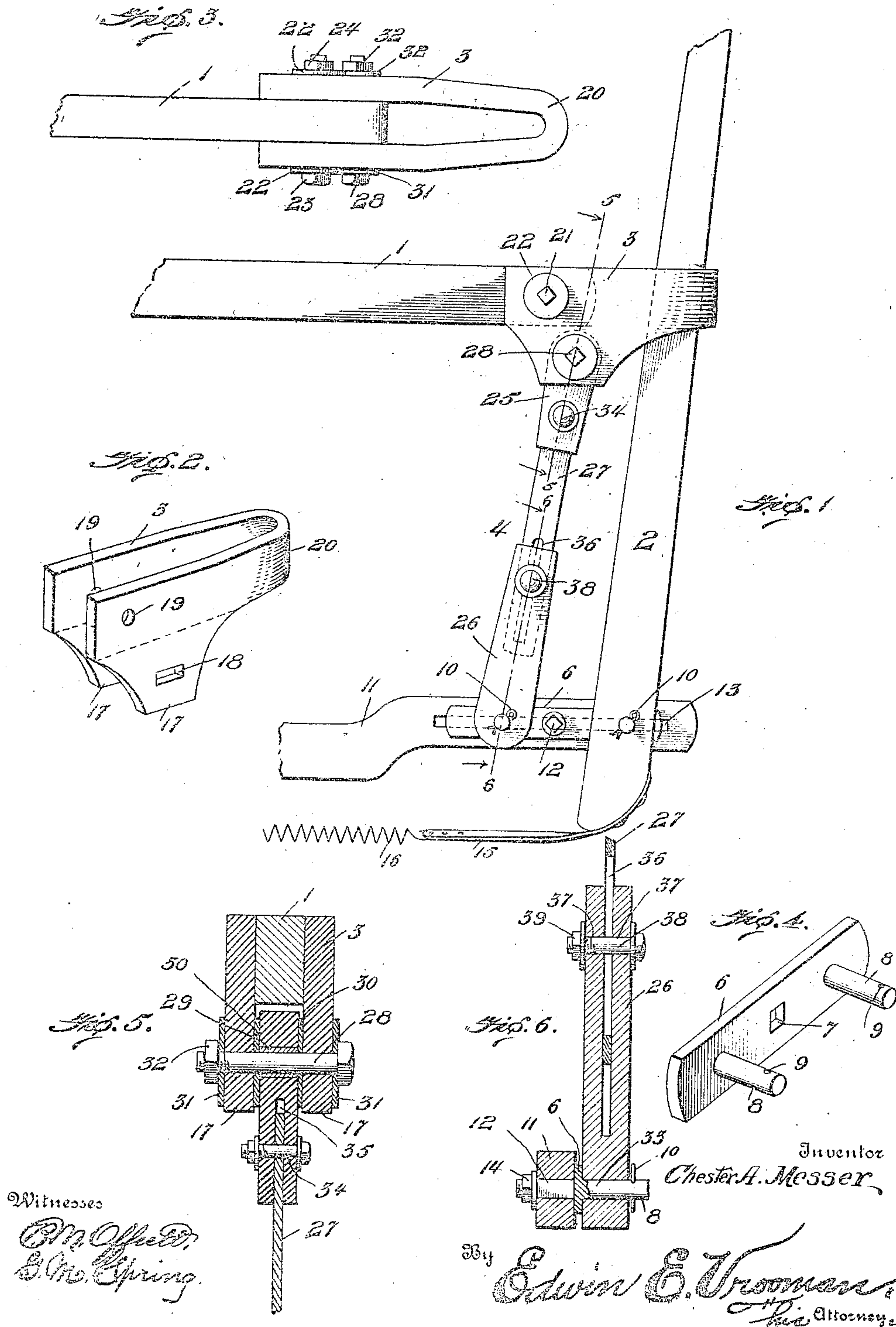


No. 873,767

PATENTED DEC. 17, 1907.

C. A. MESSER.  
POWER GAGE AND LUG STRAP FOR LOOMS  
APPLICATION FILED MAY 19, 1906.





# UNITED STATES PATENT OFFICE.

CHESTER A. MESSER, OF EAST MADISON, MAINE.

## POWER-GAGE AND LUG-STRAP FOR LOOMS.

No. 873,767.

Specification of Letters Patent.

Patented Dec. 17, 1907.

Application filed May 19, 1906. Serial No. 317,730.

*To all whom it may concern:*

Be it known that I, CHESTER A. MESSER, a citizen of the United States, residing at East Madison, in the county of Somerset and State of Maine, have invented certain new and useful Improvements in Power-Gages and Lug-Straps for Looms, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to improvements in looms, and particularly to a power gage and lug strap therefor.

