

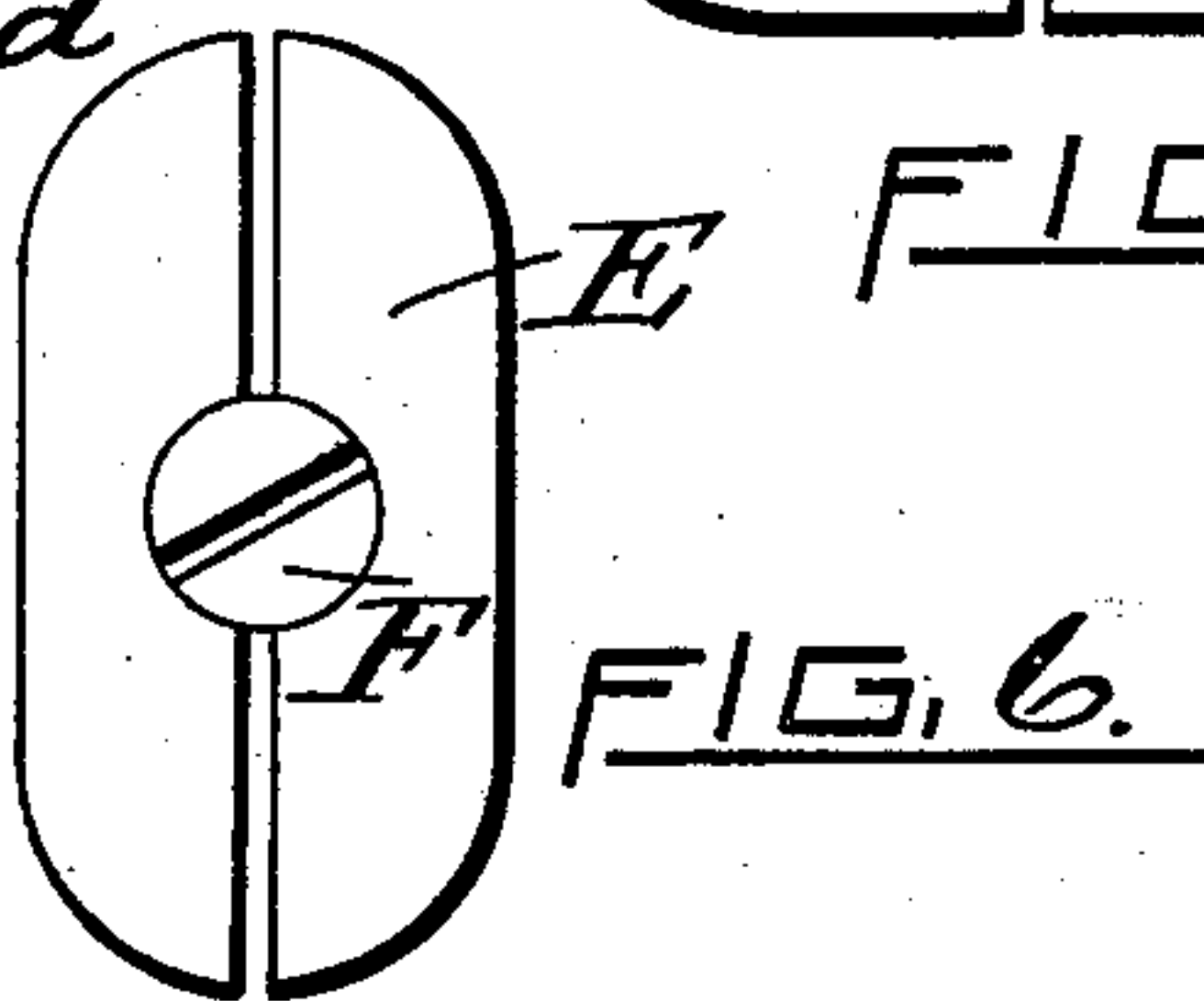
