Jan. 24, 1928. 1,657,044

G. SIPP

BRAKING ATTACHMENT FOR WARPING AND BEAMING MACHINES

Filed Sept. 25, 1926 2 Sheets-Sheet 1

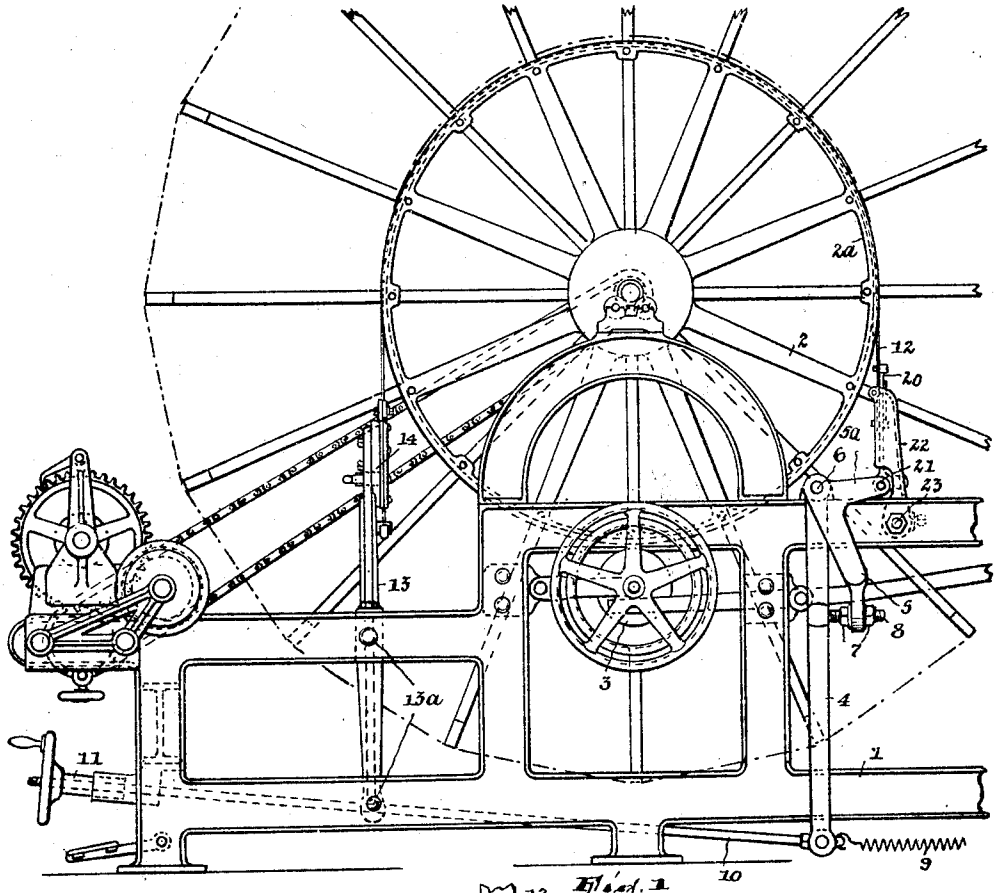


Fig. 1.

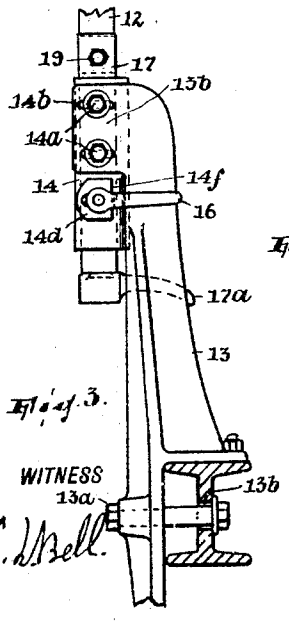


Fig. 3.

