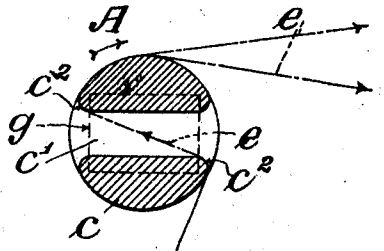
Dec. 18, 1928. 1,695,376

E. HOLLINGWORTH

MEANS FOR REGULATING THE TENSION OF WARPS IN LOOMS FOR WEAVING

Filed June 24, 1926

Fig. 1.



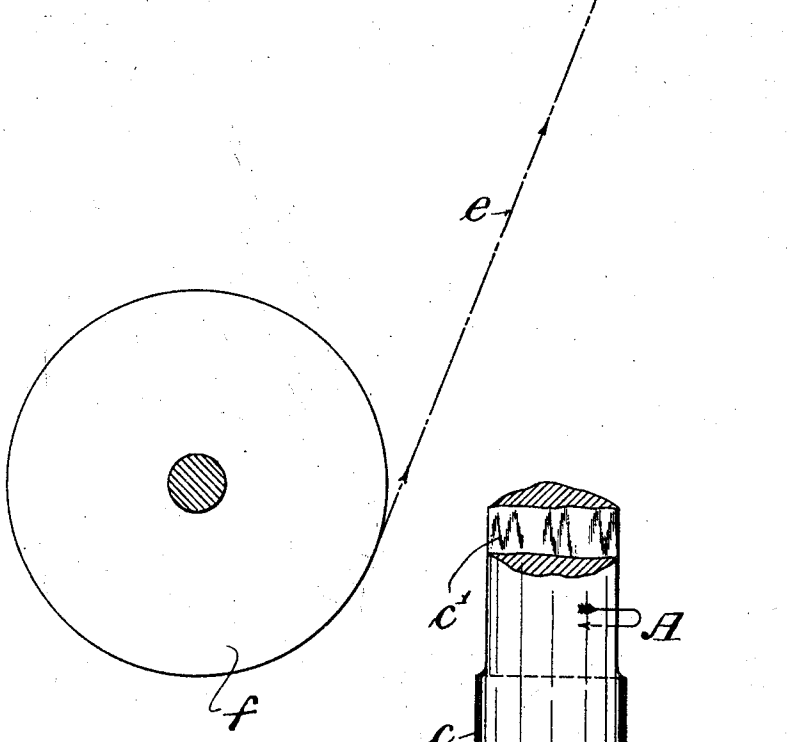
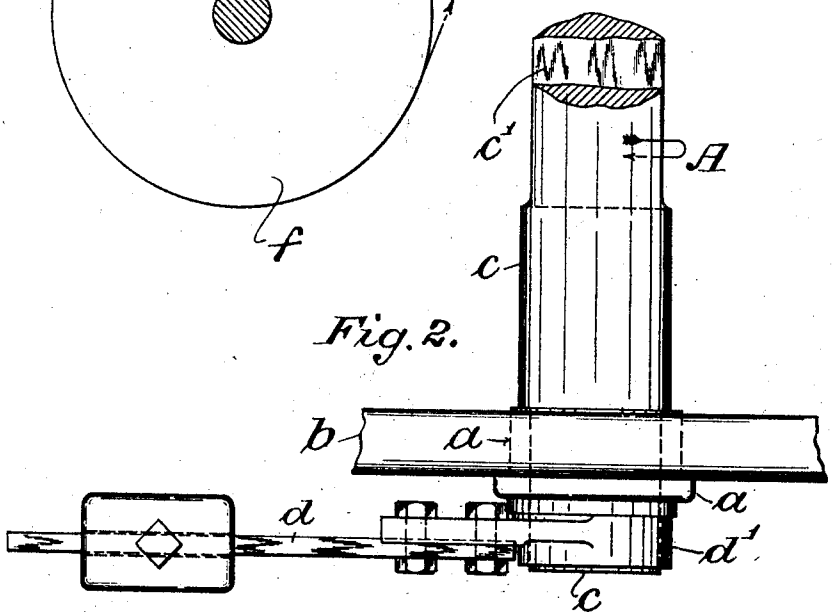


Fig. 2.



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UNITED STATES PATENT OFFICE.

EDWARD HOLLINGWORTH, OF DOBCROSS, ENGLAND, ASSIGNOR TO CROMPTON & KNOWLES LOOM WORKS, OF WORCESTER, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

MEANS FOR REGULATING THE TENSION OF WARPS IN LOOMS FOR WEAVING.

Application filed June 24, 1926, Serial No. 118,312, and in Great Britain June 27, 1925.

In order to apply tension to a warp in a loom, and to maintain the tension uniform, the warp is commonly passed over a yielding or movable back bearer in the form of a rod mounted upon arms on a shaft or of a curved radial arm carrying weight levers.

The present invention relates to warp tension applying and regulating means of this description, and has for its object the provision of improved means especially suitable for use in heavy looms, such as carpet looms, where the warps are required to be placed under a considerable tension.

According to the invention, the preferred form of which is illustrated in the accompanying drawing wherein

Fig. 1 shows a transverse section and

Fig. 2 a plan of the improved tension applying and regulating means, I mount in suitable bearings such as *a* in the rear upper parts of each loom side frame *b*, a cylindrical roll *c* on each end of which is secured the boss *d'* of a weighting lever *d*. Extending through this roll *c* is a diametrical slot *c'* of appropriate width and of sufficient length to accommodate the widest warp for which the loom is designed.

The warp *e* is led up from the beam *f* to the inner side of the roll *c*, diagonally upwards across the slot *c'*, and then back over the upper surface of the roll to the healds, the roll being preferably so positioned that, with normal tension, the slot is horizontal or approximately horizontal. Any increase in the tension tends to rotate the roll about its axis in the direction of the arrows A, against the action of the weighted levers.

The "twitching" effect obtained by the contact of the warp with the edges of the slot enables me to apply very considerable tension with relatively small weights, and the device proves in practice a very considerable advance upon the constructions hitherto employed.

The edges c^2 of the slot, with which the warp contacts, are suitably rounded off.

In the case of a very wide loom, supports may be provided at intervals in the length of the slot. These supports may conveniently take the form of relatively narrow steel plates cast in with the roll as indicated in dotted lines at *g* in Fig. 1.

Obviously, instead of making a slot through a roll, two separate members might be clamped together by suitable end caps in such a manner as to provide a slot or gap between them and to constitute what may be termed a built-up roll. It will also be apparent that adjustable springs or other equivalent means may be employed in substitution for, or in addition to, weights for providing the required resistance to turning of the roll.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A warp tension applying and regulating device comprising a revolubly mounted roll and weighting means therefor, said roll having a longitudinal slot through which the warp is passed diagonally in the manner set forth.

2. A warp tension applying and regulating device comprising means to present a pair of spaced concentric warp engaging surfaces, weighted means to cause said surfaces to move about a common center, said device having between the concentric surfaces a slot through which the warp is passed diagonally.

3. A warp tension applying and regulating device comprising a cylindrical member, means to support the member for angular movement, weighted means for said member, the cylindrical member having a slot extending therethrough to separate said member into two spaced yarn engaging portions each of which has a yarn engaging surface concentric with the axis of the cylindrical member, the yarn passing through the slot.

4. A warp tension and regulating element comprising a substantially cylindrical member having bearing portions by which said member may be mounted for angular movement and said member having spaced longitudinal portions provided with warp engaging surfaces concentric with the axis of said member defining between them a space through which the warp portions may extend.

In testimony whereof I affix my signature.

EDWARD HOLLINGWORTH.