No. 841,165. PATENTED JAN. 15, 1907.

A. H. MEECH.

ROPE AND CABLE CLAMP.

APPLICATION FILED NOV. 24, 1905.

Fig. 4.

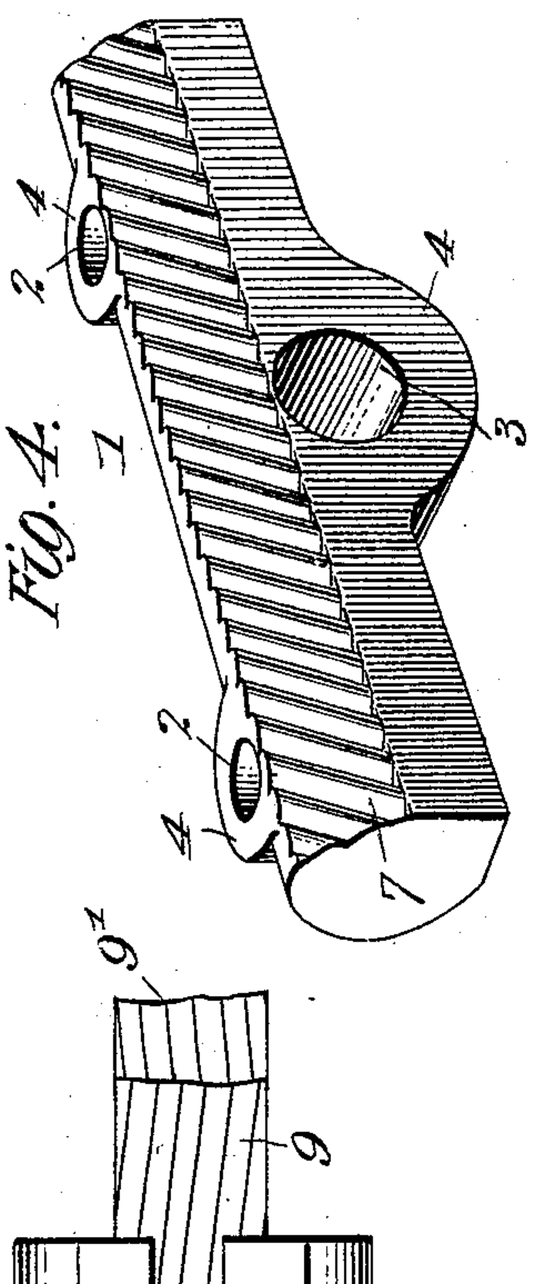


Fig. 3.

