

R. P. HILL.
TENSION FOR WARP REELS AND HAND LOOMS.
APPLICATION FILED MAY 4, 1910.

975,618.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

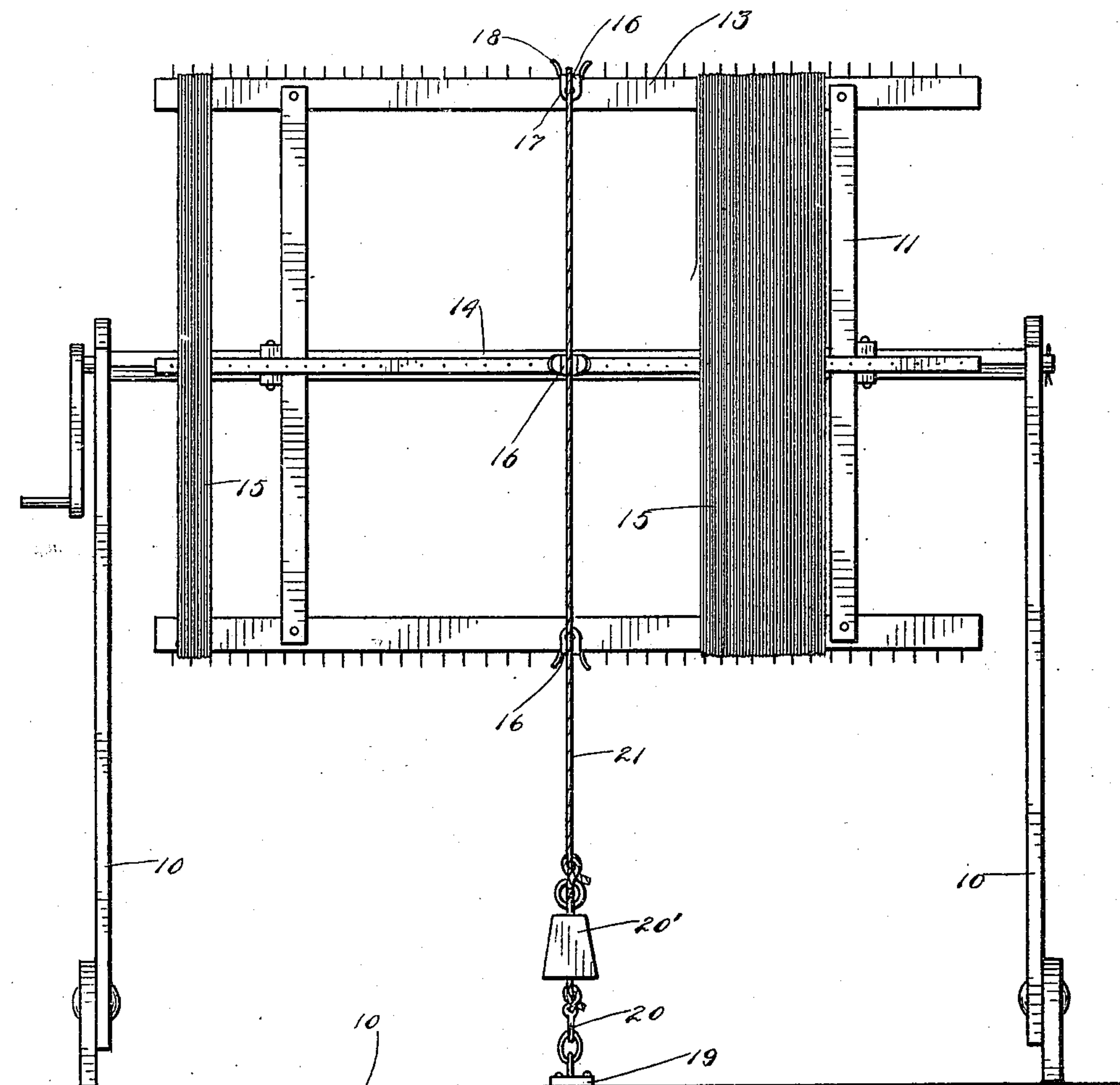


Fig. 1

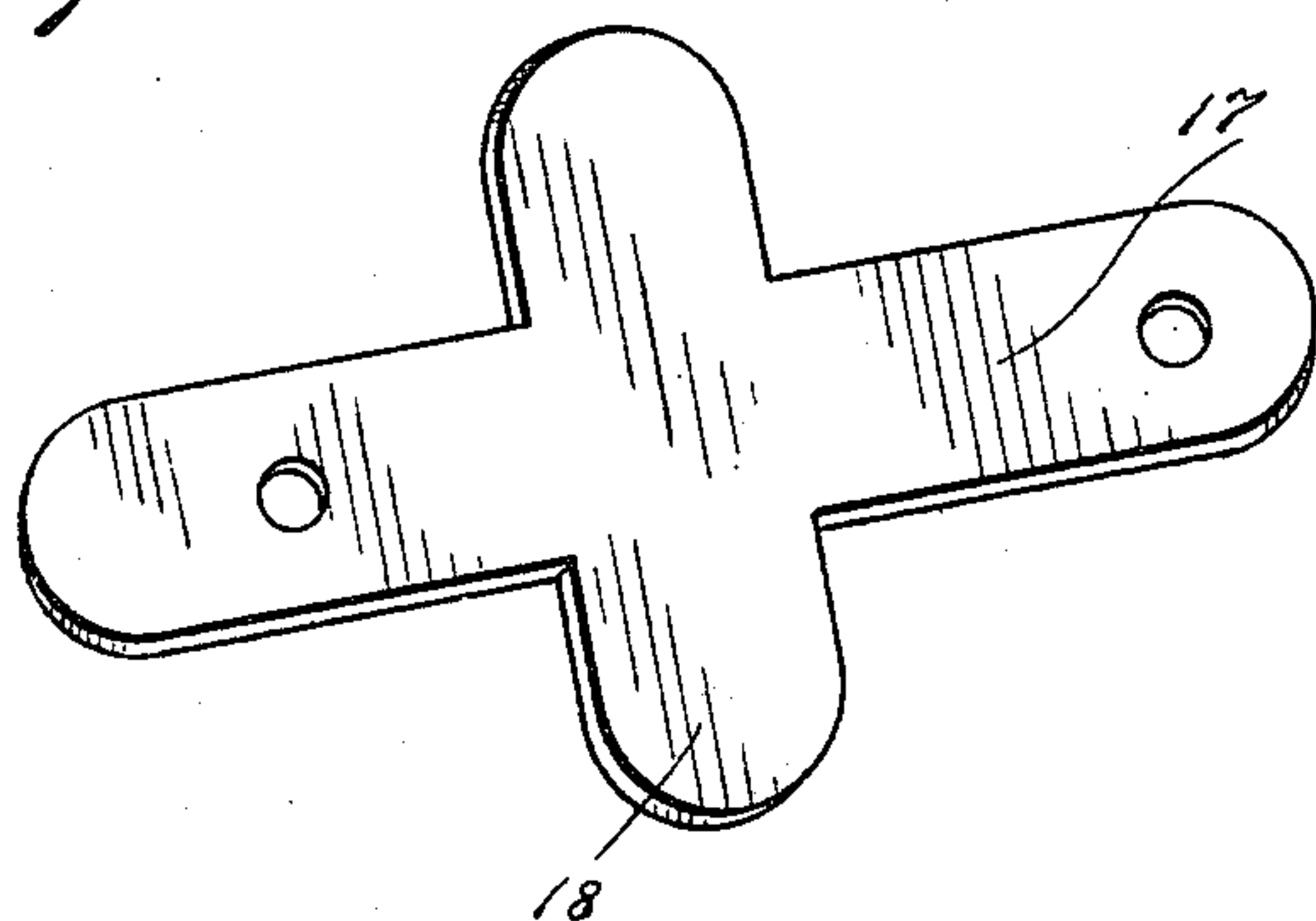


Fig. 4

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2 SHEETS—SHEET 2.

