

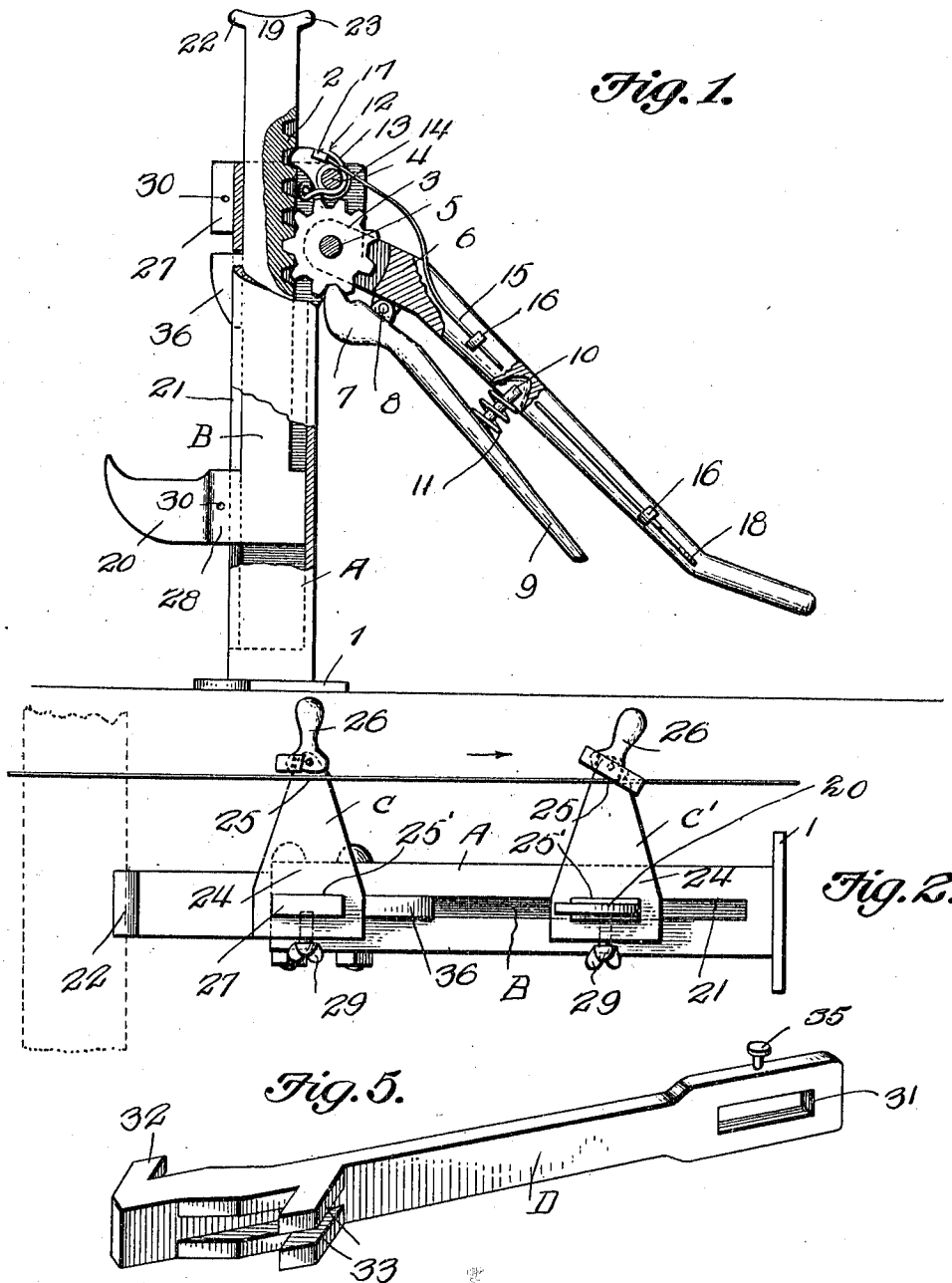
R. F. SCHOFIELD.
JACK.

APPLICATION FILED APR. 12, 1910.

Patented Mar. 14, 1911.

2 SHEETS—SHEET 1.

986,868.



