H. L. SCOTT.

CLAMP.

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1,255,936.

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Fig. 1

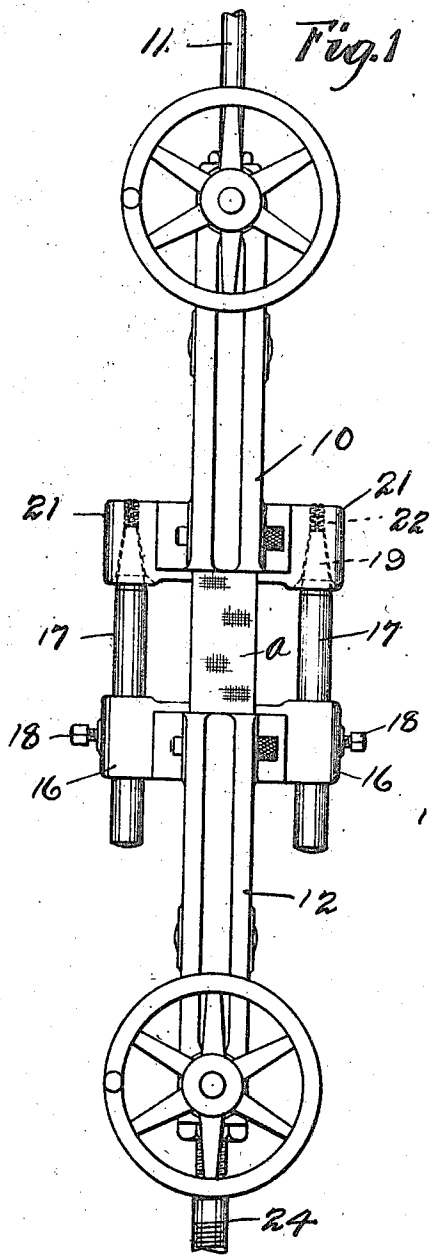
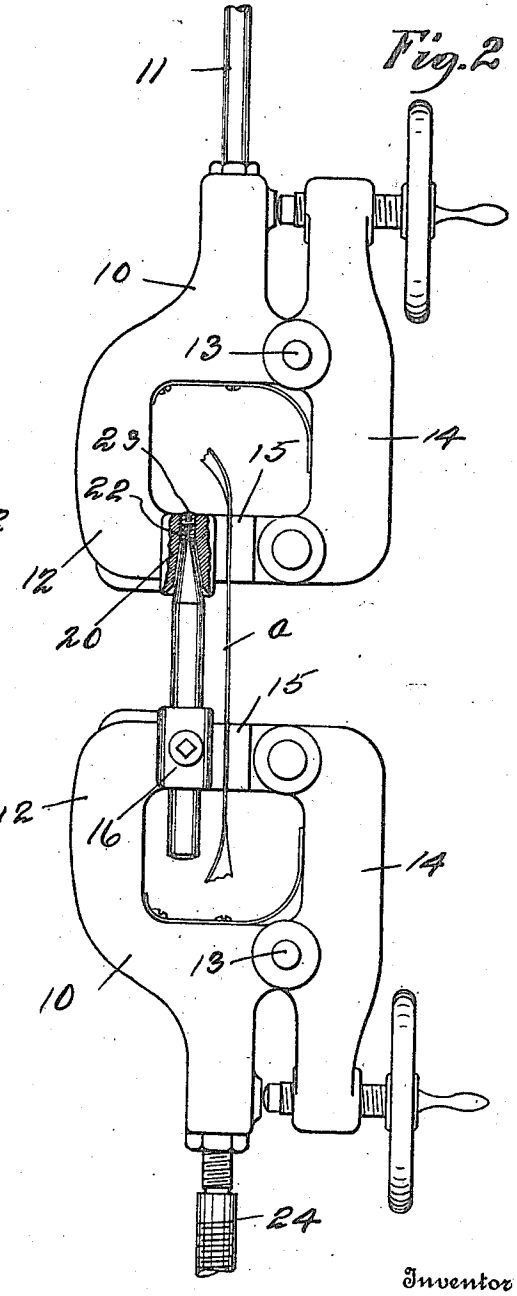


Fig. 2



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY L. SCOTT, OF PROVIDENCE, RHODE ISLAND.

CLAMP.

1,255,936. Specification of Letters Patent. Patented Feb. 12, 1918.

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To all whom it may concern:

Be it known that I, HENRY L. SCOTT, a citizen of the United States, and resident of the city of Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Clamps, of which the following is a specification.

This invention relates to an attachment for clamps employed in machines for testing strips of fabric, rubber or other material, and the object of this invention is to provide simple, practical and effective means for alining the opposite clamps of a pair when positioned to receive the work, and to provide means whereby said alining means is automatically released by the first tension movement of said clamps.

In the operation of a testing machine of this character one of the clamps is suspended from the indicator shaft to float loosely so as to eliminate the effect of all sliding friction of parts of the machine from the test. Therefore it is found to be of importance to engage and support this floating clamp and hold it strictly in alinement with the opposite clamp when both are in position to receive the work, so that the work may be properly engaged. It is also found to be of importance that this alining device should at once be released by the very first separating movement of the tension applying jaws so that the strength of the fabric may be accurately recorded independent of any friction upon the parts.