Fig. 2

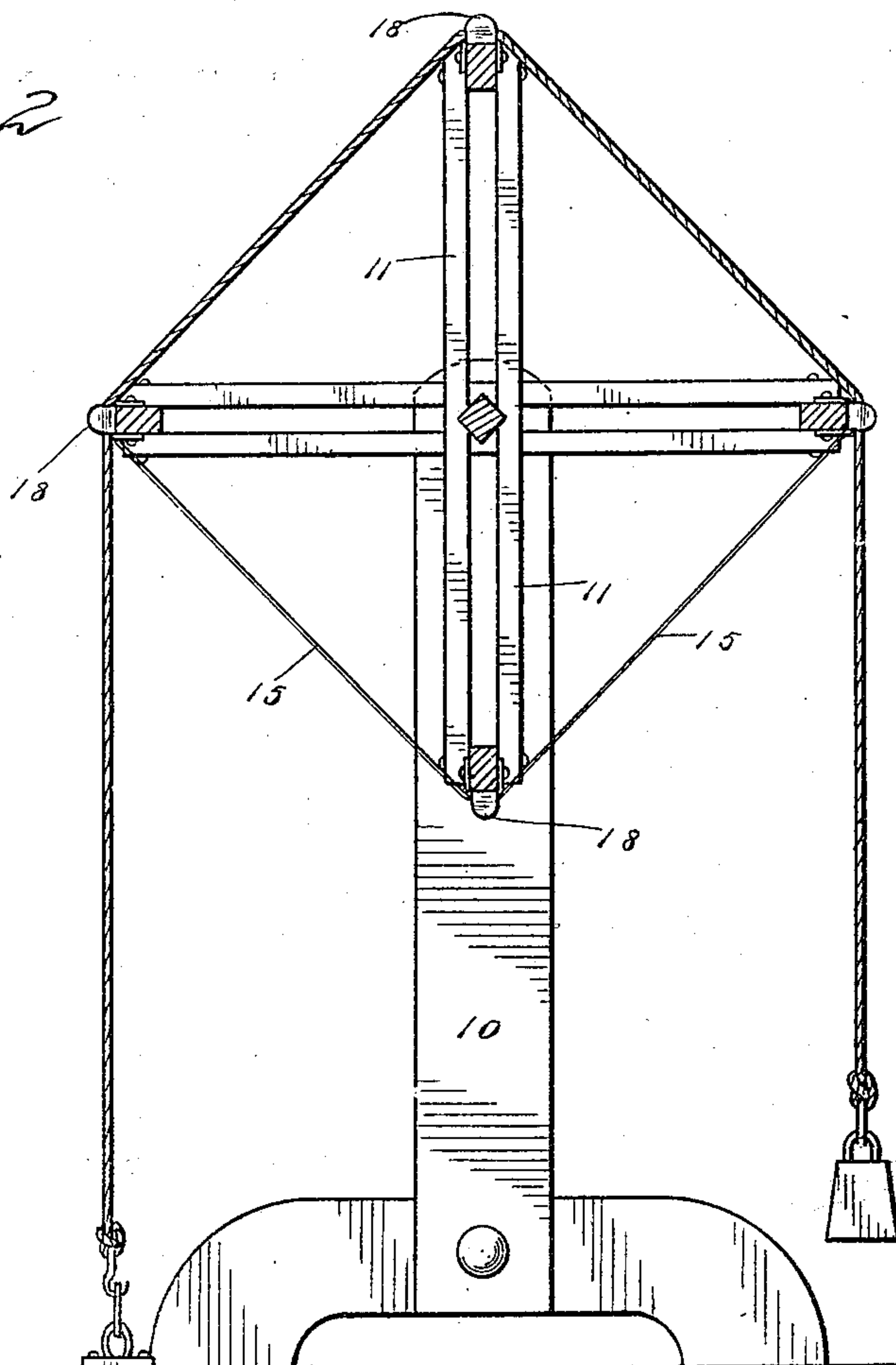