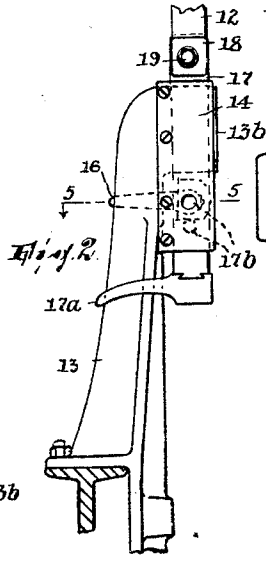


Fig. 2.

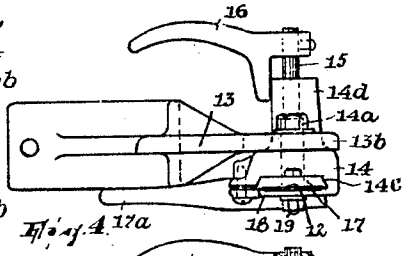


Fig. 4.

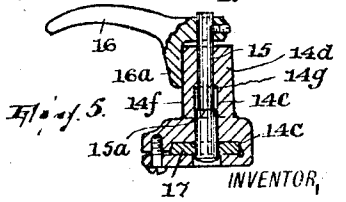


Fig. 5.

WITNESS
13a
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2 Sheets-Sheet 2

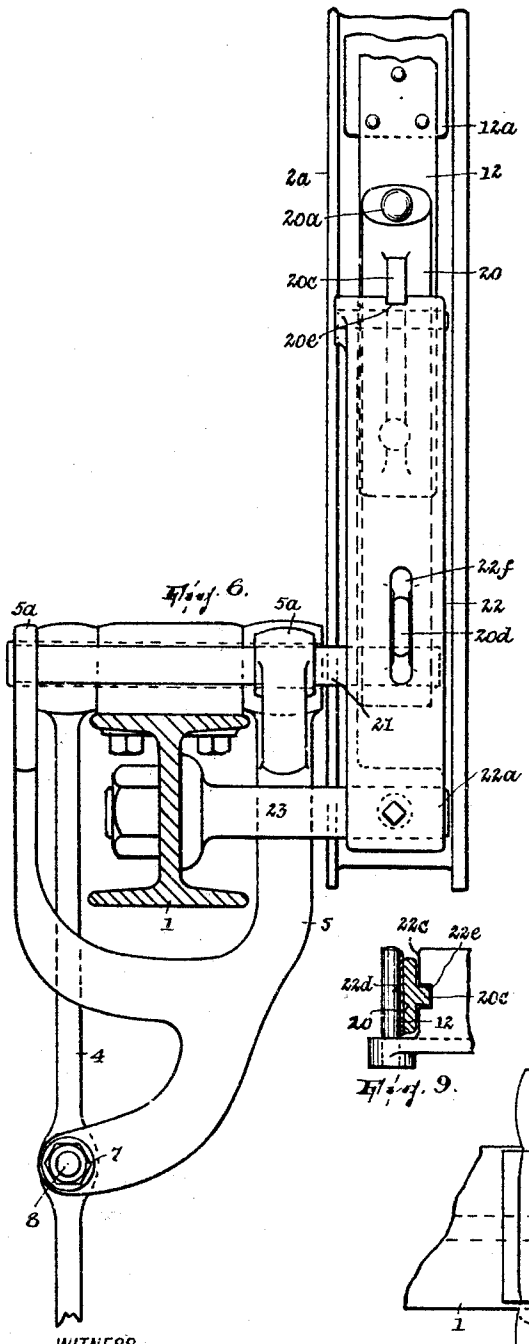


Fig. 6.

Fig. 9.

