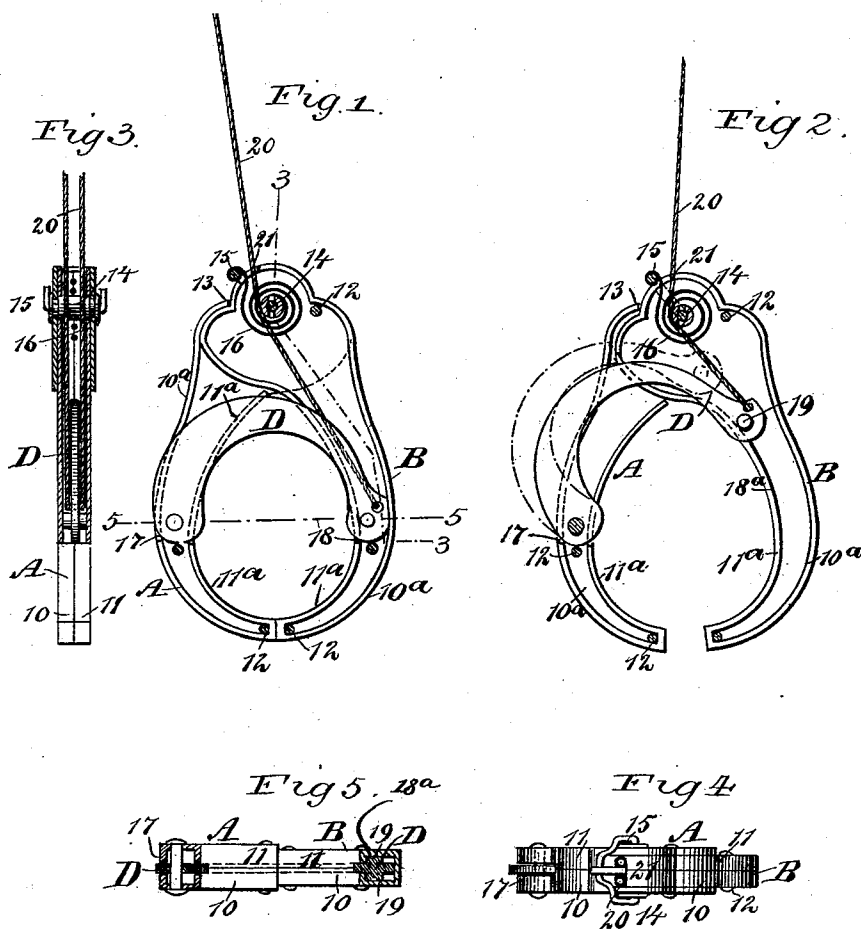


(No Model.)

G. W. KUCHLER & H. C. FISCHER.
CLASP.

No. 469,705.

Patented Mar. 1, 1892.



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GEORGE W. KUCHLER, OF YONKERS, AND HERMANN C. FISCHER, OF NEW YORK, N. Y.

CLASP.

SPECIFICATION forming part of Letters Patent No. 469,705, dated March 1, 1892.

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To all whom it may concern:

Be it known that we, GEORGE W. KUCHLER, of Yonkers, in the county of Westchester and State of New York, and HERMANN C. FISCHER, of New York city, in the county and State of New York, have invented a new and useful Improvement in Clasps, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in clasps, and has for its object to provide a device of the caliper type, in which the free or clamping ends of the arms are normally held apart by a spring, and also to provide a lock-lever, in conjunction with the arms, capable of forcing the arms to close upon material of varying thickness and locking them in such position.

A further object of the invention is to provide a device of simple, durable, and economic construction and to so locate the lever that in the smaller sizes of the device—such as is used for a garment-clasp, for instance—the locking engagement may be conveniently effected by the pressure of one hand.

Another object of the invention is to provide a means for opening the clasp capable of being manipulated at a point remote therefrom.

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 central vertical section through the device, illustrating the arms in a locked position. Fig. 2 is a similar section illustrating the arms as partially opened yet locked. Fig. 3 is a vertical section taken, practically, on the line 3 3 of Fig. 1. Fig. 4 is a plan view, and Fig. 5 is a transverse section, on the line 5 5 of Fig. 1.

