

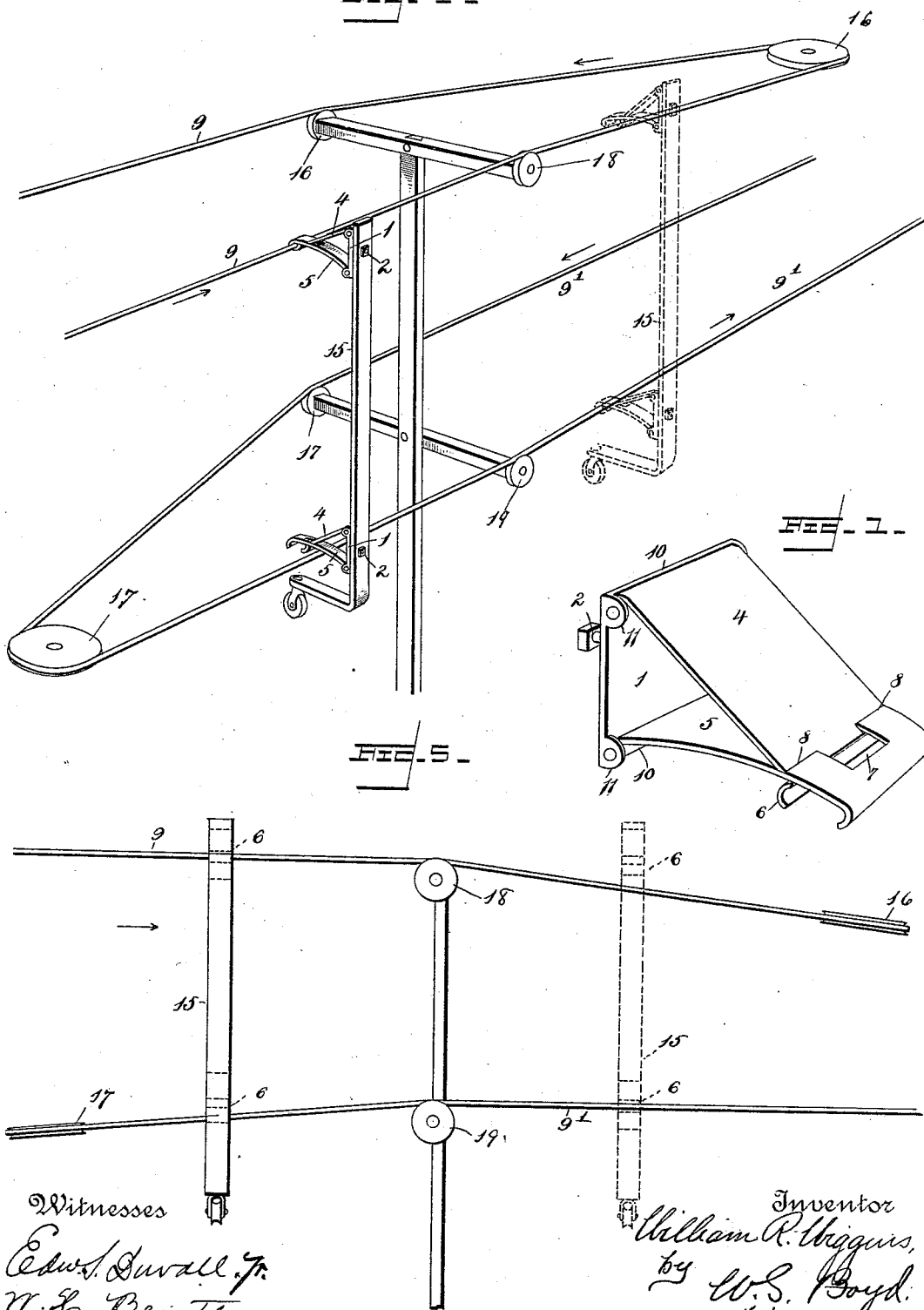
(No Model.)

2 Sheets—Sheet 1.

W. R. WIGGINS.  
CLIP FOR ELEVATED ROPEWAYS.

No. 526,092.

Patented Sept. 18, 1894.



Witnesses  
Edw. J. Swall Jr.  
W. L. Bentley.