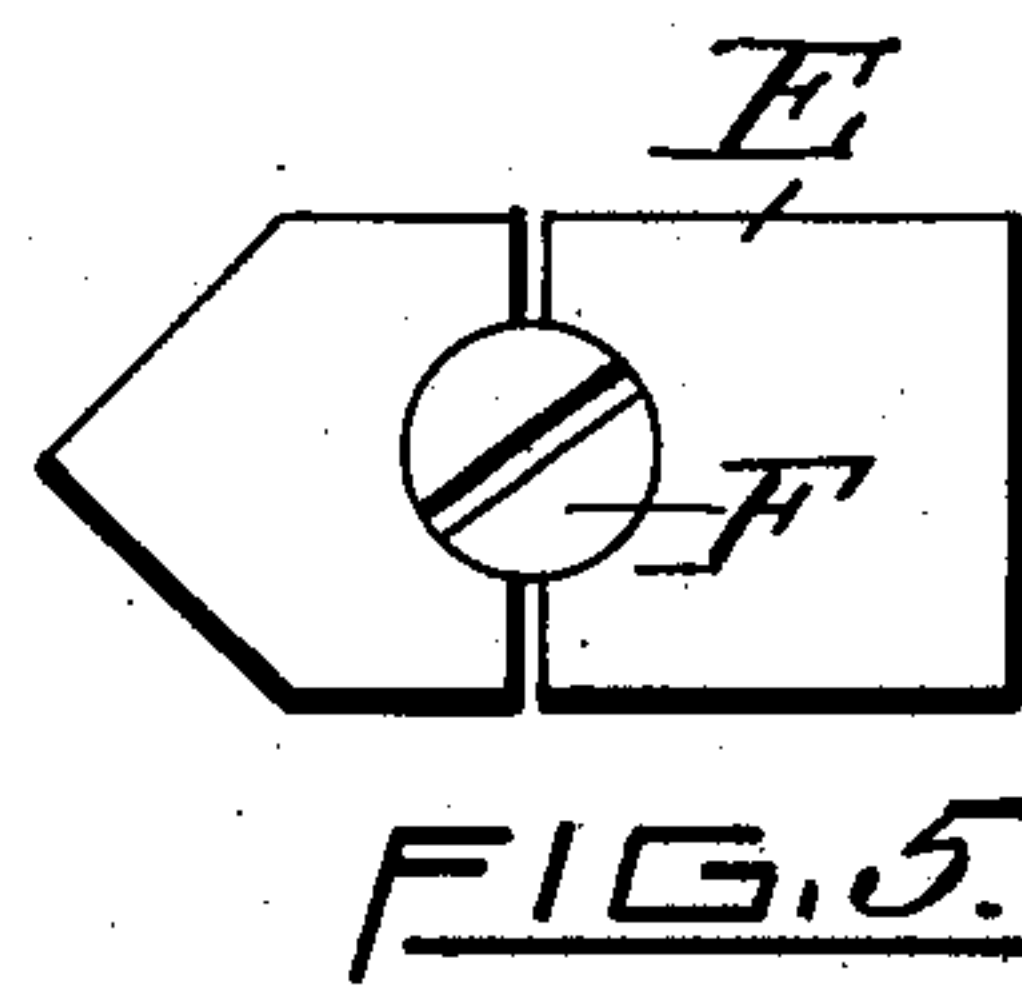
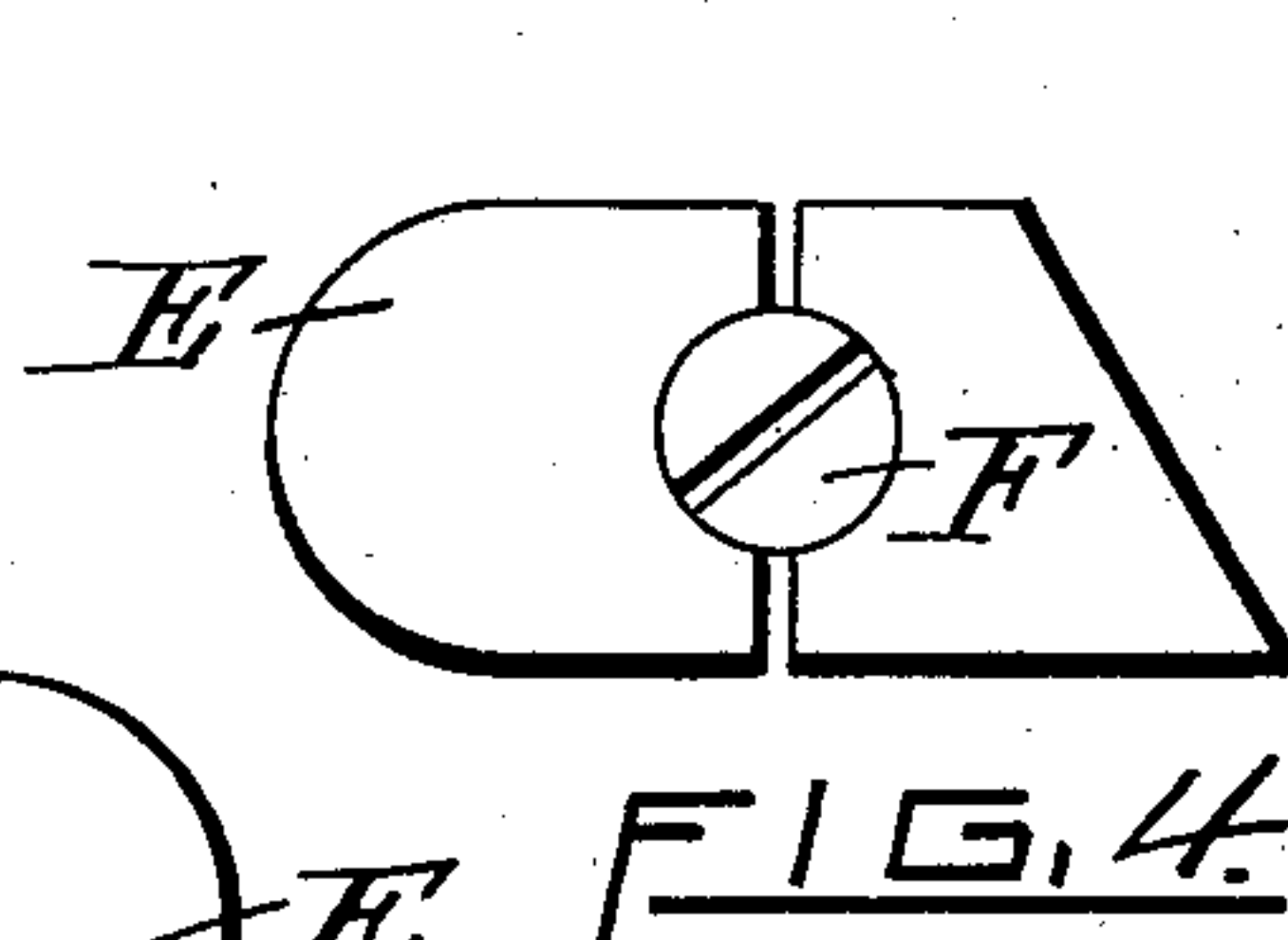
