T. LYNCH.

HITCHING STRAP.

APPLICATION FILED FEB. 9, 1912.

1,041,644. Patented Oct. 15, 1912.

Fig. 1.

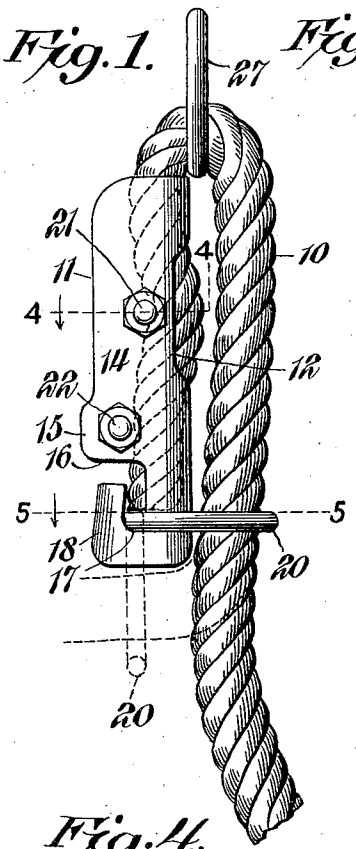


Fig. 2.

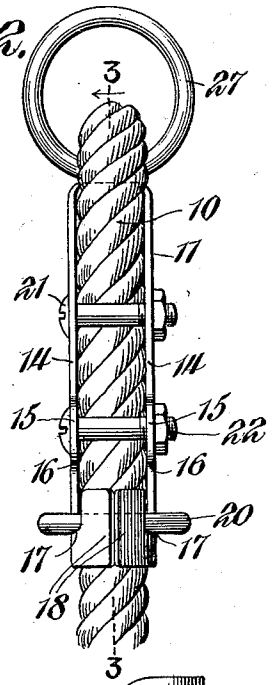


Fig. 3.

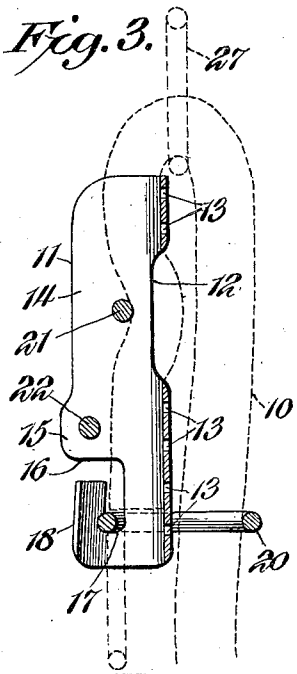


Fig. 4.

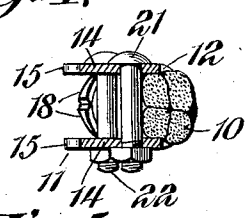


Fig. 6.

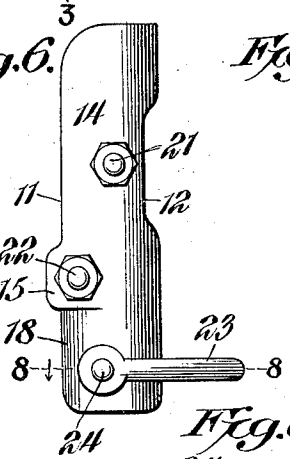


Fig. 7.

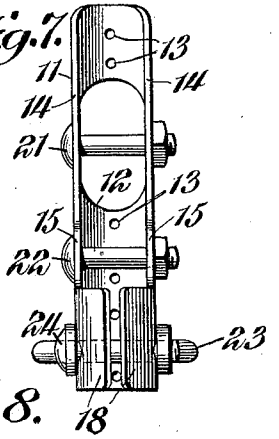


Fig. 5.

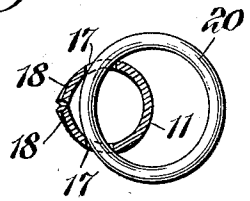
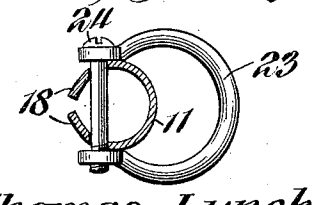


Fig. 8.



WITNESSES

Howard D. Orr.

J. Stewart Rice.

Thomas Lynch, INVENTOR,

BY E. G. Siggers.

ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS LYNCH, OF JEFFERSON, IOWA.