Witnesses

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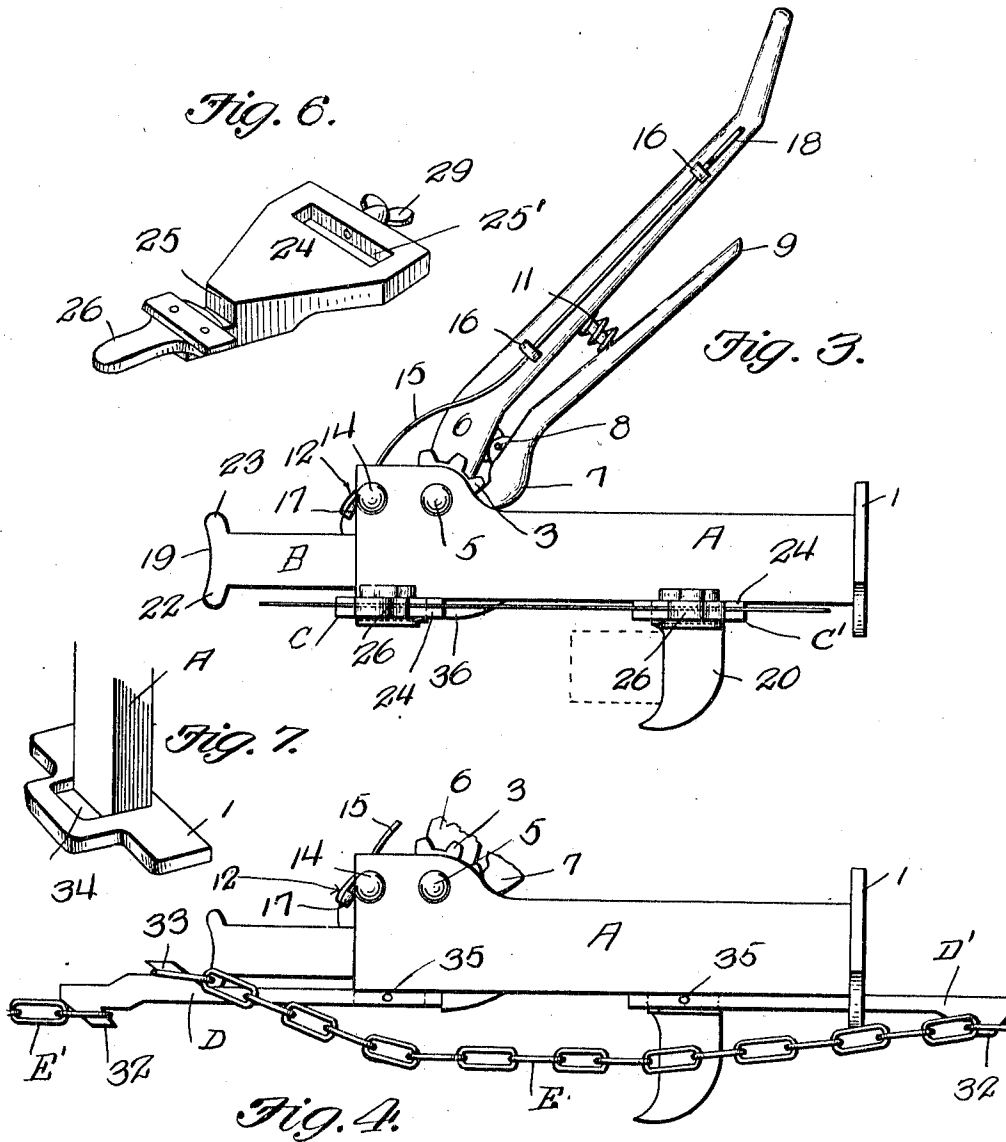
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UNITED STATES PATENT OFFICE.

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JACK.

986,868.

Specification of Letters Patent. Patented Mar. 14, 1911.

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To all whom it may concern:

Be it known that I, RALPH F. SCHOFIELD, a citizen of the United States, residing at Olathe, in the county of Johnson and State of Kansas, have invented new and useful Improvements in Jacks, of which the following is a specification.

This invention relates to jacks or lifting devices and more particularly to a combination tool adapted for a variety of uses.

The principal objects of the invention are to provide a jack of such design that fence making and pulling attachments can be applied thereto in a simple and convenient manner, the attachments being of such a nature that the jack can be used for stretching wire fences, taking out slack, moving objects, etc.

With these objects in view, and others as will appear as the description proceeds, the invention comprises the various novel features of construction and arrangement of parts which will be more fully described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawing, which illustrates one embodiment of the invention; Figure 1 is a side view of the jack with portions broken away to show the details of construction. Fig. 2 is a side view of the jack with the wire gripping attachment mounted thereon and showing the same stretching wire. Fig. 3 is a plan view of Fig. 2, showing another operation of the tool for wire stretching. Fig. 4 is a view similar to Fig. 3, showing attachments applied thereto for pulling objects by means of a chain or the like. Fig. 5 is a perspective view of one of the attachments shown in Fig. 4. Fig. 6 is a perspective view of one of the wire gripping devices. Fig. 7 is a perspective view of the base portion of the jack.