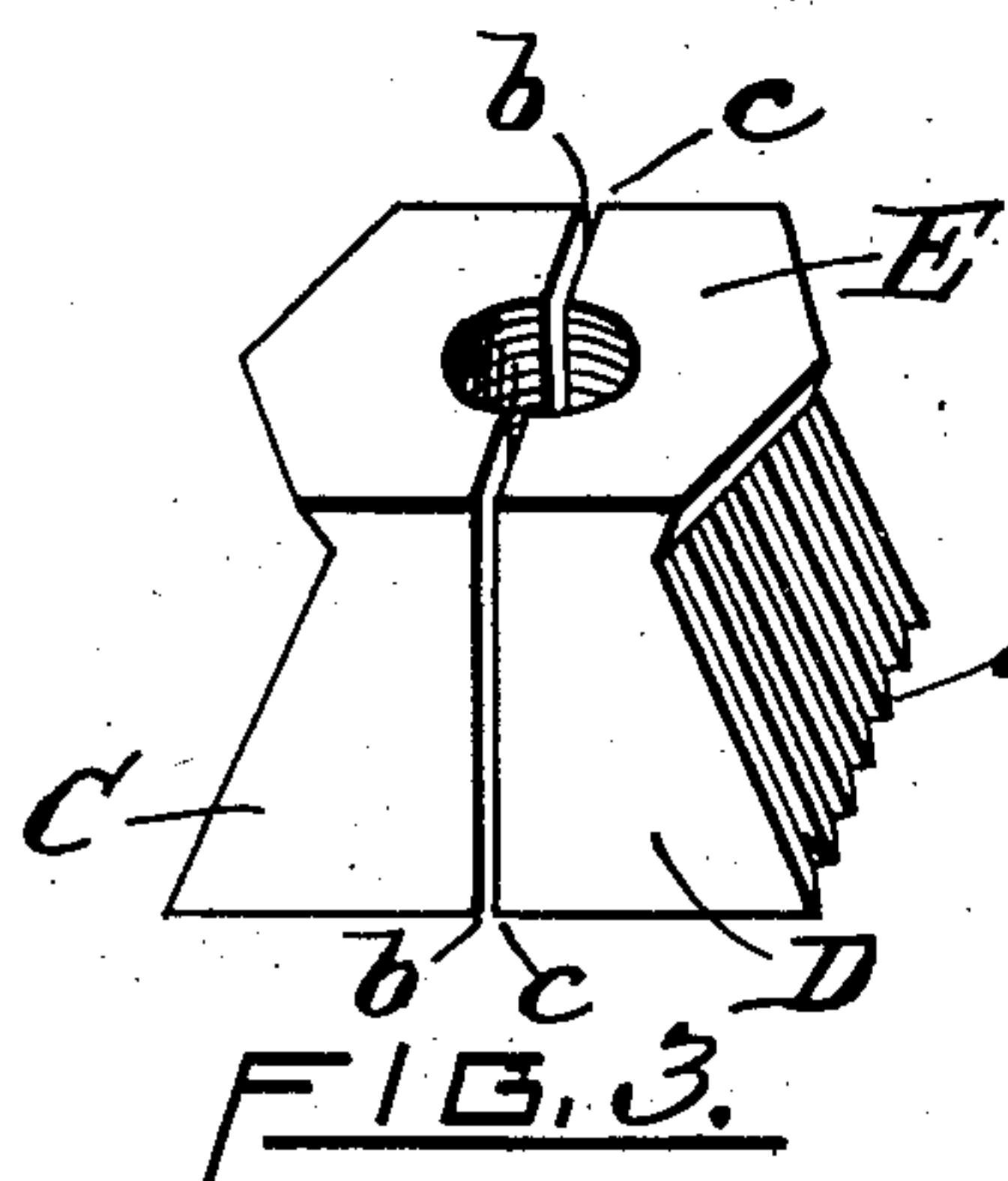