HITCHING-STRAP.

1,041,644. Specification of Letters Patent. Patented Oct. 15, 1912.

Application filed February 9, 1912. Serial No. 676,582.

To all whom it may concern:

Be it known that I, THOMAS LYNCH, a citizen of the United States, residing at Jefferson, in the county of Greene and State of Iowa, have invented a new and useful Hitching-Strap, of which the following is a specification.

My invention relates to improvements in hitching straps or ropes, and has for its object to provide a simple and inexpensive device which is applied and secured to the end of a strap or rope by means of two or more bolts or other fastening means, which may be readily transferred from one rope to another, which will effect an economy in the length of the rope or strap required to make the loop, and which will not draw tight or bind as is the case with the ordinary rope loop.

Other objects and advantages of my invention will appear in the course of the following description.

While the accompanying drawings represent what I consider the preferred embodiments of my invention, yet I reserve the right to make such changes in the form, proportion and arrangement of the parts of my hitching strap as the scope of the appended claims will permit.

In the drawings:—Figure 1 is a side view of my improved hitching rope, the locking ring being indicated in a locking position by full lines and in a non-locking position by dotted lines. Fig. 2 is a front view of the same showing the front or open face of the clamp. Fig. 3 is a longitudinal sectional view taken on the line 3—3 of Fig. 2, but with the rope indicated in dotted lines. Fig. 4 is a cross sectional view taken on the line 4—4 of Fig. 1 looking in the direction indicated by the arrow. Fig. 5 is a cross sectional view on the line 5—5 Fig. 1 looking in the direction indicated by the arrow. Fig. 6 is a side view of a modified form of rope clamp and locking ring with the hitching rope removed. Fig. 7 is a front view of the modified form shown in Fig. 6. Fig. 8 is a cross sectional view on the line 8—8 Fig. 6 looking in the direction indicated by the arrow.

Referring to the drawings by numerals, 10 designates the hitching rope or strap, one end of which is firmly secured in a clamp 11, which is made of light sheet steel tempered to give it sufficient spring to meet the requirements hereinafter set forth. As illustrated, the clamp 11 is U-shaped in cross section, except at one end where the sides are curved inwardly giving that end of the device a circular form, as seen in Figs. 5 and 8.

Contiguous to the outer end of and in the rounded bottom or inner closed wall of the clamp 11 is a longitudinally-extending slot 12 provided with rounded ends. As shown in Fig. 4 the slot is slightly wider than the width of the bottom or inner closed wall of the clamp.

Arranged centrally and longitudinally of and along the bottom of the clamp, at each side of the slot 12, are a series of spaced-apart, relatively small circular holes 13, for the purpose of increasing the flexibility and insuring a uniform bending of the oppositely-arranged, spaced-apart, correspondingly-shaped sides 14 of the clamp. The sides 14, which are normally substantially straight and parallel with respect to each other, except as herein specified, are rounded at their outer corners and then continued straight until they reach a point past the center where both sides are enlarged, as shown at 15.

Formed in each side 14 of the clamp is an oppositely-disposed, right-angular, registering slot 16, which comprises a vertical or longitudinal branch communicating with a horizontal or transverse branch. As shown, the closed end of each longitudinal branch of the slots is rounded, as at 17, and extends to a point where its center is relatively nearer the end of said clamp than the distance from the same point to the back or closed bottom of the clamp for a purpose to be hereinafter explained.

It has already been stated that one end of the clamp is of circular form. Its exact shape is shown clearly in Fig. 5. The two sides are bent or curved inwardly to a point where they touch each other, providing clamping fingers 18, which serve to close over and protect the extreme end of the rope within the clamp and prevent it unraveling, and by reason of the formation of the right-angular slots 16, said fingers serve another function which will presently be referred to. It will be observed from Figs. 1 and 3 that the fingers are bent inwardly toward their upper ends, whereby the upper ends of the vertical or longitudinal branches of the slots 16 are slightly contracted, said branches being adapted to receive a ring 20.

One end of the hitching rope or strap 10 is placed in the bottom of the clamp 11, as shown, with the extremity of the rope close enough to the ring 20 to limit its longitudinal movement, but still allow the ring to be swung, as on a pivot, using the space in which it is confined between the rounded inner end 17 of the slot and the end of the rope. The extremity of the rope practically comes in contact with that part of the ring which traverses the clamp. The rope therefore closes the slot above the ring and prevents the latter from becoming separated from the clamp as long as the rope is in place.