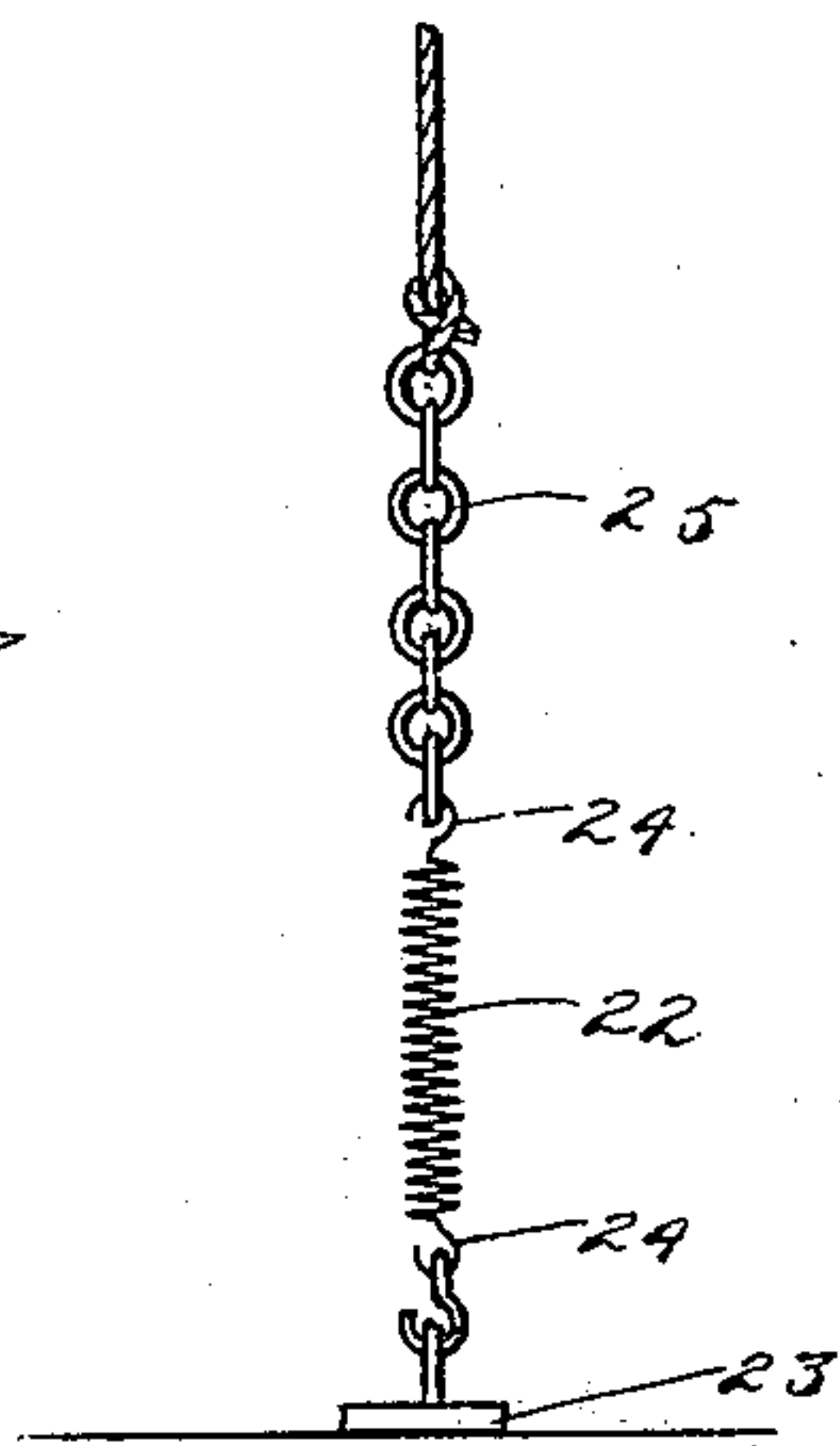