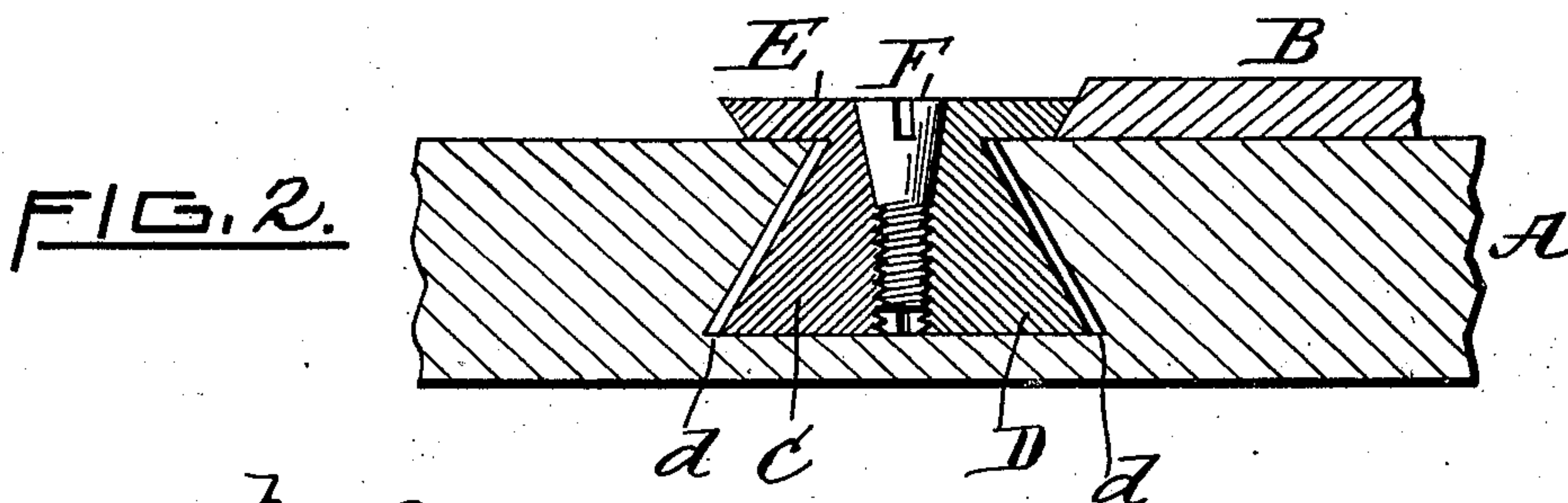