The device consists of two spring-pressed caliper-like arms A and B, pivoted at their upper ends and curved forwardly in direction of each other at their lower ends, and a lock-lever D, pivoted in one arm and adapted to to engage with a cam-surface upon the oppo-

site arm. Each arm is preferably made in two sections 10 and 11, each section comprising a plate 10^a and a marginal flange 11^a, formed upon the inner face of the plate, as shown in Fig. 2, the sections of each arm being placed flange to flange and united by pins 12, bolts, or their equivalents.

The upper end of the arm A is provided with a recess 13 to receive the corresponding end of the arm B. The pivotal connection of the arms is usually effected through the medium of a tubular pintle 14, secured at its extremities upon or to the outer arm A, the arm B being free to turn thereon.

A bail 15, extending over the top of the device, is loosely fitted in the tubular pintle, the said bail being adapted for suspending the clasp, and the arms are normally forced apart by a spring 16. This spring may be of any approved pattern. Ordinarily, however, a coil-spring is employed, secured at one end to the pintle 14, around which it is wound, and at the opposite end the spring is secured to the bail or to the arm B, which latter moves freely upon the pintle, or the attachment of the spring may be effected in any other suitable or approved manner.

A slot 17 is produced in the inner and outer side faces of the arm A by reducing the depth of the flanges, and a similar slot 18 is formed in the inner side face of the opposite arm B, the inner surface of the reduced flanges of the latter arm being a cam-surface, as shown at 18^a in Fig. 2, as said surface is curved somewhat eccentrically to the fulcrum of the lock-lever D, which lever is pivoted at one end at or near the lower end of the slot 17 in the arm A.

The lock-lever is curved in a manner that causes more or less of its outer edge to extend beyond the outer side face of the arm A, even when said lever is in its locked position, as shown in Fig. 1. The free end of the lever is preferably enlarged to engage with the outer flanges of the arm B when carried in the locking position, as is also shown in Fig. 1, and studs 19 project from the sides of the free end of the lever, adapted to travel upon the cam-surface 18^a, as is illustrated in Figs. 2 and 5. The lever is drawn upward, permitting the arms to spread apart to release

any material formerly clamped by attaching a cord or chain 20 to the free end of the lever, which cord or chain is carried upward through an opening 21 in the top of the device and beyond the top, and when the cord or chain is drawn upon the lock-lever is carried up to the position shown in dotted lines in Fig. 2, permitting the jaws to open very wide, much more so than illustrated, and release the material with which they were engaged. Thus, in operation, if the clamp is used as a garment-clasp, the arms being open, the material to be clasped is passed between the free ends of the arms by grasping the device by one hand and pressing the lever D downward, and the studs 19, traveling upon the cam-surface 18^a, will force the arms together and cause the material of varying thickness to be firmly bound between them, the arms being held in this locking position firmly and securely by the lock-lever, owing to the relation which the cam-surface 18^a bears to the pivot-point of the lever.

It is obvious that the device may be utilized for clamping either heavy or light articles as occasion may demand.

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

1. A clasp consisting in two arms pivoted together at one end and curved toward each other at their opposite ends, a cam-surface along one arm below the pivot, a spring throwing the arms apart, and a locking-lever D, pivoted at one end to one arm below the pivot and having a sliding connection at its free end with the cam portion of the opposite arm to close the jaws when swung down, substantially as shown and described.

2. A clasp consisting in the pivoted spring-closed arms having longitudinally-extending slots below the pivot, a cam-surface being formed in one arm along the edges of its slot, and a locking-lever pivoted at one end in the slot of one arm, projecting at its opposite end into the slot of the opposite arm, and having lateral projections engaging said cam-surface, substantially as shown and described.

3. A clasp consisting in the pivoted spring-closed arms A B, the slot 17 through the arm A, the slot 18 through the inner wall of the arm B, the cam-surface 18^a along the walls of the slot, the curved locking-lever D, pivoted at one end in the slot 17, projecting at its opposite end into the slot 18, and having lateral projections 19 engaging said cam-surface, and the cord 20, connected with the free end of the locking-lever and extending up, through, and out of the upper end of the arm B, substantially as set forth.

4. A clasp consisting in the two pivoted arms, each formed of two sections secured together and provided with inwardly-projecting abutting marginal flanges, the flanges of the arm A being cut away between their ends to form the slot 17 and the inner flanges 11^a of the arm B being partially cut away to form the slot 18, the cam-surface 18^a, and the curved locking-arm D, pivoted in the slot 17 and projecting at its free end through the slot 18 and having projections 19 engaging the cam-surface 18^a, substantially as shown and described.

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