Fig. 3



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UNITED STATES PATENT OFFICE.

ROSELIA P. HILL, OF CHARLES CITY, IOWA.

TENSION FOR WARP-REELS AND HAND-LOOMS.

975,618.

Specification of Letters Patent.

Patented Nov. 15, 1910.

Application filed May 4, 1910. Serial No. 559,262.

To all whom it may concern:

Be it known that I, ROSELIA P. HILL, a citizen of the United States, residing at Charles City, in the county of Floyd and State of Iowa, have invented certain new and useful Improvements in Tensions for Warp-Reels and Hand-Looms, of which the following is a specification.

This invention relates to hand operated looms, and has for its object to provide an efficient form of tension for the warp reel in such devices. In the accomplishment of this aim suitable guide members are attached to the reel, and a flexible member anchored at one end and carrying a weight at the other is disposed in the guide members, the weight serving to apply the brake upon the reel.

It is an important object to provide a guide member for the reel which will be adapted to use with either straps or ropes for the support of the weight.

Another object is to provide a suitable form of guide member adapted to be stamped integrally from sheet material and attached to any reel of ordinary construction.

Other objects and advantages will be apparent from the following description, and it will be understood that changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is a front view of a reel equipped with my device, Fig. 2 is a transverse section, Fig. 3 is a similar view of a modified form of the device, Fig. 4 is an enlarged perspective view of the blank from which the guide is formed.

Referring to the drawings, there is shown a suitable framework 10, which may comprise a portion of a loom of any kind and which carries revolvably the reel 11 which may be of any suitable construction employing a series of longitudinally extending beams supported upon radial arms 11 carried upon a suitable shaft 14. A series of warp threads 15 are carried upon the reel, the strands being spaced longitudinally thereon, as shown in Fig. 1.

Carried upon each of the arms 13, there are suitable guide members 16 formed integrally of sheet material and comprising a central oblong body portion 17 adapted to be bent around the outer portions of the arm 13 and having suitable perforations

therethrough for the reception of fastening means, the body portion 17 being provided at its central part with opposite extensions 18 which are bent outwardly in a direction opposite to the direction of bending of the body portion, forming a space adapted to guide a rope, strap or other suitable flexible member, to be subsequently indicated. Preferably, the bending of the opposite portions of the body member 17 is done on a curve, in order to reduce abrasion of the members supported thereon to a minimum degree. The extensions 18 are also curved outwardly at their edges to further reduce abrasion.

The framework 10 is supported upon a suitable floor 10' secured to which adjacent one side of the reel is a suitable ring or anchor 19 in which there is detachably engaged a hook 20 carried by a suitable flexible lug or strap 21 extending upwardly and being set slidably between the divergent arms formed by the extensions 18 previously described. The flexible member is carried entirely over the reel and downwardly upon the opposite side, and has attached to its other end a suitable weight 20', arranged to be adjusted to various tensions upon the flexible member, as desired. Thus when the device is in use and the warp threads are being unwound therefrom under the operation of the loom, the flexible member 21 will exert frictional resistance to the rotation of the reel, holding the warp threads at a proper tension.

In Fig. 3 there is shown a modification of the device in which the weight is replaced by a suitable spring 22 attached to a suitable anchor member 23 upon the floor at the opposite side of the reel from the anchor member 19. The spring 22 is provided with hooks 24 at opposite ends, one of which is engaged with one of the links of a chain 25 carried by the pendent end of the flexible member. This chain is of some length, and the links are sufficiently large to allow the engagement of the upper hook 24 therein at any desirable point. It will be seen that the tension upon the spring 22 may be varied to meet varied strains produced by differences in the quantity of warp threads used, and the decreasing quantity of warp upon the reel.

It will be seen from the foregoing that an extremely cheap and effective tension is herein provided which may be readily disengaged from a loom, and which is adapted

to be readily applied to nearly all of the usual forms of looms now in use.

What is claimed is:

1. In a device of the class described, the
5 combination with a reel having a plurality of spaced arms, of guide members carried upon each arm, a flexible member stretched over certain of the guide members and extending over the top of the reel, an anchor
10 member, one end of said flexible member being attached to the anchor member and adjustable tension means carried at the opposite end of the flexible member.

2. In a device of the class described, the
15 combination with a reel comprising a revoluble frame including a plurality of longitudinally extending laterally spaced supporting arms, guide members carried by each arm, a flexible retarding member ex-
20 tended over said reel and resting in said guide members, one end of the flexible member being anchored, and adjustable tension

means carried by the opposite end thereof, as and for the purpose described.

3. In a device of the class described, the
25 combination with a reel comprising a revoluble frame including a plurality of longitudinally extending laterally spaced supporting arms, guide members carried by each arm, a flexible retarding member ex-
30 tended over said reel and resting in said guide members, one end of the flexible member being anchored, a chain carried at the other, an anchor therebeneath and a resilient member connected to the anchor and having
35 a hook thereon adjustably engaged with the chain.

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

ROSELIA P. HILL.

Witnesses:

MORTON WILBUR,
SUSIE SHIPLEY.