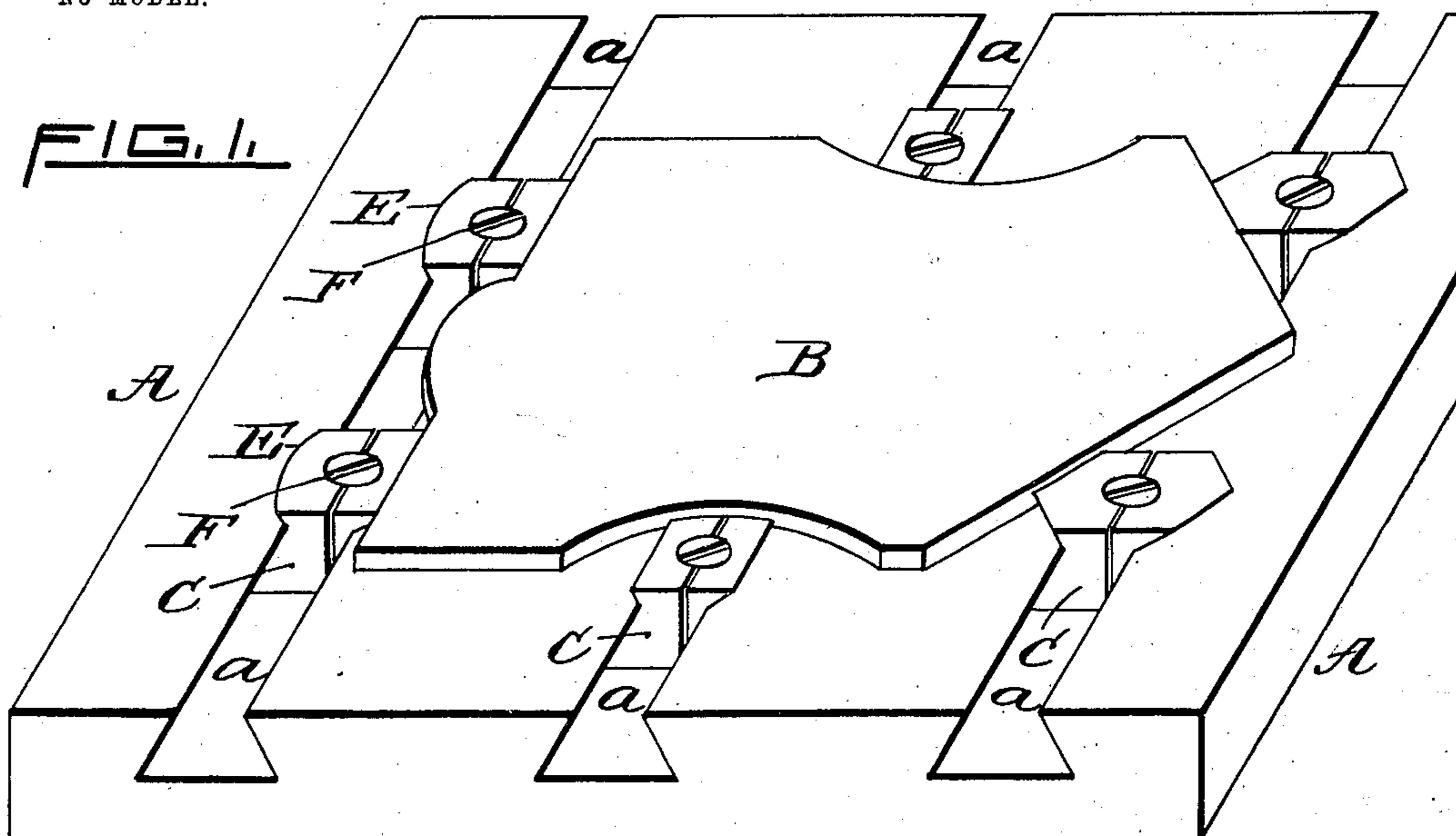
No. 744,559.