The object of the invention is the provision of means for facilitating the transmission of power of increasing force to the picker stick during each forward movement of the same, for causing the shuttle to travel through a shed of warp.

With this and other objects in view, the invention consists of certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the drawings: Figure 1 is a view in side elevation of a device constructed in accordance with the present invention. Fig. 2 is a perspective view of my improved lug strap. Fig. 3 is a top plan view of my lug strap attached to one end of a sweep stick. Fig. 4 is a perspective view of the stud-plate. Fig. 5 is a vertical, sectional view taken on line 5, 5, Fig. 1. Fig. 6 is a vertical, sectional view taken on line 6, 6, Fig. 1.

Referring to the drawings by reference numerals, 1 designates the sweep-stick, through the medium of which movement is imparted to the picker-stick 2. The sweep-stick is connected to the picker-stick by means of my improved lug strap 3. It is desirable to adjust the position of the lug strap with respect to the picker-stick for throwing the shuttle with more or less velocity, and this is accomplished through the medium of my sectional power gage 4, hereinafter specifically described. The adjustment of the lug strap 3 up or away from stud-plate 6, upon which the picker-stick 2 is supported, applies less power to the shuttle, and if the lug strap 3 is moved downward or towards stud-plate 6, the power applied to the shuttle is increased. As the specific structure of the sweep-stick 1 and the picker-stick 2 is immaterial so far as my invention is concerned, it will be understood that any structure known to the prior art may be employed in con-

structing a device in accordance with my invention.

The stud-plate 6 is provided with a square aperture 7, preferably formed centrally therein, and said plate is provided with studs 8, 8 extending from one side thereof. These studs are preferably formed integrally with stud-plate 6. Each stud 8 is provided with an aperture 9. Within the apertures 9 of the studs 8, suitable spring cotters 10 are positioned for securing the picker stick 2 and the power gage 4 upon the said stud-plate 6. The stud-plate 6 is adjustably secured in a horizontal position upon the supporting arm 11 of the loom by means of a bolt 12, which is provided with a shank square in cross-section, so that when the shank is positioned in the square aperture 7 and the elongated aperture 13 of the supporting arm 11, rotary movement will be prevented, and consequently the stud-plate 6 will be held in horizontal, parallel position with the supporting arm 11. By means of the apertures 7 and 13 and bolt 12, the stud-plate 6 and the supporting arm 11 are effectually secured together when the nut 14 is tightened upon said bolt.

The picker-stick 2 is held in its normal position through the medium of an ordinary strap 15 and a spring 16; the spring 16 being adjustably secured at one end to the strap 15 and at its opposite end to any suitable support or part of a loom.

The substantially U-shaped strap 3 is preferably formed of flexible material, as for instance, leather, and is cut from a single or a plurality of pieces of material and folded over for placing the ends in substantially parallel position, Figs. 2 and 3. It is immaterial, so far as the nature of the invention is concerned, whether the lug strap is made from a single piece, or a plurality of pieces, the pieces being secured together in parallel position. The lug strap 3 is provided with depending ears 17. In each ear there is formed a horizontally extending, elongated aperture 18. Upon each side of the lug strap 3, and near the upper, horizontal edge thereof, there is formed an aperture 19. By reason of the peculiar structure of my folded strap, a very efficient device is produced. Through the action of the lug strap traveling downward upon the picker stick, and at the same time traveling forward during the "pick" of the loom, and also necessarily very



tightly hugging the picker-stick, it can be seen that the old, straight lug strap would very quickly cramp upward from the point where it is fastened to sweep stick 1. To overcome this fault, it is necessary, to get a perfect picking loom, to have the lug strap of some soft or flexible material, yet strong enough to perform the work, and as heretofore stated, I preferably use leather, for it has been found to be more suited to this work than any other material.

By the shape and construction of my lug strap, I have overcome the tendency of cramping upward, as the width between the sides of my lug strap varies (see Figs. 2 and 3) from the front ends or point of fastening to power gage 4 and sweep stick 1, tapering to the outer, curved or rounded end 20, thus forming a brace for said end, holding it downward in its correct position which is in a straight line with the top of sweep stick. Furthermore, the tapering structure of the strap, see Fig. 3, obviates the liability of the sharp corners of the picker-stick 2 cutting said strap, which is often the case with ordinary lug straps, provided with sides spaced apart the same distance throughout their entire length. The lug strap is rigidly attached to the sweep stick 1 by means of a bolt 21, which bolt is positioned within an aperture formed in the sweep stick 1, and the apertures 19 of the lug strap 3. Of course, it will be obvious that the apertures 19 register with the aperture of the sweep stick, and I preferably position washers 22, 22 upon bolt 19 against the outer surfaces of the lug strap, 3 against which washers, the head 23 of the bolt and nut 24 are positioned.