A further object of the invention is to provide one or more tapering dowel pins in one clamp adapted to engage corresponding tapering sockets in the opposite clamp, whereby the first separating movement of the clamps causes the taper of the pin to be immediately released from the taper of the socket to absolutely eliminate friction of these parts, but this particular dowel pin construction is not absolutely necessary as other suitable mechanism may be employed for alining these clamps.

A still further object of the invention is the provision of a set screw in the end of the socket adapted to be nicely adjusted so as to engage the end of the tapered dowel pin to prevent said tapered portion from fitting too closely and binding in the socket when positioned therein.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1— is a front elevation of a pair of clamps connected together by the alining dowel pins.

Fig. 2— is a side elevation of these clamps showing one of the sockets in section and showing a piece of work held in these clamps to be tested.

Referring to the drawings, 10 designates the upper of a pair of jaws, which upper jaw floats or is loosely suspended by the rod 11 to hang free from the hub of the usual indicating device (not shown).

I have shown each of these clamp members as being provided with a fixed jaw 12 on which is pivoted at 13 a loose jaw 14, said jaws being provided with biting plates 15 between which is gripped the specimen or strip of work *a*.

The fixed jaw of the lower clamp is herein shown as being provided with bosses 16 on either side thereof, in which bosses are mounted vertically disposed dowel pins or rods 17 held by the set screws 18. The upper ends of these rods or pins are tapered as at 19 to engage and fit into correspondingly shaped sockets 20 formed in bosses 21 on the opposite jaw.

In order to prevent these tapered pins from bottoming in these sockets, I have provided a set screw 22 in the upper end of each socket whose end extends down slightly into the upper end of the socket so as to engage the tapered end of the pin and prevent it from being bound and gripped by the side walls of the socket when forced thereinto. By the use of these adjusting screws, it will be seen that the tapered portions of the pins may be readily withdrawn from its socket without sticking or binding therein.

A second screw 23 is set against the inner screw so as to bind and lock the two together.

By the employment of my improved clamp alining pins it will be noted that when the lower clamp is moved upward into position to receive the work, the tapered ends of its pins enter the correspondingly tapered sockets in the opposite clamp causing these clamps to accurately aline one with the other and also to securely and rigidly

hold the upper clamp while the strip *a* is being positioned between them.

This is of utmost importance in order to secure the best results, for the reason that if the clamps did not aline one with the other the strip would be likely to be positioned incorrectly causing the test to be inaccurate and unsatisfactory.

After the jaws on each clamp have been set up upon the work the tension is applied by a downward movement of the lower jaw through the screw 24 and this movement must indicate the stretch of the goods while the amount of pull indicates the tensile strength of the goods. Therefore it will be seen to be of importance that the alining dowels are immediately and automatically released upon the first downward movement of the tension clamp so that the recording mechanism may accurately indicate the stretch and strength of the goods.

I have shown one type of clamp to which my improved alining mechanism may be attached but the same may be applied to any style of clamp to which it is adapted or in any way to the clamps or to the parts supporting the clamps.

I have illustrated one means by which the alining of the clamps may be accomplished, but I do not wish to limit myself to this specific construction as any other means of alining these clamps which is released by the first tension movement of the clamps will fall within the spirit and scope of this invention. I, therefore, desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. In a testing machine, a floating clamp and a rigidly supporting clamp for engaging the specimen to be tested, and means for alining said floating clamp with said opposite clamp when positioned to receive the specimen, said means being automatically released by the first tension movement of said clamps.

2. In a testing machine, a pair of clamps for engaging the work to be tested, and means engaging both the clamps for alining one with the other when positioned to receive the work, said means being automatically released from one clamp by the first tension movement of said clamps.

3. In a testing machine, a pair of clamps for engaging the work to be tested, and means in engagement with both clamps for alining one with the other when positioned to receive the work, said means being automatically released from one clamp by the first tension movement of said clamps.

4. In a testing machine, a pair of clamps having jaws for engaging the work to be tested, and means engaging both clamps for automatically alining the jaws of said opposite clamps when positioned to receive the work, said alining means being automatically released from one clamp by the first tension movement of said clamps.

5. In a testing machine, a pair of clamps for engaging the work to be tested, and dowel pins in said clamps for engaging both clamps and alining one with the other when positioned to receive the work, said pins being automatically released from one clamp by the first tension movement of said clamps.

6. In a testing machine, a pair of clamps for engaging the work to be tested, a dowel pin in one clamp, a corresponding socket in the other clamp into which said dowel enters when the clamps are in position to receive the work, and means whereby said pins are automatically released from one clamp by the first tension movement of said clamps.

7. In a testing machine, a pair of clamps for engaging the work to be tested, a tapered dowel pin in one clamp, a tapered socket in the opposite clamp for receiving said dowel pin, and means in said socket for preventing said dowel pin from bottoming therein.

8. In a testing machine, a pair of clamps for engaging the work to be tested, dowel pins in said clamps for engaging and alining one with the other when positioned to receive the work, said pins being automatically released from one clamp by the first tension movement of said clamps, and means whereby said pins may be adjusted endwise to regulate their working length.

In testimony whereof I affix my signature in presence of a witness.

HENRY L. SCOTT.

Witness:
HOWARD E. BARLOW.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."