To all whom it may concern:

Be it known that I, Henry W. Honeyman, a citizen of the United States, residing in the city of Pawtucket, county of Providence, and State of Rhode Island, have invented a new and useful Improvement in Cloth-Clamps for Tentering-Machines, of which the following, with the accompanying drawings, is a description.

My invention more particularly relates to automatic cloth-clamps used in cloth-tentering machines which are so arranged that after the cloth is fed into the clamp a finger or controller will rest upon the cloth, and thereby hold the upper or gripping jaw of the clamp out of contact with the cloth until the latter is withdrawn from under the controller, when the upper or gripping jaw will be permitted to fall and grip the cloth upon or near its selvage.

My present invention consists of making the arm which supports the gripping-jaw of resilient metal, preferably of somewhat heavy sheet-steel, for the purpose hereinafter set forth, and in a rounded raised head upon edge of the table of the lower jaw, which is intended, preferably, to act in combination with the resilient arm forming the other portion of my invention, but which may in many cases be advantageously used with the old style of arm.

Reverting to the drawings, Figure 1 is a plan view of my clamp. Figure 2 is a front elevation; and Figure 3 is a side elevation, largely in section, upon line 3 3 of Figure 1.

As is well known by those acquainted with the art, cloth-clamps are composed of a base constituting one of the links of an endless chain, as A in the drawings, which links are afterward united together by means of pins passed through the holes shown in Figure 1. Upon this base and attached rigidly to it is generally a brass plate B, (best seen in Figure 3,) which as herein constructed is bent down over the front edge of the base proper. The plate B has a slot through it, into which the finger or controller C may fall when the cloth is withdrawn from under it in the manner common in this art. The pivoted or gripping jaw D is hung upon a rod G as a pivot at its upper edge and has a rearward projection E, with a hook upon it to engage the hook upon the controller or finger C to hold the pivoted jaw open while the controller is resting upon the cloth. All these elements, arranged in various ways to accomplish the same purpose, are well known in the art, and as my present invention does not depend upon them or any particular combination of them I will not further describe them or their action.

My invention consists principally in substituting for the two arms herebefore used to support the gripping-jaw a single curved upper arm F, (see particularly Figure 3,) preferably made of rather heavy sheet-steel or some other resilient metal curved into substantially the shape shown. The lower portion of this arm is made to rest upon and be rigidly attached to the base-link under the brass plate B, and its upper portion after being curved forward, as shown in Figure 3, to constitute the supporting-arm for the gripping-jaw D is curved back upon itself to inclose the rod G, forming the pivot for that jaw. The arm F, made of sheet-steel, as described, will permit its having a resilient action after the gripping-jaw D has been permitted to fall and grip the cloth, and the strain of the cloth pulls the jaw D farther forward. It will be observed that the gripping-jaw D when it has fallen and come into contact with the lower jaw or plate B stands at a slightly-oblique angle to the plate B, and any strain from the cloth then has a strong tendency to spring the upper arm F upward. This has proved to be a serious defect in the clamps heretofore constructed, because the arms supporting the gripping-jaw have been made of cast or malleable iron integral with the link-base and without any resilient action, and when the strain upon the cloth, acting through the wedge action of the gripping-jaw, had once sprung the supporting arms out of their natural position they would not return, the fine adjustment required in the gripping-jaw would be destroyed, and frequently the clamp would be thereby rendered useless. The resilience of my arm F has the advantage of permitting a slight outward movement to the foot of the gripping-jaw if the strain upon the cloth becomes great without injuring the adjustment of the clamp. Much of the advantage of my invention could be obtained by making the arms heretofore used of resilient metal; but I
prefer to substitute for them a single arm F', made of steel about an eighth of an inch thick, so as to not permit too much elasticity to the arm. I do not limit myself, however, to any particular thickness of metal, nor necessarily to steel, as many other well-known resilient metals or alloys would answer as well.

The lower portion of the arm F as I have used it has a slot cut in it, through which the controller may fall, and a second slot at the rear, through which the controller enters from its pivot H, preferably carried in lugs cast upon the base or link A, although other means of supporting the pivot of the controller C could be readily substituted. It may also be advantageous at times to cut still another slot in the middle of the upper portion of the arm to permit the projecting arm E or a portion of the controller C to pass through it in order to permit the clamp to be opened wider by pushing the gripping-jaw D farther back, and thereby furnish greater space for the insertion of the fabric, and I have indicated such a slot in the drawings; but such a slot is not always essential or even preferable. It is evident that with such a resilient arm some means of preventing the gripping-jaw from being pulled too far forward by the strain exerted by the cloth is essential. This can be accomplished by making the metal of the arm F sufficiently heavy to withstand any strain which the cloth would stand; but by doing so the arm would lose much of its elasticity and much of the advantage to be gained from that elasticity. I have therefore added to the outer edge of the plate B, forming the lower jaw of the clamp, the raised rounded edge or bead b, against which the gripping-jaw may bring up when the cloth pulls it forward against it—that is, the gripping-jaw D is arranged when it fails to normally reach the plate B a little way back of the rounded bead, and then it may be pulled forward by the cloth until it reaches that bead, the end of the arm F at the same time being forced upward. The bead b need be only small to absolutely prevent the jaw D from being pulled over it. In fact, I have found that the bead b adds so much to the gripping power of the jaw D that it is probably capable of being used with the cast or malleable iron arms commonly used hereto-