PATENTED NOV. 17, 1903.

D. T. KENDRICK.
MACHINE CLAMP.

APPLIATION FILED JULY 15, 1903.

NO MODEL.



WITNESSES,

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UNITED STATES PATENT OFFICE.

DYER T. KENDRICK, OF BOSTON, MASSACHUSETTS.

MACHINE-CLAMP.

SPECIFICATION forming part of Letters Patent No. 744,559, dated November 17, 1903.

Application filed July 15, 1903. Serial No. 165,601. (No model.)

To all whom it may concern:

Be it known that I, DYER T. KENDRICK, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Machine-Clamps, of which the following is a specification, reference being had therein to the accompanying drawings.

10 Like letters indicate like parts.

Figure 1 is a perspective view of the bed of a machine provided with my improved machine-clamps and shown with a piece of work held thereby for operation. Fig. 2 is a transverse section of the same. Fig. 3 is a perspective view of said machine-clamp. Figs. 4, 5, and 6 are respectively top plan views of various forms of the heads of said machine-clamps.

20 My invention is an improved machine-clamp held in adjusted position in grooves of the bed of a machine and adapted to hold a piece of work in place upon said bed during operation.

25 Said invention consists of the novel construction and combination of the several parts, as hereinafter described, and specifically set forth in the claims.

In the drawings, A is the bed of a machine upon which a sheet or piece of metal or other material (designated as B) is laid to be operated upon. It is preferred that the edges of said piece B should be beveled, as shown.

30 The bed A of the machine has several dovetail grooves or channels *a a*, extending in such directions and as far apart as may be desired.

My improved machine-clamp is shown separately in Fig. 3, and consists of two blocks C and D, having respectively the straight surfaces *b* and *c* in close juxtaposition. The lower portion of each of the blocks C D flares outwardly like the sides of a wedge, and each of said inclined surfaces is provided with a number of parallel serrations *d* in a series, whose edges are angular and quite sharp. The upper surface or head of said clamp is shown at E and its edges are beveled. The ends of said head may be angular, diagonal, rounded, or otherwise shaped to adapt it to fit against the edge of the plate or piece B, as illustrated in Fig. 1. On each straight side *b* and *c* is made a half-round screw-thread-

ed hole about half-way the vertical length thereof, and above said threaded hole the bore is continued upwardly in a semiconical form. 55 The piece or plate B having been laid upon the bed A of the machine to be operated upon is held firmly in position by means of a suitable number of these machine-clamps. The two blocks C and D are placed together, as 60 seen in Fig. 3, and are inserted in the dovetailed channels or grooves *a* of the bed A of the machine, the wedge-faces of said blocks C D fitting into the dovetail of the channel or groove, as best seen in Fig. 2. The beveled edge of the head E of said machine-clamp is brought into snug contact with the beveled edge of the piece or plate B by sliding the blocks C D as far along as may be necessary in the grooves or channels *a* of the bed A of the machine. When the machine-clamp has been 70 so adjusted in position, a screw F is inserted in the bore of the blocks C D. This screw is threaded to engage the threaded portion of said blocks C D, and its shank is conical in form, as illustrated in Fig. 2. When this screw is tightened, the conical head thereof is seated deeper and deeper in the conical seat or bore of said blocks C and D and so forces them apart laterally, thus spreading 80 said blocks until their sharp serrations *d* are in firm contact with the sides of the groove or channel *a* and the beveled edge of the head E is in firm contact with the edge of the piece or plate B. The several machine-clamps in the different grooves or channels *a* being fitted in position to contact with the piece or plate B on the several sides or edges thereof hold the work securely in place, so that it is immovable during the operation to 90 which it is subjected.

