

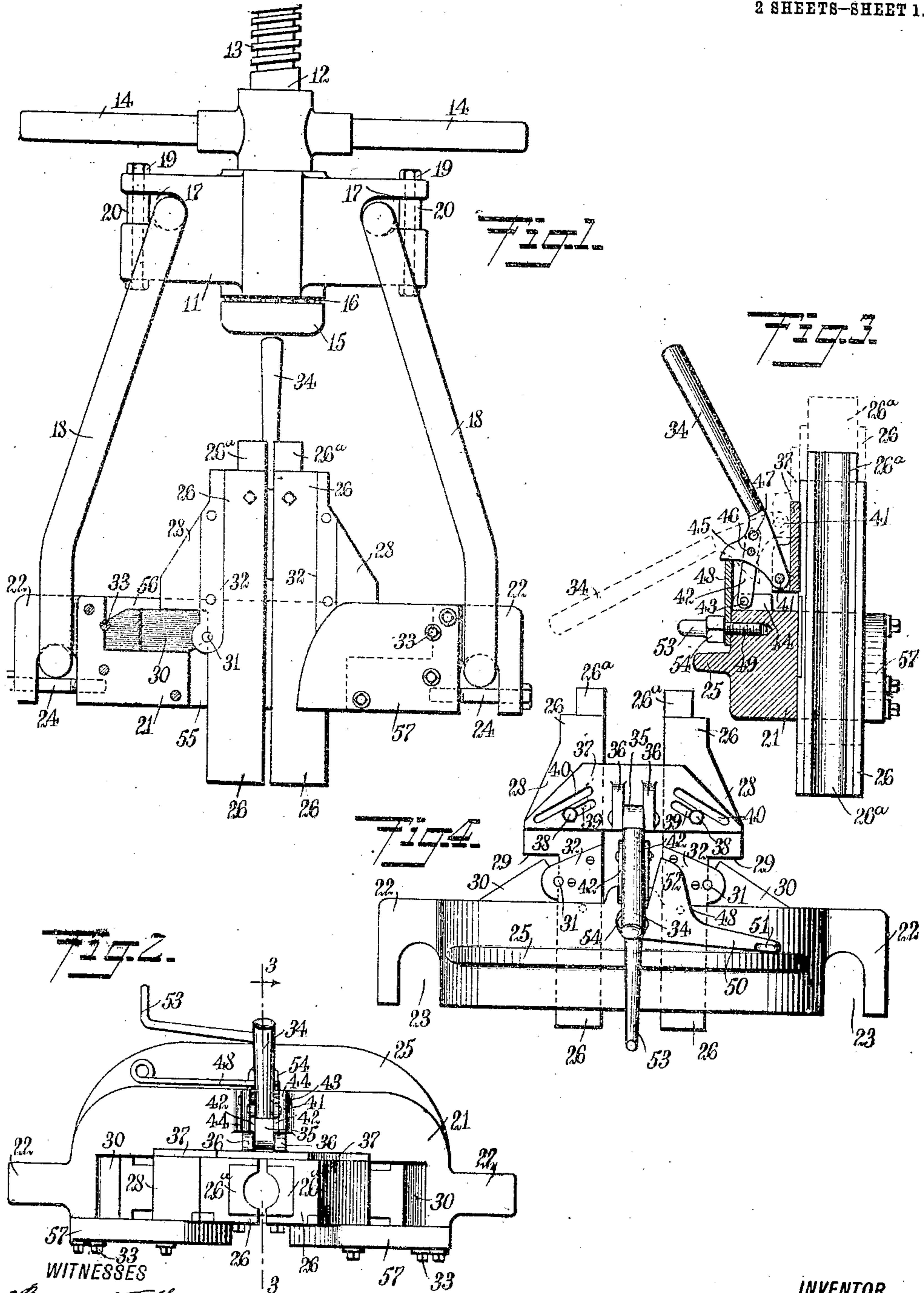
C. A. BUTLER.  
CABLE CLAMP.

APPLICATION FILED NOV. 10, 1910.

999,006.

Patented July 25, 1911.