Inventor  
William R. Wiggins,  
by W. S. Boyd,  
his Attorney

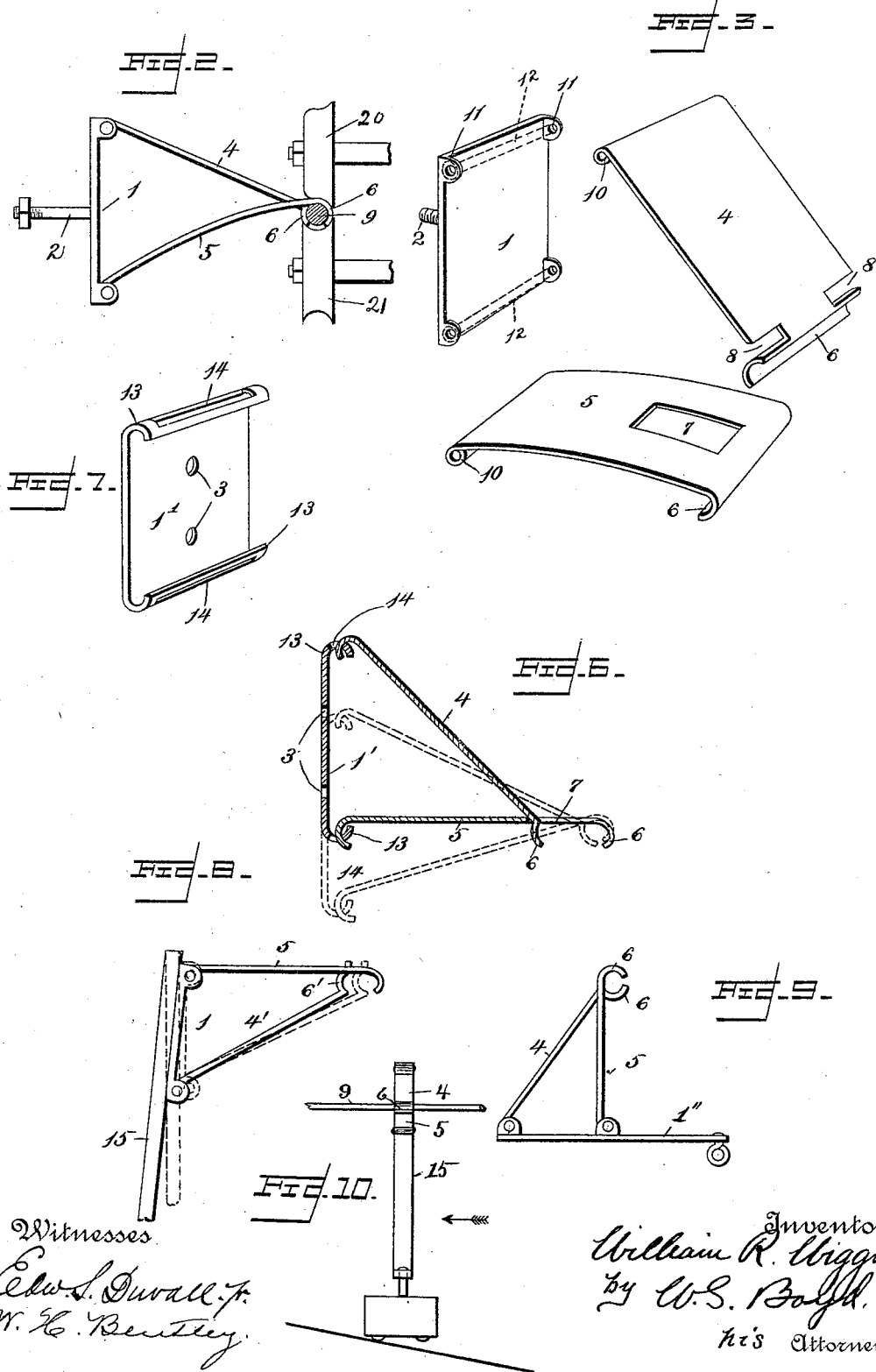
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# UNITED STATES PATENT OFFICE.

WILLIAM R. WIGGINS, OF SAN BERNARDINO, CALIFORNIA.

## CLIP FOR ELEVATED ROPEWAYS.

SPECIFICATION forming part of Letters Patent No. 526,092, dated September 18, 1894.