Similar reference characters are employed to designate corresponding parts throughout the several views.

Referring to the drawing, A designates the tubular stand or casing of the jack which is supported on a base 1 and slidable longitudinally in the casing is a lifting element B having rack teeth 2, with which meshes a pinion 3 that is disposed between lugs 4 on the upper end and rear side of the casing A and rotates on a horizontal axle 5 in the form of a bolt which passes through the lugs 4 and on this axle is fulcrumed an operating

lever 6, which carries a spring-pressed pawl 7 for engaging the toothed wheel 3 for locking the same to the lever when the latter is manipulated to move the lifting element B of the jack. The pawl is fulcrumed at 8, under the operating lever and has a handle 9 extending outwardly under the shank of the operating lever and on this handle 9 of the pawl is a pin 10, around which is a compression spring 11 operating between the handles of the pawl and lever to maintain the pawl in locking position. It will thus be seen that when the lever is depressed from a raised position, the pinion 3 will move with the lever as if it were an integral part, but on the reverse or up stroke, the pawl rides freely over the pinion like a ratchet, so that the element B with a load thereon can be raised step by step. The load is supported during the upstroke of the operating lever by a pawl 12, pivoted between the lugs 4 at a point above the pinion 3 and this pawl is held yieldingly against the rack teeth 2 by a spring 13 coiled around the pivot or axle 14 of the pawl. This pawl yields to permit the rack bar or element B to rise during the downstroke of the operating lever, but on the upstroke, the pawl interlocks with the rack teeth to sustain the load. The pawl 12 can be disengaged from the rack bar by a releasing rod 15 slidable longitudinally in bearings 16 on the side of the operating lever 6, and this rod is suitably connected at 17 with the pawl and has a thumb engaging portion 18 at its upper end so that the thumb of the hand gripping the handle of the lever 6 can pull outwardly on the releasing rod 15 to disengage the pawl 12 from the rack teeth. While the pawl is thus held disengaged, the pawl 7 can be released by the other hand so as to permit the element B to drop in lowering its load. If the load is of such a nature that it cannot be dropped suddenly, it is possible to lower the element B by degrees. To do this, the upper pawl 12 is first released and then the lever 6 raised while the pawl 7 remains engaged with the pinion 3 and during this upward movement of the lever, the element B is lowered one step. At the upper limit of the lever, the pull rod 15 is released so that the pawl 12 can re-engage the rack bar and now the lever is lowered while the pawl 7 is held released. At the end of this down stroke, the pawl 7 is allowed to again engage the pinion 3 and

the pawl 12 is disengaged by pulling on the rod 15 so that the lever can be moved upwardly to allow the element B to lower another step.

5 The lifting element B has at its upper end a rest 19 for the load to be raised and at its lower end it is provided with a horizontally projecting hook 20 to engage with the load when the latter is in such a low position that the rest 19 cannot be engaged therewith. This hook 20 projects through a vertical slot 21 in the front side of the casing or stand A. The rest 19 is formed with the front and rear lugs 22 and 23 with the latter of which a link of a chain can be engaged when pulling the post out of a hole, the chain being fastened around the post and the jack so positioned that the front lug 22 will rest against the post while the jack bears on the ground. In this manner, a more or less vertical pull is imparted to the post for raising the same.

In order to adapt the jack for stretching wire, separate detachable wire-gripping devices C and C' are employed. Each of such devices comprises an arm 24, which has at one end a rectangular slot 25' and at the opposite end is provided with a fixed jaw surface 25 with which coöperates a pivoted jaw member 26 on the end of the arm and so arranged as to grip a wire against the jaw surface 25, the jaw member 26 being of that type that it will hold the wire against tension in either direction. The device C is secured to the casing A by means of a rectangular lug 27 on the front side thereof, while the device C' is held on the root portion 28 of the hook 20, which portion is of rectangular form and the same size as the lug 27, so that the devices C and C' can be interchanged and obviously the openings 25' in the devices will fit on the lug 27 and part 28, but set screw 29 will be employed to securely fasten the device in place. These set screws are threaded in the devices C and C' and their inner ends extend in the openings 25' and bind against the projecting members 27 and 28, which have seats or sockets 30 for receiving the inner ends of the screws. When the devices C and C' are applied, as shown in Fig. 2, the wire gripping jaws thereof will be disposed in outstanding relation from the jack which is an advantage, in that it allows plenty of room around the wire where splicing, stapling and the like is to be done and the jack does not interfere with the use of the tools. When drawing the wire, as shown in Fig. 2, the rest 19 of the rack element B, can be placed against a post as shown by dotted lines, and the wire can be gripped on the device C and then by manipulating the operating lever, the casing A will be moved to the right to produce a draft on the wire in the direction indicated by the arrow. If the limit of movement of