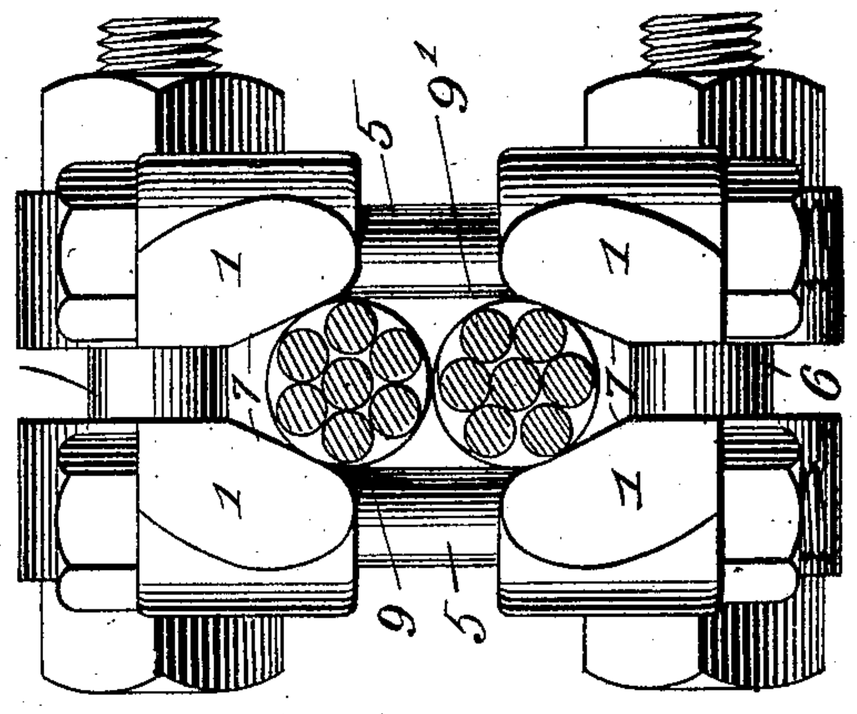


Fig. 1.

