

No. 893,754.

PATENTED JULY 21, 1908

W. T. RUSSELL.
REVERSIBLE MACHINIST'S CLAMP.
APPLICATION FILED OCT. 26, 1907.

Fig. 1

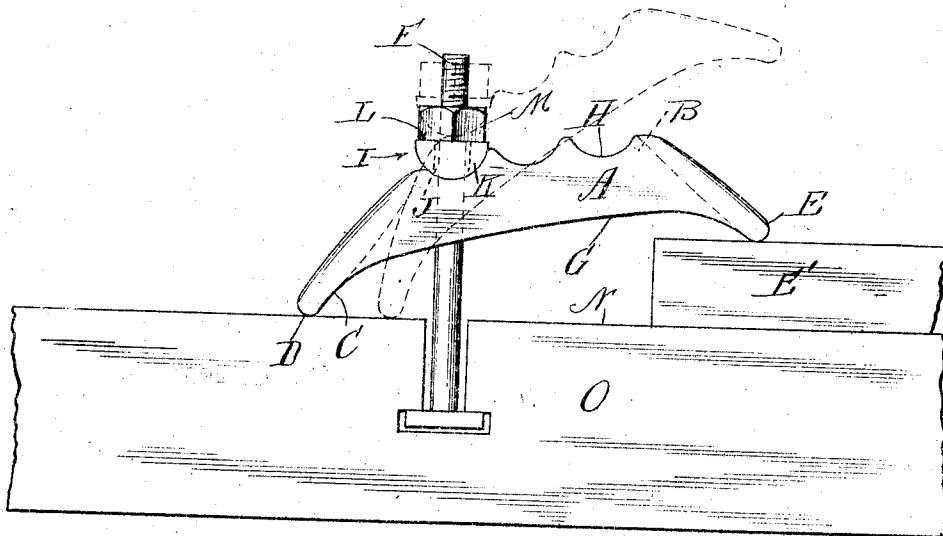


Fig. 2.

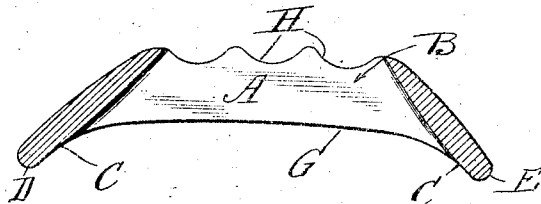


Fig. 3

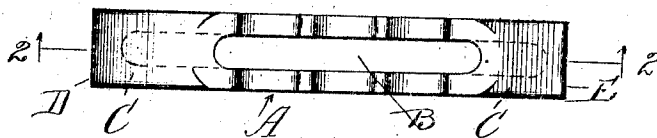
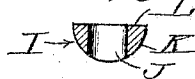


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM T. RUSSELL, OF ROCHELLE, ILLINOIS.

REVERSIBLE MACHINIST'S CLAMP.

No. 893,754.

Specification of Letters Patent.

Patented July 21, 1908.

Application filed October 26, 1907. Serial No. 399,344.

To all whom it may concern:

Be it known that I, WILLIAM T. RUSSELL, a citizen of the United States, residing at Rochelle, in the county of Ogle and State of Illinois, have invented certain new and useful Improvements in Reversible Machinists' Clamps, of which the following is a specification.

The object of my invention is to provide a simple and cheap reversible machinists clamp for holding articles to be operated upon on lathes, planers, drill presses or other machines, a clamp in which the position and pressure on the clamping screw is always at right angles to the surface of the face plate or bed of the machine in which the work to be clamped rests; a clamp in which there are a plurality of pivotal points on which the pressure of the screw bolt can be adjustably applied and thereby afford the widest vertical and horizontal adjustment in clamping, and in which the pressure of the screw bolt and clamp is always in a direct right angle with the bed or face plate of the machine to which the clamp is attached.

The manner in which I accomplish my object is described in the following specification and illustrated in the accompanying drawing in which:

Figure 1 is a vertical elevation showing the clamp in position on a bed plate clamping a piece of work thereon. Fig. 2 is a longitudinal vertical section on the line 2—2 Fig. 3. Fig. 3 is a top plan view and Fig. 4 is a vertical sectional view of the pivot block.

In the drawings A is the body of the clamp. In the central longitudinal line of this body is a vertical slot B. In the interior of the clamp this slot extends longitudinally to the inside C of the ends D. This interior extent of the slot permits the free end of the clamp to be raised vertically till the fixed end is close to the shank of the screw bolt F, which extends through the slot as shown by the dotted lines in Fig. 1.

The base line G of the clamp is curved as shown in Fig. 2 and the ends D and E are rounded so that the line of contact on the article E' held by the clamp, will be always parallel with the axis of the screw F. In the top of the clamp are a series of transverse concave pivot seats H. The number of these seats is limited only by the size of the body A, length of the slot B, diameter of the screw F and pivot block I. The pivot block I shown in cross section in Fig. 4 is cylindrical in form and has a transverse central aperture J adapted in size to permit the block to slip freely over the shank of the screw bolt F as shown in Fig. 1. The cylindrical part K of the block is adapted to fit the concave seats H in the body A, and the flat part L forms a seat for the nut M as shown in Fig. 1.

The pivotal joint formed by the juncture of the cylindrical part K of the block I and the concave seat H permits a rotary adjustment of the block in the seat by which the pressure of the screw on the clamp in every position it is placed is at a perfect right angle to the plane of the surface N of the bed O, or face plate of a machine on which the work is clamped. This pivotal arrangement prevents the thrust, pull and cramping of the clamp and screw which is unavoidable in the ordinary means used for clamping machine work.

The distance from the seats H to the end D, of the body A is greater than that of the end E. This difference provides a greater range of adjustment, as by the reversal of the clamp the long or short ends of the body A can be used to fit the character and position of the work to be clamped on the bed O, or on the face plate of the machine. It is obvious that the seats and block may be spherical instead of cylindrical in shape.

What I claim and desire to secure by Letters Patent is:

1. A machinists clamp consisting of a longitudinal curved body having a longitudinal central vertical slot, and a transverse concave pivotal seat in the parallel walls of the slotted part of said body; and a pivotal block partly cylindrical and thereby adapted to fit and be rotated in said seat, said block having a central aperture at right angles to the axial center of said block, the margin of said aperture being adapted for a seat for a nut; a screw and nut, said screw being adapted to be secured in the bed or face plate of a machine and to extend through said slot in said clamp and aperture in said block.

2. A machinists clamp, consisting of a longitudinal body having vertically inclined ends, a vertical longitudinal central slot and transverse concave seats in the walls of the slotted part of said body; a pivotal block adapted to be rotatably supported in either of the seats in said body; said block having a central aperture adapted to register with said slot and allow the insertion therethrough of a

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screw bolt; and a screw bolt and nut, said bolt being adapted to extend through said slot and block and to be attached to the bed or face plate of a machine.

- 5 3. In a clamp of the kind described, the combination with a main body having a longitudinal slot and transverse concave seats; of a pivotal block adapted to be supported in said seats, and a screw bolt extending through

said slotted body and pivotal block, said bolt 10 having a nut and being adapted to be attached to a bed and face plate of a machine.

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

WILLIAM T. RUSSELL.

Witnesses:

THOMAS J. MORGAN,
JOSEPH STAAB.