the jack is reached before the slack is completely taken out of the wire, the partly tightened wire can be gripped in the device C', as shown in Fig. 2, to maintain the tension while the device C is opened so that the casing of the jack to which said device C is attached can be moved to the left. The wire is then gripped by the device C and released from the device C' so that further tension can be imparted to the wire by again manipulating the operating lever as before. This method of stretching the wire may be carried out by engaging the hook 20 with the fence post or other object instead of the rest 19, as shown in Fig. 3.

When the jack is to be used for stretching woven wire fencing or moving objects by the use of a chain, attachment D and D' are used, as shown in Fig. 4. Each attachment consists of a bar which has one end provided with a rectangular opening 31, as shown in Fig. 5, to engage over either the projection 27 or hook 20, of the jack, the attachments D and D' bearing flat against and extending parallel with the front of the casing A. These attachments extend in opposite directions and are provided with hooks 32 for receiving the links of a chain through which the jack operates to produce a draft and one of the attachments can be provided with auxiliary hooks 33 for the purpose hereinafter to be described. The attachment which is applied to the lifting hook 20 of the jack passes through an opening 34 in the base 1 of the jack, and both devices D and D' are held on the jack by set screws 35. In using the tool for such purposes as stretching woven wire fencing, a chain E is fastened to the wire fencing in any suitable manner and one of the links of the chain is engaged with the hook 32 of the device D', Fig. 4, and the same chain may extend past the tool and connect with a fixed object such as a post, if desired, and a separate chain E' may be attached to the post and fastened to the hook 32 of the device D. In operating the lever of the jack, the chain E, which has its free end connected with the hooks 33 of the device D, is drawn to the left, a slack being created in that portion of the chain between the hooks 32 and 33 of the devices D' and D. If the range of movement of the jack is not sufficient to take the slack out of the fencing, the free end of the chain E is removed from the device D and another link engaged with the hook 33, the device D will thus maintain the strain while the chain is released from the device D' as the movable element B of the jack is moved inwardly. The chain E is then again fastened to the device D' and the lever thereafter manipulated to take out further slack in the fence. It will thus be seen that the stretching of the fence can be quickly and easily accomplished. The

projection 27 to which the attachments are connected with the casing of the jack is disposed above the hook 20 and it is necessary to provide an inclined abutment 36 under the projection 27 so that objects supported on the hook 20 to be lifted thereby will not strike the projection 27 and interfere with the operation of the jack.

From the foregoing description taken in connection with the accompanying drawing, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention relates, and while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as are within the scope of the claims.

What I claim as new and desire to secure by Letters Patent is:—

1. A jack comprising a standard, a lifting element slidable thereon, means for moving the element, a member fixed on the standard, object-engaging devices removably applied to the lifting element and member respectively and bearing flat on the standard, and fastenings for securing the devices in place.

2. A jack comprising a standard, a lifting element mounted thereon and having an object-engaging member projecting from one side of the standard, a fixed member arranged on the standard at the same side thereof from which the first member ex-

tends, means for operating the lifting element, and object-engaging devices having openings to fit the respective members.

3. A jack comprising a casing forming a stand, a lifting element mounted in the casing, means for actuating the element, an object-engaging member extending from the element, a member on the casing, and devices detachably connected with the said members for stretching wire and similar purposes by the jack.

4. A jack comprising a casing forming a stand, a lifting element, means for actuating the element, a hook on the element, a projection on the casing, and object engaging devices having means for connection with the said hook and projection.

5. A jack comprising a casing, a lifting element mounted therein, means for actuating the element, an object-engaging member on the element and extending out of the casing, a projection on the casing, separate devices extending parallel with the casing and connected respectively with said member and projection, a base on the casing having an opening through which the device connected with the member slides, and means on the devices for connection with a chain or the like.

In testimony whereof I affix my signature in presence of two witnesses.

RALPH F. SCHOFIELD.

Witnesses:

HARRY L. EDMONDSON,
CAPITOLA M. EDMONDSON.