Aug. 7, 1945. E. D. PAUL 2,380,990

CLAMP

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Fig. 1

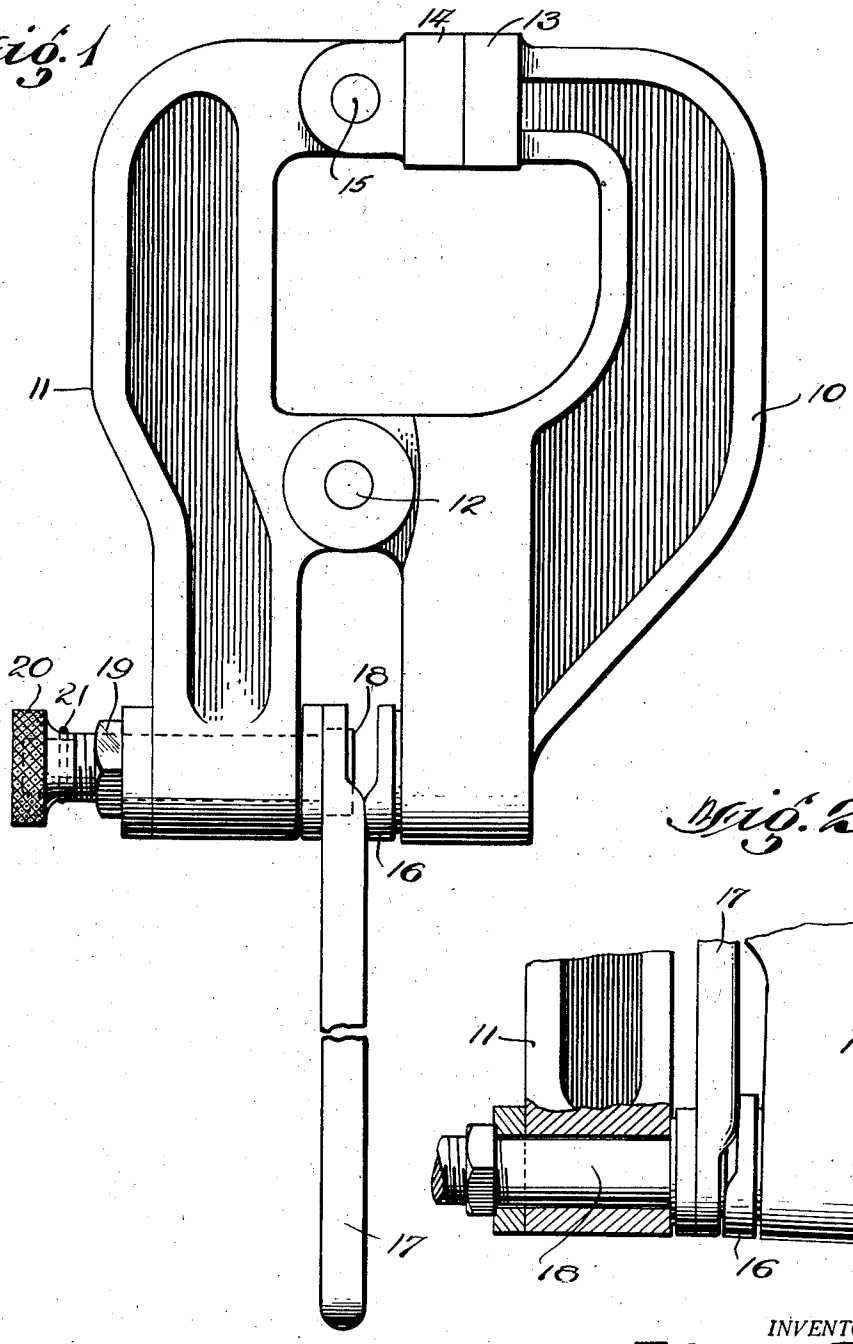


Fig. 2

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CLAMP

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1 Claim. (Cl. 24—248)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to improvements in clamps for use in textile testing machines.

The primary object of the invention is to provide a clamp operated by a cam and a cam lever for holding textiles while tests are being made.

One of the many features of the improvement is the accuracy with which the operator may place material to be tested in the jaws of the clamp at an even tension along a vertical line, so that an accurate break may be obtained with less chance of error.

Another object of the invention is to produce a device which is simple to operate as well as to manufacture.

The simplicity of operation is obtained for the reason that by a slight movement the lever tightens the jaws, placing them in readiness for the break test to be made.

This is a vast improvement over the old type of clamp that required the laborious work of opening or closing the jaws of a clamp by a screw arrangement, which is a very trying operation.

It would appear, therefore, that the best advantage of the improved clamp is the economy of time and the effort saved in its operation and use. Therefore, with this improved clamp the operator can produce more accurate work in less time than that required by known methods which have been used in clamping material to be tested.

With the above and other objects and advantages in view, the invention consists of features of construction, arrangement and operation of parts which will appear in the specification and be finally pointed out in the claim.

Referring now to the drawing, in which similar characters and references in the several figures indicate identical parts:

Fig. 1 is a side view of the clamp, embodying the invention, showing the jaws closed.

Fig. 2 is a fragmentary section of the cam action with the jaws in open position.

By referring to the drawing by numerals, it will be seen that 10 and 11 indicate the legs of the clamp, which are pivoted together intermediate their ends by a pin 12 and have their upper ends inturned to form gripping jaws 13 and 14. Jaw 14 is pivoted on the leg 11 by a pin 15 so that regardless of the thickness of the material to be tested the jaws will always meet on a straight line.

At the lower end of the leg 10 there is provided a back plate 16 which is the fixed part of the cam, while the cam lever 17 or the movable part of the cam is pivoted on the bolt 18 at the lower end of the leg 11 and is adapted to bear upon the back plate 16 so that by turning said lever upon its pivot or fulcrum the jaws may be opened or closed. The bolt 18 is provided with a lock nut 19, which is adapted to fix the bolt tight against rotation.

It is apparent that wear will take place on the faces of the back plate 16 and the movable lever 17, so the bolt 18 has a knurled knob 20 attached thereto by a pin 21 to provide means whereby the wear or any other necessary adjustments that will be required to close the jaws of the clamp sufficiently tight to hold the material can be made.

It will be understood, therefore, from the foregoing, that when the lever 17 is moved from the position shown in Fig. 2 to the position shown in Fig. 1, that the jaws and legs of the clamp will be moved together, thereby clamping whatever is placed between the jaws. To release the jaws the lever 17 is moved in the opposite direction, thus relieving the pressure and assuming the position shown in Fig. 2.

As has already been stated, means are provided at the lower end of the legs to make adjustments to compensate for wear and thickness of material.

It will also be apparent that the improvement can be adaptable to the present equipment being used and can very easily be installed on any textile testing machine or other machines where a closing clamp or grab method is used.

While the preferred embodiment of the invention is shown, it will be understood that slight changes in form and minor details of construction may be resorted to without departing from the spirit of the invention and fall beyond the scope of the claim.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent is:

A clamp for textile testing machines comprising a pair of legs pivoted together intermediate their ends, one end of each of said legs being provided with a clamping jaw, means on the opposite ends of said legs for forcing said jaws together, said means being mounted between said legs and comprising a fixed cam plate mounted on the inner end of one of said legs and a movable cam plate mounted on the inner end of the other leg and rotatable in a plane transverse to the movement of the legs, said plates having opposed cam faces for forcing the ends of the legs on which they are mounted apart when the movable cam is rotated, and a handle projecting from the periphery of the movable cam.

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