2 SHEETS-SHEET 1.



Witnesses  
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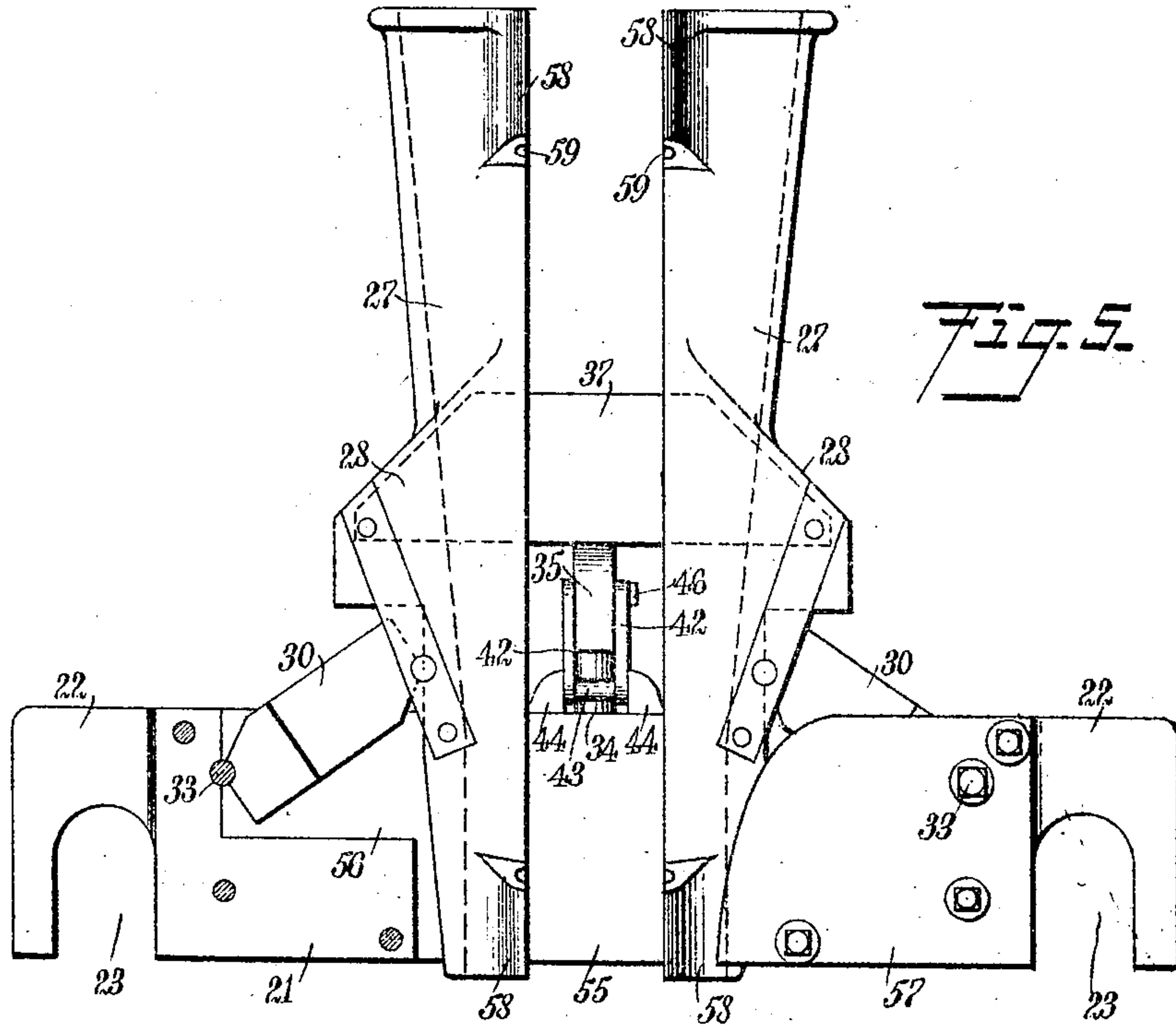


Fig. 5.