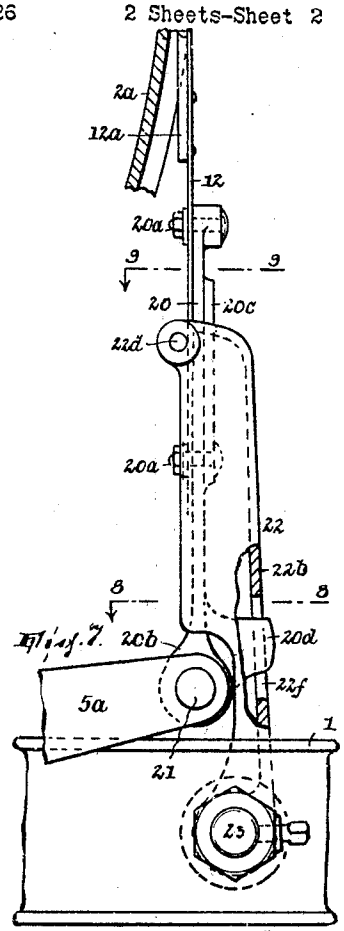


Fig. 7.

Fig. 8.

WITNESS

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Patented Jan. 24, 1928. 1,657,044

UNITED STATES PATENT OFFICE.

GRANT SIPP, OF PATERSON, NEW JERSEY.

BRAKING ATTACHMENT FOR WARPING AND BEAMING MACHINES.

Application filed September 25, 1926. Serial No. 137,767.

This invention relates to warping and beaming machines and it has reference particularly to the means for positioning and causing the tautening or effecting the relaxation of the brake strap which is employed during beaming to resist the rotation of the reel of the machine, being released during warping. The invention consists in certain improvements of means of this class which will be found set forth in my Letters Patent No. 1,401,655.

In the drawings,

Fig. 1 is a side elevation of a warping and beaming machine embodying the present invention;

Figs. 2, 3, 4 and 5 are views illustrating the means to which one end of the brake strap is attached, Figs. 2 and 3 being opposite elevations of said means as seen from the right and left in Fig. 1, Fig. 4 a plan of said means, and Fig. 5 a section on line 5—5 of Fig. 2; and

Figs. 6, 7, 8 and 9 are views illustrating the means to which the other end of the brake strap is attached, Fig. 6 being an elevation as seen from the right in Fig. 1, Fig. 7 a front elevation, partly broken away and Figs. 8 and 9 sections on lines 8—8 and 9—9 of Fig. 7.

The frame 1, reel 2 and means for driving the reel including a suitably rotated friction wheel 3 to be brought against the peripherally grooved brake-wheel 2^a of the reel so as to drive the reel, are all the same as in my said patent; and this may also be true of a lever structure shown as comprising two levers 4 and 5 adjustable with reference to each other around a common fulcrum 6 by manipulating nuts 7 which are arranged in clamping relation to one of said levers on a threaded stud 8 which projects from the other, and it may also be true of the spring 9 acting on said lever structure to shift it in one direction and the means shown for manually shifting it in the other direction, the latter means including a threaded rod 10 connected with said lever structure and a nut 11 on the threaded portion of the rod and seated against the frame. The brake-strap 12 may follow a known construction in so far as it includes a metal strip having a leather lining 12^a (Fig. 7), but the strip is preferably somewhat thicker and hence stiffer than usual.

