

UNITED STATES PATENT OFFICE.

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CLAMP.

SPECIFICATION forming part of Letters Patent No. 307,439, dated November 4, 1884.

Application filed March 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, PHILIP F. CORBETT, of Boston, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Clamps, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an isometrical perspective view of my improved clamp; Fig. 2, a side elevation showing a modification of the same; Fig. 3, an end elevation of the head-stock in Fig. 2; Fig. 4, an end elevation of the head-stock in Fig. 1; Fig. 5, an end elevation of the slide, and Fig. 6, a vertical longitudinal section of a portion of the head-stock in Fig. 2.

Like letters of reference indicate corresponding parts in the different figures of the drawings.

My invention is designed as an improvement on the clamp secured to me by Letters Patent of the United States, No. 292,207, dated January 22, A. D. 1884; and it consists in the employment of a slide of peculiar construction provided with a set-screw, in combination with the parts shown and described in said patented clamp, whereby one head-stock is enabled to serve for several bodies, thereby reducing the aggregate cost of manufacture when several of the clamps are required, and rendering the implement more useful and effective than those of ordinary construction.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation, its extreme simplicity rendering an elaborate description unnecessary.

In the drawings, A represents the body of the clamp, B the head-stock, and C the tail-stock. The body is provided on either side with a longitudinal groove, *m*, running its entire length, and on its top with two series of holes, *g h*. The head-stock consists of two downwardly-projecting flanges or side pieces, E, which are connected by the horizontally-arranged cap or body F, the body of the stock being provided with two upwardly-projecting

flanges, G G, and either side piece with an inwardly-projecting stud, *d*, working in the groove *m*.

Mounted horizontally in the head-stock B, and fitted to work in correspondingly-threaded holes, *b*, in the flanges G, there is a screw-shaft, J, provided with the handle or lever L at its outer end, the shaft being engaged with both flanges, thereby gaining greater strength and directness of movement than would result from its engagement with a single flange. I do not, however, confine myself to the use of both flanges, or to threading the holes in both when two are used, although I deem two preferable to one, for the reasons stated.

The tail-stock C consists of two downwardly-projecting flanges or side pieces, M, connected by the cap or body N, the body of the stock being provided at its inner end with an upwardly-projecting flange or face-plate, Q, and with a brace, *t*, resting on the body and abutting against the outer face of the flange. The holes *g* incline slightly toward the center of the body A, the holes *h* being also inclined toward the center of the body, or in a direction opposite that of the holes *g*.

The head-stock and tail-stock are each provided with a centrally-arranged downwardly-projecting stud, *l*, the stud in the head-stock being properly inclined and otherwise adapted to enter the holes *g*, and the stud in the tail-stock fitted to enter the holes *h*, thereby enabling the stocks to be secured in any desired position on the body.

In Fig. 2 a modification of the clamp is shown, which is preferable for some kinds of work, the modification being described as follows:

Projecting downwardly and backwardly from the forward ends of the side pieces E of the head-stock B, and on the inner face of either side piece there is a tooth or dog, P, adapted to enter a corresponding mortise or slot, *z*, cut in the side of the body A, the slot inclining toward the tail-stock end of the clamp, as shown. A like tooth or dog, P, projects downwardly and backwardly from the tail-stock C on the inner face of either side piece M, adapted to engage in a series of mortises or slots, *y*, also formed in the sides of

the body A, but inclined toward the head-stock end of the clamp, or in an opposite direction to the mortise *z*.

In using the clamp shown and described in said Letters Patent, and also ordinary clamps of this character, for gluing up cabinet-work and similar purposes, it is necessary to leave the work in the clamp until it "sets," thus necessitating the use of a head-stock to each body.

My present invention is designed to obviate this objection, and to that end I make use of the slide K, which is mortised to fit nicely on the top of the body A, and provided on either side with an inwardly-projecting flange, *v*, working in the groove *m*, and also on its top with the vertically-arranged flanges or face-plates RS, as shown. The slide is also provided with a set-screw, T, which is fitted to work in a correspondingly-threaded hole, *r*, and engage the body A, thereby enabling it to be secured in any desired position.

In the use of my improvement the body A is placed on any convenient bench or support, and its head-stock adjusted as shown, the pin *l* of said stock being in one of the holes *g*, and the stud *d* in the grooves *m*. The work to be glued or otherwise operated on is then placed across the top of the body or stock A, between the tail-stock and slide K, and the tail-stock moved up as closely as possible to the article to be clamped, the studs *d* of the tail-stock being also in the grooves *m*. The pin or stud *l* in the tail-stock is then pushed down into one of the holes *h*, and the screw J turned in by the handle L, causing the work to be grasped or clamped between the slide K and tail-stock C in a manner which will be readily obvious without a more explicit description. After the work is clamped between the tail-stock and slide, as described, the screw T is turned down forcibly onto the body A, thereby firmly securing the slide in the position in which it stands at the time. The screw J is then turned back and the head-stock re-

moved from the body for use with another clamp.

For doing small work two or more slides may be used with each clamp, if necessary. It will also be obvious that when a piece of work is clamped between the tail-stock C and slide K, and the slide secured by the screw T, another piece of work may also be clamped between the head-stock and slide, if desired. A loose guard or cap, H, is fitted to the inner end of the screw to prevent injuring the work. This, however, will not be required unless the work is clamped between the head-stock and slide. The pins *l* and teeth or dogs P, being inclined and respectively hooking into corresponding holes or mortises in the body A, prevent the inner ends of the stocks from rising or riding upwardly when a great strain is exerted on the screw J, or in doing heavy work. The stocks being respectively pivoted on the studs *d*, their inner ends may be readily raised to enable the work to be inserted to better advantage.

Instead of the flanges *v*, the slide may be provided with a stud on either side projecting into the grooves *m*, if preferred.

Having thus explained my invention, what I claim is—

1. In a clamp substantially such as described, the slide K, provided with the flanges *v* and screw T, in combination with the body A, tail-stock C, head-stock B, and screw J, constructed, combined, and arranged to operate substantially as specified.

2. In a clamp having a head-stock, tail-stock, and body, substantially such as described, the slide K, provided with the face-plates RS, screw T, and flanges *v*, substantially as set forth.

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Witnesses:

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