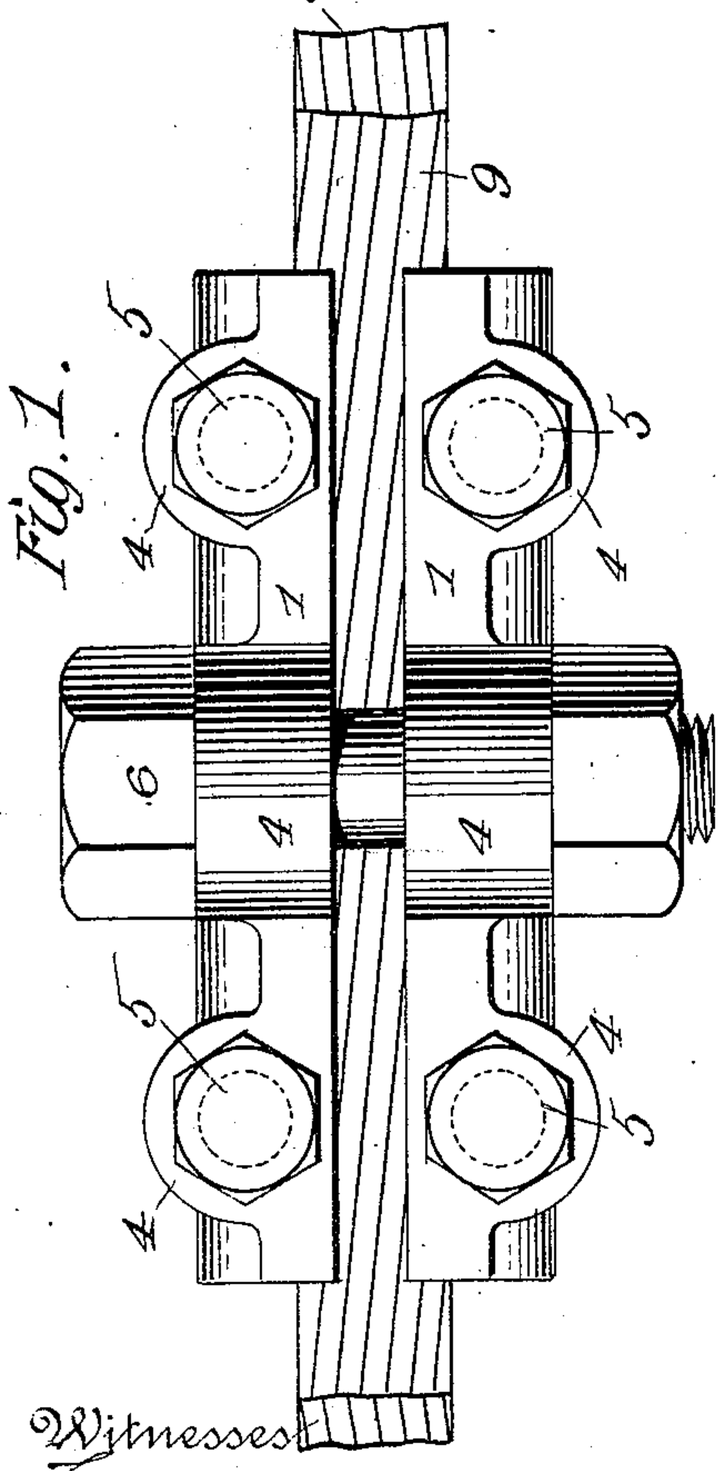
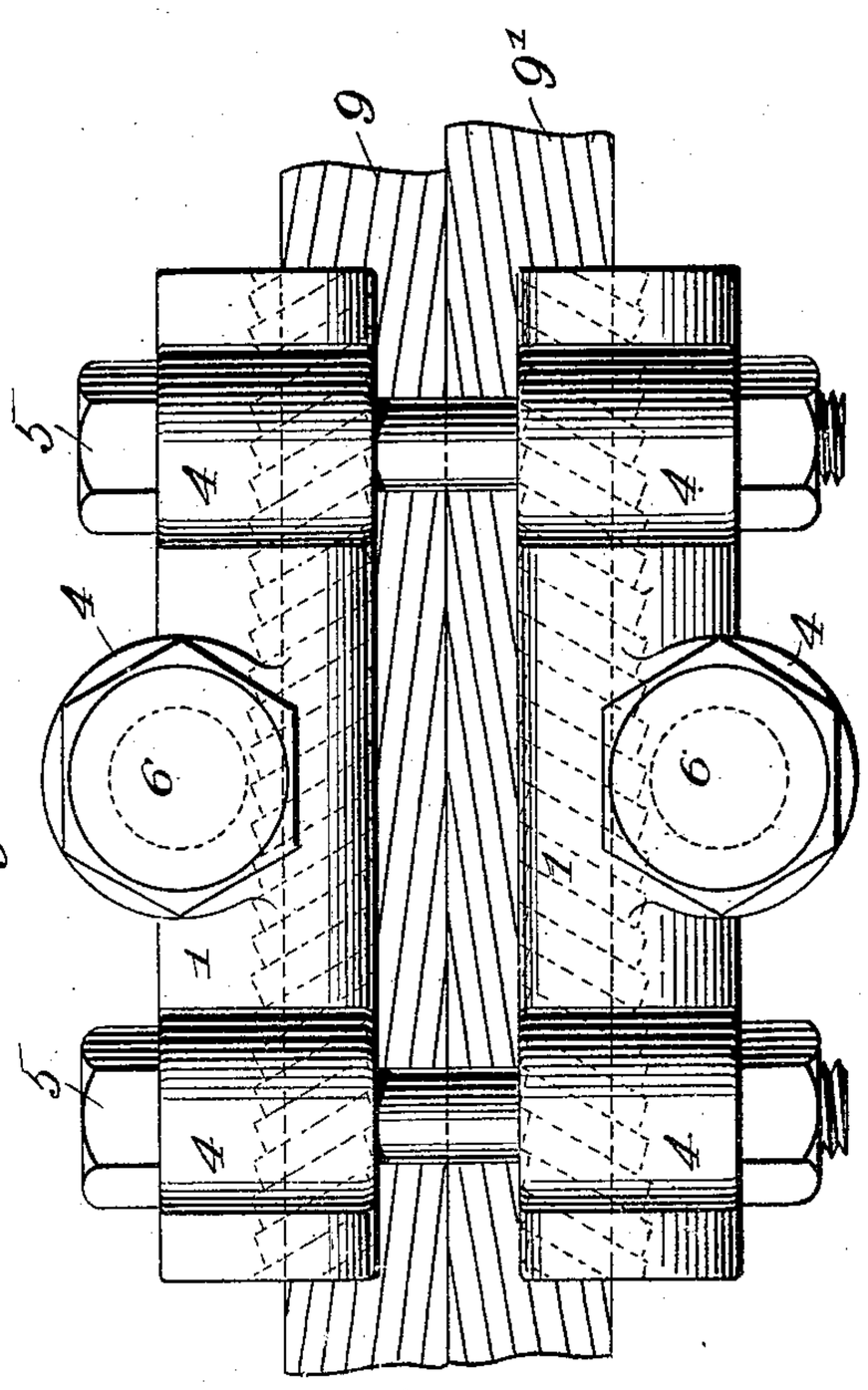


Fig. 2.