13 is a standard which rests on one side of the frame and is rigidly bolted thereto at 13^a. Its upper end portion 13^b is flat (Fig. 4) and is bent inward into the plane of the brake-wheel 2^a of the reel. It is provided with a head 14 in the form of a vertically elongated casting secured against one face of its portion 13^b by cap screws 14^a, and this head has a vertical passage or guideway 14^c; said head also has a laterally elongated boss 14^d and extending horizontally through the head and its boss is a bore 14^e the boss-end of which is reduced as shown in Fig. 5. The boss has a flat lateral face 14^f. A pin 15 slides in the bore 14^e and has a reduced portion received by the reduced portion of said bore and projecting from the latter, its projecting end having a handle 16 secured thereto which has a projecting lug 16^a formed with a flat face in wiping contact with the flat side 14^f of the boss. The pin by means of the handle may be withdrawn clear of the guideway 14^e or until its shoulder 15^a encounters the stop 14^g in the bore, and in any position of the pin its handle is maintained by the face 14^f in a horizontal position. The guideway 14^e receives a slide 17 provided with a laterally projecting handle 17^a at its lower end and two holes 17^b one above the other (Fig. 3). This slide, which is a supporting member for one end of the brake-strap, projects above the head 14, and against one face thereof, by means of a clamping plate 18 and a bolt 19, the adjoining end of the brake-strap is secured. It may be remarked that one or both of the holes in the frame which receive the bolts 13^a are enlarged (as at 13^b, Fig. 3) to permit the upper end of the standard to be adjusted toward or from the brake-wheel. (Adjustment of this end portion of the brake-strap parallel with the reel axis may be afforded by forming horizontal slots 14^b in 14 to receive the bolts 14^a). The construction is such as to permit the brake-strap to be readily set to the required braking pressure for beaming or for warping by manipulating nut 11, as will be obvious. It is also such that the attendant can raise the brake-strap to idle position (broken line, Fig. 1), as (if desired) when warping, either by manipulating said nut, or, if he wishes not to disturb the pressure-adjustment which depends on the nut, by withdrawing pin 15 and elevating the slide 17 and relocking it in its new position by in-

serting said pin in the appropriate holes 17^b. The standard 13 and its associated parts afford an anchorage means for one end of the brake-strap.

The anchorage means for the other end of the brake-strap is afforded as in my patented construction by the lever structure 4—5, the lever 5 of which has a stud 21 fixed in two arms 5^a thereof and to which the terminal portion of the brake-strap is immediately attached. Said terminal portion or end of the brake-strap is afforded by a flat bar 20 secured to the strap proper by bolts 20^a and having an eye 20^b receiving and pivoted on said stud, such terminal portion or end being thus inflexible; the bar, which upstands from the stud, has on its outer side a rib 20^c and also a flat fin 20^d, the former near its upper end and the latter at its pivot end. One of the objects of my present invention is to provide for adjustment of this end of the brake-strap parallel with the reel axis so as to true the brake-strap transversely of the brake-wheel periphery and thereby make it possible to avoid certain rubbing and wearing of the brake-wheel flanges by the strap, which has heretofore been a troublesome condition in machines of this class.

For effecting this adjustment 22 is an elongated casting which affords a keeper or support for maintaining in upright position the said terminal portion of the brake-strap, being L-shaped in cross-section and having an eye 22^a whose axis is parallel with the plane of its wall 22^b and which receives a stud 23 fixed in the frame parallel with the reel axis, the eye having a set screw 24 to secure it fast to the stud. At the free end of this keeper its wall 22^b is deflected toward the brake-wheel to form a jaw 22^c and opposite to and extending parallel with this jaw is another jaw 22^d formed by a pin fixed in the casting, the two jaws forming a narrow space (Fig. 9) which receives the inflexible terminal portion of the strap. Wall 22^b has a slot 22^f which receives the fin 20^d, whereby said terminal portion and the keeper are interlocked for movement together lengthwise of the reel axis and the keeper affords means for adjusting the said terminal portion of the strap transversely of the periphery of the brake-wheel.

When the brake-strap is elevated it is my purpose to have it stand substantially if not entirely out of contact with the brake wheel at any point; it has enough stiffness so that its arcuate portion will retain substantially the semicircular form, and so the strap will not touch the brake-wheel when it is elevated if only its depending tangent portions are prevented from buckling and are held properly spaced from the brake-wheel's periphery. It is also my purpose to provide against the strap sagging over transversely of the brake-wheel periphery when it is elevated to a position perhaps clear of the brake-wheel flanges. Therefore both the inflexible portion of the brake-strap and the anchorage means afforded by 13 and its associated parts, the former held upright as described by the keeper 22, extend close up to the horizontal diameter of the brake-wheel, and each is adjustable in a way to urge the corresponding end portion of the strap toward or from and thus space it the desirable distance from the brake-wheel periphery, to wit, by tilting of 13 and by tilting keeper 22 on its stud or pivot 23. To insure against any sagging over of the strap transversely of the brake-wheel periphery due to possible looseness at 21 I prefer to provide the mentioned rib 20^c and have it engage a notch 22^e in the support 22 (Fig. 9).