The power gage 4 comprises an upper, bifurcated member 25 and a lower, bifurcated member 26. An intermediate member 27 connects the upper and lower members 25 and 26. The upper, bifurcated member 25 is positioned between the depending ears 17, 17 of the lug strap 3. The bolt 28 is positioned within the elongated apertures 18, 18 of the ears 17, 17 of the lug strap 3, and upon said bolt, a sleeve 29 is mounted between the ears 17, 17. Washers 30, 30 are positioned upon the bolt 28 against the inner surfaces of the depending ears 17. The ends of the sleeve 29 abut against the washers 30, 30. Positioned upon the bolt 28 and against the outside of the depending ears 17, are washers 31, 31. An ordinary nut 32 is threaded upon the bolt for securing the parts in their assembled position.

The lower, bifurcated member 26 is provided with an aperture 33, within which is positioned one of the studs 8, whereby the power gage is pivotally mounted upon the stud-plate 6. The intermediate member 27 is preferably formed of a flat bar and is provided with an upper aperture in which any suitable fastening means, as bolt 34, is posi-

tioned for securing the upper end of said member 27 within the bifurcated portion 35, Fig. 5, of the upper, bifurcated member 25. The upper, bifurcated member 25 is provided with apertures registering with the aperture formed in the upper portion of the intermediate member 27, through which the bolt 34 extends. The intermediate member 27 is provided with an elongated aperture 36 formed near its lower end. The lower, bifurcated member 26 is provided with registering apertures 37, Fig. 6, similar to the upper, bifurcated member 25, within which apertures 37, any suitable fastening means, as for instance, bolt 38, is positioned for securing the intermediate member 27 in an adjusted position. This fastening or holding of the intermediate member 27 in an adjusted position with respect to the lower, bifurcated member 26, is accomplished by reason of the fact that the material of which the lower, bifurcated member is formed is of sufficient resiliency to clamp the intermediate member when the nut 39 is threaded upon the bolt 38. I have found from actual experience that by tightening the nut 39 upon the bolt, the outer ends of the bifurcated portions of member 26 will hold the intermediate member in any adjusted position between the bifurcated portions of said member 26. I preferably form the upper, bifurcated member 25 of stiff leather, while the lower, bifurcated member 26 is preferably formed of wood, or any analogous material. By loosening nut 39, the lug strap may be adjusted longitudinally upon the picker stick 2, and subsequently nut 29 may be threaded upon the bolt 38, and the lug strap will thereby be held in its adjusted position.

I have found from experience that the lower portion of the power gage 4 should always be in the same relative position with respect to the picker stick 2, the top thereof should be made slightly adjustable towards or away from the picker stick, and to provide for this slight adjustment, I have formed the elongated slots or apertures 18 in the depending ears 17 of the lug strap 3. The object in adjusting top of power gage is to alter its relative position to the picker-stick regardless of the position of the picker-stick. By this adjustability of the upper end of the power gage, the lug strap can be caused to move downward to a more or less extent during the pick of the loom, thus securing a hard or a light "pick," as is desired. The alteration or adjustment of the upper end of the power gage 4 need only be very slight to secure desired results.

The depending ears of lugs 17 of my lug strap reinforce and strengthen the entire strap, besides constituting a brace for the rear end 20 of said strap. Furthermore, by employing the depending ears, flexible material may be employed in constructing the



strap, which is very desirable, as a flexible strap works far better than a metallic strap. Another advantage of my depending ears or lugs lies in the fact that the power-gage is 5 connected beneath and contiguous to the sweep-stick 1, which leaves the rear portion of my strap free, and, therefore, only necessitates the strap to be of sufficient length to allow the movement of the picker-stick 2 10 therein, and to surround said stick.

What I claim is:

1. In a loom, the combination with a sweep-stick, a supporting arm, and a picker-stick mounted upon said supporting arm, of 15 a lug strap carried by said sweep-stick and in engagement with said picker-stick, depending ears formed upon said lug strap, each ear provided with an elongated aperture, and means engaging the apertured portions of 20 the ears and connecting said lug strap to said supporting arm.

2. In a loom, the combination with a sup-

porting arm, and a sweep-stick, said supporting arm provided with an elongated aperture, of a stud-plate in engagement with 25 said supporting arm, said stud-plate provided with a squared aperture and with laterally extending studs, fastening means positioned within the squared aperture of said stud-plate and within the elongated aperture of 30 said supporting arm for securing said plate upon said arm, a picker-stick mounted upon one of said studs, a lug strap secured to said sweep-stick and in engagement with said picker-stick, and means engaging and con- 35 necting the other stud of said plate and said lug strap.

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

CHESTER A. MESSER.

Witnesses:

FORREST GOODWIN,  
M. L. BOWMAN.