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ROPE AND CABLE CLAMP.

No. 841,165. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed November 24, 1905. Serial No. 288,883.

To all whom it may concern:

Be it known that I, ALFRED H. MEECH, a citizen of the United States, residing at Chatham, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Rope and Cable Clamps, of which the following is a full, clear, and exact description.

My invention relates to cable and rope clamps, and has for its principal object to provide a means for splicing together portions of cable or rope or attaching an eye to the free end of a single cable. The cables in common use are of different sizes and characters, and in carrying out my invention I provide means for not only securing cables of different sizes, but those of different materials, flexibility, and construction as well.

A further object of the invention is to provide a cable-clamp which will grip the smooth exterior surface of a hard wire cable of the sizes too heavy to allow any bending and making such a firm and positive engagement therewith as to absolutely preclude slipping or failure under all circumstances.

A further object of the invention is to devise a cable-clamp which shall be simple, cheap, and easy to construct, and which can be made up in stock sizes which are applicable to satisfy any requirements.

With these and other objects in view my invention consists in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally particularly pointed out in the appended claims.

In the drawings, Figure 1 is a top plan view of a cable-clamp embodying the principles of my invention. Fig. 2 is a side elevation of the same. Fig. 3 is an end view of the same. Fig. 4 is a detail perspective view of one of the parts.

The clamping of wire cables of the larger sizes presents a serious difficulty on account of the almost absolute rigdity of the cable for short lengths. In other words, it is practically impossible to secure any bend or bight of the cable at the clamping-point in order to give an increased resistance to slipping or failure. The surface friction is, however, an uncertain factor to rely upon, and in the present invention I find means to grip the cable without relying on its surface friction and without necessitating any bend or bight therein.

Referring to the drawings and to the various views and reference-signs appearing thereon, in which like parts are designated by the same reference-sign wherever they occur, 1 indicates a clamping element or jaw of my complete cable-clamp, and in practice I form all of the elements exactly identical with one another. I regard this as an important feature of the invention, since it permits a very cheap method of construction; but I do not desire to be limited or restricted to the use of identical elements, since this is not absolutely essential.

Each of the elements 1 has holes or apertures therethrough, respectively designated as 2 and 3 upon the drawings. The holes 2 are conveniently in parallel relation and spaced apart from one another, and the hole or opening 3 is located between the openings 2 and extends in a direction at right angles to their plane. For the purpose of greater strength I reinforce the element or jaw by bosses 4, around each of the holes, which are cast integral with the jaw or element. The holes 2 and 3 are adapted to receive clamping-bolts, which may be of the same or any desired size, but are preferably made as shown in the drawings, in which the hole 3 is of appreciable larger diameter than either of the openings 2. The purpose of this construction is to render the completed clamp equally strong in all directions, it being seen that the strain in the direction of the holes 2 is resisted by twice as many clamping-bolts as in the direction of the hole 3.

5 and 6 indicate the respective clamping-bolts for the holes 2 and 3. These are of the ordinary or any desired form and need not be particularly described.

Each jaw element has a gripping-face thereon (designated at 7 in the drawings) and preferably corrugated. As shown in Fig. 3, each gripping-face 7 lies at an angle between the planes of the holes 2 and 3 and preferably makes an acute angle with the plane of the holes 2 for a purpose which will be later described. I form the corrugations 8 upon the face 7 of generally ratchet-toothed shape with rounded extremities, so as not to cut or injure the cable, and I prefer to incline the

teeth so that they make a certain angle with the length of the jaw elements rather than lying exactly normal thereto.

The use and operation is as follows: It being desired to clamp together a pair of cable-sections, (designated as 9 9′ in the drawings,) the two are superposed adjacent to one another, so that their side edges lie in close contact. Four of the clamping jaws or elements 1 are now obtained and suitable bolts placed through the openings 2, so as to secure the clamping-jaws together in pairs, the separation of the gripping-faces of the jaws of each pair being made to accord with the diameters of the cables used. The bolts 6 are now passed through the apertures 3, which are now alined for this purpose, and these bolts made as tight as convenient. The four clamping jaws or elements are now assembled in a unitary structure or clamp which embraces the two cable-sections closely; but a final pressure may be imparted thereto for the purpose of giving a perfect gripping relation. For this purpose it is merely necessary to tighten the bolts 5, which by virtue of the wedging action of the inclined surfaces 7 transmits a powerful force to the cables.