In each side 14 of the clamp, near the longitudinal center of the slot 12, are perforations which register. The distance of these perforations from the slot is so proportioned with respect to the diameter of the rope 10 used, that when the shank of a headed bolt 21 is passed through the registering perforations, said shank will bear against the inner side of the rope and force the outer side thereof through the slot some distance as illustrated.

At the enlargements 15, registering bolt holes are arranged in the sides 14, through which holes is projected the shank of a headed bolt 22. The bolt 22 passes across but close to the rope 10 and its office is to draw the sides of the clamp toward each other and securely clamp the rope in position. The bolt 21 also exerts a clamping action on the sides, but of course not to so great an extent as the bolt 22, because it is close to the rope.

Figs. 6, 7 and 8 illustrate a modified form of my invention, as shown in Figs. 1, 2, 3, 4 and 5, and as like numerals of reference are used to designate corresponding parts in the two forms, different numerals are applied to the altered parts. The modified form is the same as the preferred form except that the L-shaped or right-angular slots 16 are omitted, and in their stead are oppositely-arranged, circular holes. These holes are located at a point corresponding to where the inner ends of the slots terminate at 17. Adapted to aline with these holes at their outsides are the flat perforated rounded ends of a D-ring 23, and through the registering perforations is passed the shank of a headed bolt 24. The inner end of the clamp in this form is also made nearly circular in cross-section, as shown in Fig. 8, the sides of the clamp approaching close together, but not actually touching. The clamping fingers 18 for the end of the rope, which are provided by the bent-over portions of the sides of the clamp, perform only one function in this form, and that is, the protection and inclosing of the extremity of the rope contained within the sides of the clamp.

From the foregoing description of both forms of my invention, it will be apparent that the end of the rope will be firmly held in the clamp 11 against accidental displacement, while at the same time it is capable of instant release by simply withdrawing the bolts 21 and 22.

In applying my hitching strap or rope, the free end of the rope 10 after it is secured to the clamp is passed through a halter or bridle ring 27, for example, then through the locking ring 20 or the D-ring 23, while the latter is in the position shown in dotted lines in Figs. 1 and 3. When the ring is dropped down into its dotted line position, the effective diameter of the ring is increased so as to allow for the ready passage of the rope through the ring. After the rope has been drawn through the locking ring with the latter in the dotted line position, the locking ring is moved to the position shown in full lines in Figs. 1, 2 and 3, whereupon the rope will be retained in position. It has already been pointed out that the ring is pivoted nearer to the bottom or inner end of the clamp than to the back thereof, and as a result when the ring is swung from one position to the other, the effective diameter of the ring is increased or diminished. In the position shown in full lines Figs. 1, 2 and 3, the space within the ring is only slightly larger than the diameter of the rope which contacts with the ring, and such contact exerts a frictional resistance to prevent the hitching loop made in the rope from contracting or expanding. In the position shown in dotted lines, more of the diameter of the ring is exposed for the free passage of the rope. The spring of that portion of the rope lying between the outer end of the clamp and the locking ring will also assist in preventing the increase of the length of the hitching loop.

It is plain that an outward pull on the halter ring 27 throws the ring 20 in an inclined position and serves to tighten the grip of the locking ring on the rope. By this means the hitching loop remains in the confined position shown in Figs. 1, 2 and 3, and the increase or lessening of its size or diameter is avoided. It will therefore not draw too tight or bind as is the custom with the ordinary rope loop. Moreover, a saving of rope is effected in making a loop by the use of the device shown.

While in the drawings I have shown a rope and in the specification and claims have used the word "rope" in connection with my hitching strap, it is intended that the word "rope" shall be interpreted to cover any suitable substitute for a rope, such as a strap or chain.

What I claim is:—

1. In a hitching strap, a clamp, a hitching rope having one end secured to said clamp,

the free portion of said hitching rope projecting from one end of said clamp and bent back upon itself over said clamp and along the back thereof to form a loop, and a locking ring pivotally mounted contiguous the other or free end of said clamp, said hitching rope passing through said locking ring, the pivotal point of said ring being farther from the back of the clamp than from the end, whereby the ring is caused to engage said rope when in a position over the back of said clamp and will afford a free passage for said rope when the ring is swung to a position over the end of said clamp.