The lateral spreading of the two blocks when in position within the groove or channel causes the sharp serrated edges *d* thereof to bite the sides of said groove or channel, 95 and thus these sharp edges greatly increase the frictional hold of this machine-clamp to prevent its movement lengthwise of the groove or channel.

The heads E have a considerable variety 100 in shape to adapt them to the contour or outline of the piece or plate B, which they are intended to hold. The workman selects from the lot of machine-clamps with which he is

provided such ones as are suited for the purpose and places them in position and fastens them there, as already described.

The conical bore in the blocks C and D is of such diameter that the conical head of the screw F enters therein when the screw is fully seated to an extent sufficient to have its upper surface flush with the upper surface of the head E of the machine-clamp, as shown in Fig. 2, or below the same, and said head E and also the top of the screw F must have their said upper surfaces below the plane of the upper surface of the piece or plate B in order that the reducing tool or implement which is used upon the piece or plate shall not strike against or touch the clamp or its screw.

Instead of forming the grooves or channels *a* in a dovetail shape they may have an inverted-T shape or any other which will prevent the clamps from rising out of said grooves or channels, while permitting their free sliding movement therein, or any suitable means may be provided to accomplish that result.

I claim as a novel and useful invention and desire to secure by Letters Patent—

1. In combination with a machine-bed having a dovetail-shaped groove or channel, of a machine-clamp in two parts and formed with wedge-shaped sides, whereby it engages slidably with said groove or channel, each part of said clamp having a flange or head and provided with a semicircular screw-threaded bore on one side thereof and a semiconical seat in continuation of said semicircular bore, and a screw engageable with said two semicircular threaded bores when the same are in juxtaposition and provided with a conical head engageable with the conical seat which is formed when said two semiconical seats are in juxtaposition, substantially as specified.

2. The combination of a machine-bed having a groove therein, a machine-clamp in two parts each provided on their inner contiguous surfaces with semicircular screw-threaded bores and semiconical seats continuous with said bore and each having a projecting flange or head, a screw engageable in said two semicircular bores and having a conical head engageable with said two semiconical seats, substantially as described.

3. In a machine for reducing or treating the upper surface of a sheet or piece of material

and provided with a bed having a groove, the combination therewith of a machine-clamp slidable in said groove comprising two blocks having their contiguous sides straight and parallel with each other but each having in its said straight side a semicircular screw-threaded bore and a semiconical seat and also provided with a flange or head whose edge is of such shape as to fit a portion of the contour of said sheet or piece of material, and a screw having a threaded portion engageable with said two semicircular threaded bores when the same are in juxtaposition and also having a conical head engageable with said two semiconical seats when the same are in juxtaposition, substantially as specified.

4. In combination with a machine having a bed with a groove, a machine-clamp slidable in said groove comprising two blocks whose inner contiguous vertical sides are straight and parallel with each other but each having a semicircular screw-threaded bore and a semiconical seat and each part being also provided with a flange or head, a series of parallel sharp vertical serrations on the outer side of each of said blocks which are engageable with the adjacent sides of said groove respectively, and a screw having a threaded portion engageable with said two semicircular threaded bores when the same are in juxtaposition and also having a conical head engageable with said two semiconical seats when the same are in juxtaposition, substantially as specified.

5. The improved split machine-clamp hereinafter described, having a central vertical screw-threaded bore with a conical seat, said bore and seat being one-half in one part of said clamp and one-half in the other part of said clamp, a head or flange projecting from each part of said clamp at a right angle, a wedge-shaped bottom on each part of the clamp with a series of vertical serrations on the outer surface thereof, and a screw engageable in said bore and provided with a conical head engageable in said seat, substantially as shown and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

DYER T. KENDRICK.

Witnesses:

FRANK D. LIVERMORE,
WARREN R. PERCE.