On account of the bolts 5, which when assembled with their respective jaws lie in parallel planes and virtually form walls of the cable-clamp, the cable-sections are tightly inclosed and cannot move or separate or become crossed or take any other relation than the original parallel position in which they were first placed. This is a highly desirable characteristic of the invention, since in the usual forms of clamp failure most frequently occurs by reason of the angular displacement of the alined sections rather than by their direct separation. While I have described the invention as employing two pairs of side bolts and one pair of top and bottom bolts, I do not desire to be limited or restricted to any number of either, since two, three, or any number of either set could be used, if desired.

It will be observed that whether the cable-clamp is used for wire or rope or any other type of cable the corrugations are always effective to increase its efficiency. Their angular relation permits them to interlock in a sense with the strands of a wire cable, and in the case of a hemp cable the outer layers are deflected into many bights or bends, which would impose a powerful resistance to slippage.

What I claim is—

1. A cable-clamp comprising four identical clamping jaws or elements having holes in right-angular relation with one another, and clamping means coöperating therewith.

2. A cable-clamp comprising a plurality of independent clamping jaws or elements having holes in right-angularly-disposed planes, and having inclined jaw-faces for gripping a cable, and clamping-bolts coöperating therewith.

3. A cable-clamp comprising a plurality of jaws or elements having cable-engaging faces, means for adjusting the separation of pairs of said elements, and means for forcing said elements toward one another in a direction different from said adjustment so as to clamp a cable therebetween.

4. A cable-clamp comprising four identical clamping-jaws having inclined corrugated faces, and clamping-bolts for securing said jaws together.

5. A cable-clamp comprising independent identical jaws having holes or passages therethrough in right-angular relation to one another, and means in said holes or passages for forcing said jaws into clamping relation to a cable.

6. A cable-clamp comprising independent jaws having inclined corrugated faces, and means for drawing said jaws in two directions at right angles to one another whereby they are clamped upon an article.

7. A cable-clamp comprising jaws having inclined corrugated faces, bolts for drawing said jaws in two directions whereby said faces may be initially positioned and finally powerfully tightened upon an article to be clamped.

8. A cable-clamp comprising four identical jaws, having holes or passages therethrough in two directions, and bolts for said respective holes or passages, whereby the bolts may be tightened and the clamping members drawn together from two directions.

9. A cable-clamp comprising four elements having holes or passages therethrough extending in two directions at right angles to each other, and bolts within said holes or passages for drawing the clamping members together in both of said directions at right angles to each other.

10. A cable-clamp comprising a plurality of identical jaws each having an inclined gripping-face, and means for adjusting the lateral separation of said jaws corresponding to an article to be clamped, and finally wedging them into clamping relation therewith.

11. A cable-clamp comprising identical clamping jaws or elements each having a pair of holes therethrough in a single plane, and each having an additional hole in a direction normal thereto, and bolts for said holes whereby the four clamping jaws or elements may be drawn together in two directions at right angles to each other.

12. A cable-clamp comprising four identical clamping elements or jaws each having a pair of holes or passages in a single plane, and each further having an additional hole or passage in a direction normal thereto, and having corrugated inclined faces, and bolts for said holes whereby the four elements or members may be drawn together upon an ar-

ticle to be clamped in two directions at right angles to each other.

13. A cable-clamp comprising four independent jaw elements each having a face with inclined corrugations thereon, and bolts for drawing said elements together in two directions at right angles to each other.

In witness whereof I subscribe my signature in the presence of two witnesses.

ALFRED H. MEECH.

Witnesses:
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WILLIAM DORMAN, JR.