2. In a hitching strap, a clamp, a hitching rope having one end secured to said clamp, said hitching rope projecting from one end of said clamp and bent back upon itself over said clamp and along the back thereof to form a loop, and a locking ring pivotally mounted contiguous to the other or free end of said clamp and movable to occupy positions either transversely of the clamp or on a line therewith and projecting from the end, said rope being passed through said locking ring, whereby when said locking ring is moved to its transverse position said rope will be engaged by said locking ring to prevent the movement of said rope through said locking ring, and when said locking ring is moved to its lengthwise position said rope will have a free passage through said locking ring.

3. In a hitching strap, a clamp made of spring steel with two sides connected by a back wall so as to present a U-shape in cross-section, and provided with a slot in its back wall, a hitching rope having one end placed in said clamp against the back wall, a bolt connecting the sides transversely of said clamp and at one side of said slot, said bolt being adapted to bear against one side of said rope to press the other side through said slot, said hitching rope projecting from one end of said clamp, and releasable means carried by said clamp to secure said hitching rope against movement.

4. In a hitching strap, a clamp having a portion U-shaped in cross section, a hitching rope having one end secured in said clamp, bolts for connecting and flexing said clamp to grip said rope end, said clamp having an angular slot formed therein beyond the U-shaped portion contiguous the free end of said clamp, and a locking ring positioned in said slot and maintained therein by the end of said rope secured in said clamp, said hitching rope projecting from one end of said clamp and bent back over said clamp and extended through said locking ring, said locking ring being movable to engage said rope in adjusted positions.

5. In a hitching strap, a clamp, a hitching rope having one end secured in said clamp, the free portion of said hitching rope projecting from one end of said clamp and bent back upon itself over and along the back of said clamp, said clamp having an angular slot formed at its other or free end and opening out at the sides thereof, one branch of said slot being arranged longitudinally of said clamp forming clamping fingers, and a locking ring positioned in the longitudinal branch of said slot, said locking ring being adapted to releasably secure said hitching rope in position, said fingers being bent around to inclose the end of said rope secured in said clamp, and having their inner ends bent inwardly to contract the entrance to the longitudinally-extending branch of said slot.

6. In a hitching strap, a clamp, a hitching rope having one end secured in said clamp, the free portion of said hitching rope projecting from one end of said clamp and bent back upon itself over and along the back of said clamp, a locking ring pivotally mounted at the other end of said clamp, said locking ring being adapted to releasably secure said hitching rope in position, and clamping fingers formed at the end of said clamp contiguous to said locking ring, said fingers being bent over to form with the clamp an end substantially circular in cross section to inclose the end of said rope secured in said clamp and hold said rope end in position and prevent it from unraveling.

7. In a hitching strap, a clamp, a rope having one end secured to said clamp, the free portion of said rope projecting from one end of said clamp and bent back upon itself over said clamp and spaced from the back thereof to form a loop, and a locking ring carried by the other or free end of said clamp and pivotally mounted so as to swing from a position transversely of the clamp to a position longitudinally thereof, said hitching rope being passed through said locking ring, the parts being arranged whereby the turning of the locking ring to its transverse position brings it into frictional engagement with the rope, while the swinging of the ring to its longitudinal position allows the rope to freely pass therethrough.

8. In a hitching strap, a clamp made of spring steel with two sides connected by a back wall so as to present a U-shape in cross section, a portion of the back wall being slotted intermediate of the ends of the clamp, a hitching rope having one end placed between the sides of said clamp against the back wall, and then extended beyond the clamp and along the outside thereof in spaced relation to the back of said clamp, a bolt connecting the sides of the clamp transversely thereof and at one side and about midway of the slot in the clamp, said bolt being adapted to bear against one side of

said rope to press the other side through said slot, a separate bolt connecting the sides of the clamp and spaced from the second-mentioned bolt, and releasable means carried by said clamp and securing the hitching rope against movement.

9. In a hitching strap, a clamp, a hitching rope having one end secured to said clamp, the free portion of said rope projecting from one end of said clamp and then bent back upon itself over and along the back of the clamp in spaced relation thereto to form a loop, a locking ring pivotally mounted contiguous the free end of said clamp beyond the extremity of said rope, said locking ring engaging the free portion of the hitching rope to retain it in its looped position, and clamping fingers provided on the clamp to close around the end of the rope within the clamp and also assist in holding the locking ring in place.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

THOMAS LYNCH.

Witnesses:
JOHN STEVENSON,
A. P. FUHRMEISTER.