Application filed March 24, 1894. Serial No. 504,992. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM R. WIGGINS, a citizen of the United States, residing in San Bernardino, in the county of San Bernardino and State of California, have invented a new and useful Clip for Elevated Ropeways, of which the following is a specification.

My invention relates to clips or grapples and more particularly to that class of such devices which are used for detachably connecting a receptacle or platform for earth, ore, or other material, to a traveling conveyer as an elevated rope or cable way and detaching the same from the cable at any predetermined place, and, if desired, attaching it to another cable traveling in a different plane.

The object of my invention is to construct a device which will be cheap, simple and effective, and which will automatically grasp or release itself from the cable; and the invention consists in the construction and combination of parts of the same as will be hereinafter more particularly set forth.

Referring to the accompanying drawings, in which the same reference numerals indicate corresponding parts in each of the views in which they occur, Figure 1 is a perspective view of my clip. Fig. 2 is a side view of the same. Fig. 3 is a detail view of the parts of the clip, separated. Fig. 4 is a perspective view of one means of using the clip. Fig. 5 is a side plan view of the same. Fig. 6 is a sectional view of a different form of clip. Fig. 7 is a perspective view of the base plate shown in Fig. 6. Figs. 8 and 9 are side views of other forms of the clip, and Fig. 10 is a side elevation of the clip and its load in use with an inclined platform for elevating the load to detach the clip.

Referring more particularly to the different parts, 1 indicates the base piece which can be secured to the object to be moved, as by a bolt or pin 2, as shown in Figs. 1, 2 and 3, or by one or more holes 3, 3, as in Figs. 6 and 7. Two arms 4 and 5 are pivotally secured to the base at one end and are each provided with a jaw or clamp 6 at the outer end. The free ends of these arms are made to interlock with each other, as by a slot 7 in one of them and two recesses 8, 8 in the other one so that the jaws 6 may be made to approach each

other to clamp the cable 9 or away from each other to release it. I prefer to make the opposing faces of the jaws more or less curved so as to afford a larger clamping surface for engaging with the cable.

The base and the two arms are preferably formed from flat pieces of metal and the pivotal connection of the arms with the base may be formed by placing the inner ends of the arms, which are each provided with a curve or eye 10, between the ears 11, 11, of the plate as shown in Figs. 1 and 2, and passing a bolt 12 through them, or by providing the base piece 1' with a curve or eye 13 at each end and cutting a slot 14 in each eye into which the curved portions of the arms will fit as shown in Figs. 6 and 7. In either case in assembling the parts the arm 4 is turned so that the jaw 6 can be passed through the slot 7 in the arm 5 until the recesses 8, 8 will permit of its being turned back far enough to cause the jaws to lie parallel or facing each other. The other ends of the arms are then secured to the base by means of the bolt, or by passing them through the slots 14 as the case may be.

When the parts are assembled the clip assumes the shape of a triangle, one side of which is rigidly secured to the object to be transported, as for instance, to the upper portion of an arm or standard 15, the lower end of which is preferably bent or curved inward, as shown in Fig. 4, and to which the load is secured. When disconnected from a cable and with the base piece 1 held in a vertical position, the weight of the outer or hooked end 6 of the arms will cause them to descend which will cause the end of the arm 4 to slide back toward the pivotal point of the arm 5 and thus separate or open the jaws of the clip. If, now the end of the arm 5 be hooked over the cable 9, the weight of the standard and its load, which is preferably caused to hang substantially perpendicular under the jaw by the bend at the lower end of the standard, will draw the base of the clip downward which will cause the jaws 6 to approach each other until they clamp the cable between them with sufficient force to cause the load to be moved with the cable. When it is desired to detach the clip from the cable it may