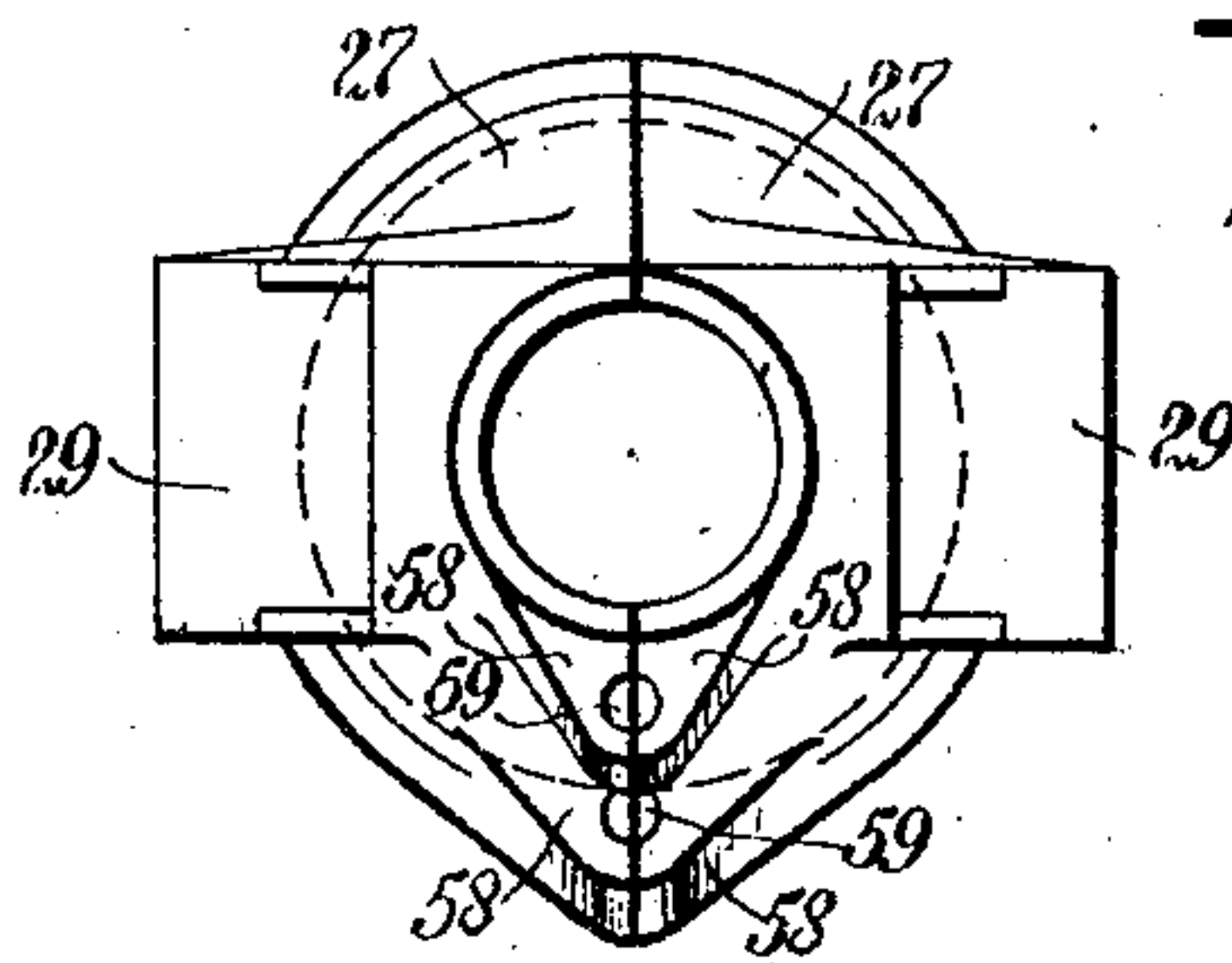


Fig. 6.

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# UNITED STATES PATENT OFFICE.

CHARLES AUGUSTUS BUTLER, OF BARTLESVILLE, OKLAHOMA.

## CABLE-CLAMP.

Patented July 25, 1911.

Specification of Letters Patent.

999,006.

Application filed November 10, 1910. Serial No. 591,568.

*To all whom it may concern:*

Be it known that I, CHARLES A. BUTLER, a citizen of the United States, and a resident of Bartlesville, in the county of Washington and State of Oklahoma, have invented a new and Improved Cable-Clamp, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: to provide a clamp for cables having means for quickly and readily attaching a releasing cable; to provide removable jaws and special gripping jaws adapted for varied employment, said jaws being universal for mounting in the clamp herein described; to provide jaws arranged for a multiplicity of adjustments to accommodate the use in conjunction with cables constructed of different materials; and to provide an apparatus of the character described, having an auxiliary clamp and holding device for a second line or cable.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views; and in which—

Figure 1 is a front view of a clamp constructed and arranged in accordance with the present invention, one cheek plate being removed; Fig. 2 is a top view of the complete clamp; Fig. 3 is a longitudinal vertical section taken on the line 3—3 in Fig. 2; Fig. 4 is a rear view of the clamp head; Fig. 5 is a detail view, on an enlarged scale, of the clamp head and gripping jaws mounted thereon adapted for use upon manila or soft cable, one cheek plate being removed; and Fig. 6 is a view from the bottom, of the clamping jaws shown in Fig. 5.

The present invention is an improvement upon the construction shown in Patent No. 950,275, granted to me under date of February 22, 1910, for a cable clamp, reference to which is herein made.