It is to prevent buckling of the brake-strap at the right hand end portion thereof in Fig. 1 when the other end portion is elevated that I form the first-named end portion inflexible, pivoting it to its anchorage means, and support it in an upright position by the keeper 22; and the construction is thus such that if the anchorage means 4—5 is a lever the same can function as herein set forth without any binding of the inflexible end portion of the brake-strap in the guide then afforded by the keeper.

Having thus fully described my invention what I claim and desire to secure by Letters Patent is:

1. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a stiff flexible brake-strap adapted to extend over and in peripheral contact with a part of the reel, and anchorage means to which the ends of said strap are attached, one such end being adapted to depend from the reel and being releasably held by the corresponding anchorage means and shiftable up or down relatively to such means when released thereby to slacken or tighten the strap.

2. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a brake-strap adapted to extend over and in peripheral contact with a part of the reel, anchorage means to which one end of the strap is connected, the other end of the strap being adapted to depend from the reel, and other anchorage means including a relatively fixed part and a supporting member for said other end of the strap attached thereto and movable up or down relatively to said part, and means to releasably secure said member to said part at different positions to which the former is movable.

3. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a brake-strap extending over the reel and having its end portions depending therefrom, anchorage means for said

end portions, one of said end portions being inflexible and being pivoted to the anchorage means, and means, engaging said inflexible end portion at a point removed from the pivot between the same and the anchorage means, for supporting said end portion in an upright position.

4. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a brake-strap extending over the reel, means at the end portions of the strap to hold the same taut, said strap at one end portion thereof being shiftable relatively to the holding means lengthwise of the reel axis, and means to adjust said strap at said end portion in the direction in which it is shiftable.

5. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a stiff flexible brake-strap extending over the reel and having one end portion movable to tauten or slacken the strap and also having one end portion depending from the reel, means at the end portions of the strap to hold the strap taut, and a fixed keeper engaging said depending end portion between the reel and said means and holding said portion upright.

6. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a stiff flexible brake-strap extending over the reel and having one end portion movable to tauten or slacken the strap and also having one end portion depending from the reel, means at the end portions of the strap to hold the strap taut, and a fixed keeper engaging said depending end portion between the reel and said means and holding said portion upright, said keeper being adjustably shiftable lengthwise of the reel axis and said depending portion being interlocked therewith to shift therewith.

7. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a stiff flexible brake-strap extending over the reel and having one end portion movable to tauten or slacken the strap and also having one end portion depending from the reel, means at the end portions of the strap to hold the strap taut, and a fixed keeper engaging said depending end portion between the reel and said means and holding said portion upright, said keeper being adjustably shiftable around an axis parallel with the reel axis and engaged with said depending portion to urge the same toward or from the reel on shifting of the keeper.

8. In a machine of the class described having a reel revoluble on a horizontal axis, the combination of a stiff flexible brake-strap extending over the reel and having one end portion movable to tauten or slacken the strap and also having one end portion depending from the reel, means at the end portions of the strap to hold the strap taut, and a fixed keeper engaging said depending end portion between the reel and said means and holding said portion upright, said keeper being adjustably shiftable lengthwise of the reel axis and also adjustably shiftable on a pivot parallel with the reel axis and having said depending portion engaged therewith to partake of its shifting both lengthwise of and around said pivot.

In testimony whereof I affix my signature.

GRANT SIPP.