be done by raising the standard or by keeping the standard and its load in substantially the same vertical plane and by lowering the cable. In the former case the standard and its load may be carried up a slightly inclined platform, as shown in Fig. 10, as where the load is to be deposited at any desired point while the cable continues its journey. In the other case, two cables 9 and 9' are arranged one above the other with their adjacent ends passing over sheaves 16 and 17 and supported on upper and lower pulleys 18 and 19. The sheave for each cable is located lower than the supporting pulleys so that the loop will be inclined from the pulley down to the sheave. In this manner the loop or bight of the upper cable will approach the lower cable while the bight of the lower cable will recede from the upper one. With such an arrangement of the cables it is evident that if the standard be provided with two clips, substantially the same distance apart as the distance between the upper and lower cables, and the cables be moved in the same direction as indicated by the arrows in Figs. 4 and 5 when the load arrives near the end of the first cable 9, the lower clip will pass above the inclined loop of the cable 9' without touching it, but as soon as the load reaches the pulleys 18 and 19 each clip will be in contact with its respective cable, the upper one still retaining its grip with sufficient force to carry the load forward and the lower one only being in loose contact; but as soon as the load passes the pulleys, the clip, and with it the standard, descends with the descent of the loop of the upper pulley which will cause the lower clip to engage the lower cable tight enough to carry the load forward. As the lower cable is moving in a substantially horizontal direction the upper clip is carried forward in the same direction while the loop to which it is attached is moving downward. As the clip moves forward, the weight is gradually taken off the upper clip and the weight of the arms 4 and 5 causes them to fall and open the clamp 6 and thus be released from the upper cable.

When the cable passes between an upper and lower pulley 20 and 21, as shown in Fig. 2, the triangular form of the clip causes the apex or pointed portion at the clamps 6 to pass between the rims of the pulleys without interfering with them, and by making the arms of the clip out of flat plates of steel or other metal the jaws 6 are so thin and fit around the cable so closely that they will pass over the pulleys without throwing off the cable.

Instead of making the clip as above described it may be constructed as shown in Figs. 8 and 9, in the former one of which, Fig. 8, the arm 5 is located above the other one 4' and the jaw 6' of the lower arm is located near the free end instead of directly at it as is shown in the first described clip. One

means for operating this form of clip is to incline the base relatively to the other parts so that when the load is placed on the clip the base will be swung into a vertical position, which will force the lower arm outward as shown in dotted lines in Fig. 8 which will cause the jaws 6 to close upon the cable and carry the load forward with the cable. In the other form, Fig. 9, the base 1'' is below the arms 4 and 5 and is extended beyond one of them, 5, so that when the jaw 6 engages with the cable, and a load is suspended from the extended end of the base, the other end will be raised which will cause the jaw of the clamp 4 to engage with the cable and thus connect the clip with the cable so as to be moved forward with it. In either of these two forms the clip is detached from the cable by moving the base piece back into its original position.

As above described, my clip can be employed on endless cable or wire ropeways for transporting material long distances, and especially where it is desirable to use two or more shorter lengths of rope, or where one length will run by gravity and the other one must be run by power. It could also be adapted for use on cables in stores for cash carriers.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A clip for ropeways comprising a base and two arms pivotally connected therewith, at a distance from each other, whereby the clip is substantially triangular in shape the outer portions of said arms being longitudinally movable upon each other, and each arm being provided with a jaw for clamping the cable; substantially as set forth.

2. A clip for ropeways comprising a base and two arms pivotally connected therewith, the outer ends of the arms being interlocked to slide upon each other, and each one being provided with a jaw for engaging with the cable; substantially as set forth.

3. A clip for ropeways comprising a base, and two arms pivotally connected therewith, one of the arms being provided with a slot and the other one being provided with recesses, each arm being further provided with means for engaging with the cable; substantially as set forth.

4. The combination with an upper and a lower ropeway, the loop of each of which is inclined downward, of a standard, and two clips secured thereto, at substantially the same distance apart as the distance between the cables, each clip comprising a base and two arms pivotally connected therewith, the outer ends of the arms being arranged to interlock so as to slide upon each other and each of them being provided with a jaw for engaging with the cable; substantially as set forth.

5. The combination with an upper and a

lower ropeway, the adjacent portions of which are inclined downwardly in opposite directions, of a standard, and two clips secured thereto at substantially the same distance  
5 apart as the distance between the two ropeways, each clip being provided with means for automatically engaging with and disengaging from its respective ropeway when

passing over the inclined portions thereof, substantially as set forth. 10

In testimony whereof I have hereunto set my hand this 5th day of March, 1894.

WILLIAM R. WIGGINS.

Witnesses:

W. S. BOYD,

F. B. DALEY.