The employment for which the clamp is designed is to grip the cable upon which is suspended the drilling tools in oil well driving. In the driving of oil wells it is essential that the cable shall be paid out or lengthened as the well is driven. It is obvious that in the operation of driving a well the cable must be lengthened vertically, and it becomes essential that the time employed for making the shift of the cable shall be minimized. It is also obvious that the tool

or apparatus employed for holding the cable shall be of such a nature as not to injure the same, for the reason that in this line of work the cost of cables is excessive, and the need of perfect cables is peremptory, as when a cable parts and tools are lost in a partially driven bore it is a tedious, long and costly operation to recover the same.

In the present construction I have shown a swivel head block 11, which is pivotally mounted on the cylindrical shank 12 of a flat threaded feed screw 13. Fixedly attached to the shank 12 is a double extension lever 14 whereby the screw is rotated. The shank 12 is provided with a head 15, the upper surface whereof is provided with an annular groove or race for the balls 16, 16 which form a ball bearing between the head 15 and the body of the block 11. The block 11 is provided with laterally opened recesses 17, 17, which recesses are provided to receive one end of the closed links 18, 18. The recesses 17, 17 are provided as sockets wherein the links 18, 18 rest and pivot. The recesses are closed by bolts 19, 19, the same being provided with sleeves or thimbles 20, 20.

The novel features of construction shown in the drawings and constituting my invention are the links 18, 18 and the parts suspended thereby.

The construction of the block 11 as disclosed is an improvement over the block shown in the patent above referred to in that the links may be rocked into and out of the recesses more easily, avoiding the lift of the links over the ends of the said block, as is necessitated by the construction shown in the said patent.

The links 18, 18 are provided as flexible swings for supporting a casing 21. The casing 21 is provided with lateral extensions 22, 22 wherein are formed downwardly opened recesses 23, 23. The recesses 23, 23 are provided to receive and to form sockets for the lower extension of the links 18, 18. The passages in the recesses are closed by screw bolts 24, 24, the screw threaded ends whereof are suitably secured in the body portion of the casing 21. This construction forms a convenient and easily manipulated hanging for the casing 21, and one readily and easily repaired in the event of its becoming broken. The body of the casing 21 is reinforced at the back by forming thereon an outwardly extended flange or web 25. The web 25 corrects any weakness in the



body structure caused by the formation therein of the runway for the clamping lining blocks 26<sup>a</sup>, 26<sup>a</sup>. The blocks 26<sup>a</sup> are provided with vertically disposed semi-circular grooves, which, when the two blocks are registered, form a slightly flattened circular opening between the two jaws, said opening being of a dimension across their short diameter slightly less than the cable to be handled.

The jaws 26 as shown in Figs. 1 to 4 inclusive, and the jaws 27 as shown in Figs. 5 and 6, formed on the casing 21, are provided with extensions 28, 28, the lower surfaces of which are squared to form seats 29 where the jaw structures rest upon the levers 30, 30. The levers 30, 30 are pivoted at 31, 31 to the said jaws, removable pivot plates 32, 32 being provided therefor. The levers 30 are pivotally mounted on pivot pins 33, 33. The levers 30 are seated when in the horizontal disposition upon the bottom of the square recesses formed in the casing 21, as shown best in Fig. 1 of the drawings. When the jaws 26 or 27 are elevated they are separated each from the other by the spring of the cable held between the jaws. The jaws 26, 26 or 27, 27 may be opened, as shown best in Fig. 5 of the drawings, to receive the cable when the same is passed between the said jaws from the front side of the casing 21. This construction avoids the danger of the jaws becoming jammed in locked position on the cable to hold when it is desired to separate the cable and jaws.

The mechanism for elevating the jaws consists primarily in a hand lever 34. The hand lever 34 is provided with a head 35 extended between pivot lugs 36, 36 which are extended from a lifting plate 37. The plate 37 is lifted by the lever 34 whenever the free end of the same is lowered, as shown best in Fig. 4 of the drawings. The plate 37 is connected with the jaws 26, 26 or 27, 27 by means of bolts 38, 38, which bolts are driven fixedly into the extensions 28, 28 of the said jaws. The jaws are lifted in unison with the plate 37 by reason of the connection mentioned, and the jaws are separated and laterally spread when so lifted. The slots 39, 39 and 40, 40 are provided to receive the said bolts 38, 38 to permit the movement of the said bolts and jaws attached thereto without interference. The longer slots 40, 40, as shown in Fig. 4 of the drawings, are provided for attachment when the jaws 27, 27 are used, as hereinafter set forth. The lever 34 is pivoted to the lugs 36 by means of pivot pins 41, and is fulcrumed upon links 42. The links 42 are pivotally mounted at 43, 43 between lugs 44, 44. The lever 34 is provided with a tail piece 45 in which are formed perforations 47 to receive a pivot bolt 46. The perforations 47 are disposed, as shown best in Fig. 3 of the drawings, to

accommodate the adjustment of the lever to a higher point of fulcrum when using the jaws 27, 27 and when the plate 37 is connected to the said jaws by the bolt 38 passing through the slots 40, 40.

The clamped position of the jaws 26 and 27 upon the cable is obtained when the lever 34 is raised to the position shown by full lines in Fig. 3 of the drawings, and when the said jaws are disposed in their lowest position. It is to lock the lever in its raised position that I have provided the plate 48. The plate 48 is pivoted upon a bolt 49, as shown best in Fig. 3 of the drawings, and is provided with a handle extension 50 having formed at the end thereof an eyelet 51. The plate 48 is provided with a cam extension 52, which passes under the tail piece 45 of the lever 34. By forcing the locking plate by means of the handle extension 50 the lever 34 may be held rigidly in the position to which it is raised to clamp the cable disposed between the jaws 26, 26 and 27, 27. It is to lock the plate 48 in position that I have provided the handle extension 53 of the bolt 49, which, when turned, clamps the plate between the casing 21 and the nut 54 formed on the bolt 49. The casing 21 is recessed to form a channel 55 for the play of the clamping jaws, and also to form pockets 56 for the hinge plates 30, 30. These recesses are partially closed by cheek plates 57, 57, which are bolted to the casing 21, as shown in the drawings.

The jaws 27, 27, as may be seen from the drawings, are coned vertically to form a passage gradually constricted to the lower end. The purpose of this shape is to provide for the employment of an expedient usual when handling manila cables, which expedient consists in wrapping the cable with soft material to form a ball thereon, which may be effectively gripped by the jaws. The manila cable does not adhere to the smooth surface of the gripping jaws sufficiently without the employment of the above mentioned expedient. The enlargement thus formed on the cable being of uncertain dimension, the pocket or conical shape of the jaws 27 is provided to receive the same at different points in the length thereof. If desired there may be used in connection with this form of the invention, linings such as 26<sup>a</sup> formed to fit the jaws 27, and to compensate for the wear thereon. It is obvious from the construction that a great variety of jaws may be used in connection with the casing 21, and the lifting mechanism connected therewith, the jaws being universal in that provision is made therein for the reception of the connecting bolts 38, 38 and the pivots 31, 31.

As shown in Fig. 5 of the drawings, I have provided at the upper and lower ends of the said jaws projections 58, 58. In the



meeting faces of the said projections are formed grooves 59, 59, which, when the said jaws are brought together, grip in holding relation the sand line usually employed in connection with the well driving tools.

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

1. A cable clamp, comprising a casing; a plurality of gripping jaws having faces grooved to enfold in holding relation a lifting cable; a plurality of levers pivotally connecting said casing and said jaws; a lifting plate having formed therein inclined grooves; a plurality of connecting pins uniting said lifting plate and said jaws, said pins being extended through said grooves; and a lever pivotally mounted on said casing to elevate and depress said lifting plate and jaws connected therewith.

2. A cable clamp, comprising a casing; a plurality of gripping jaws having faces grooved to enfold in holding relation a lifting cable; a plurality of levers pivotally connecting said casing and said jaws; a lifting plate having formed therein inclined grooves; a plurality of connecting pins uniting said lifting plate and said jaws, said pins being extended through said grooves; a lever pivotally mounted on said casing to elevate and depress said lifting plate and jaws connected therewith; and a locking plate for said lever to maintain the same in position to hold the said jaws in gripping relation with said cable.

3. A cable clamp, comprising a casing; a plurality of gripping jaws having faces

grooved to enfold in holding relation a lifting cable; a plurality of elongated levers pivotally connected to said casing and to said jaws, adapted to be raised above the horizontal to spread the said jaws; a lifting plate having formed therein inclined grooves; a plurality of connecting pins uniting said lifting plate and said jaws, said pins being extended through said grooves; a lever pivotally mounted on said casing to elevate and depress said lifting plate and jaws connected therewith; and an elongated link pivotally connected with said casing and with said lever to form a fulcrum therefor.

4. A cable clamp, comprising a casing; a plurality of gripping jaws having faces grooved to enfold in holding relation a lifting cable; a plurality of levers pivotally connecting said casing and said jaws; a lifting plate having formed therein a plurality of series of inclined grooves; said grooves varying in length to permit the elevation of said jaws to various heights; a plurality of connecting pins uniting said lifting plate and said jaws, said pins being extended through said grooves; and a lever pivotally mounted on said casing to elevate and depress said lifting plate and jaws connected therewith.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CHARLES AUGUSTUS BUTLER.

Witnesses:

L. W. MATTHEWS,  
A. H. HULING.