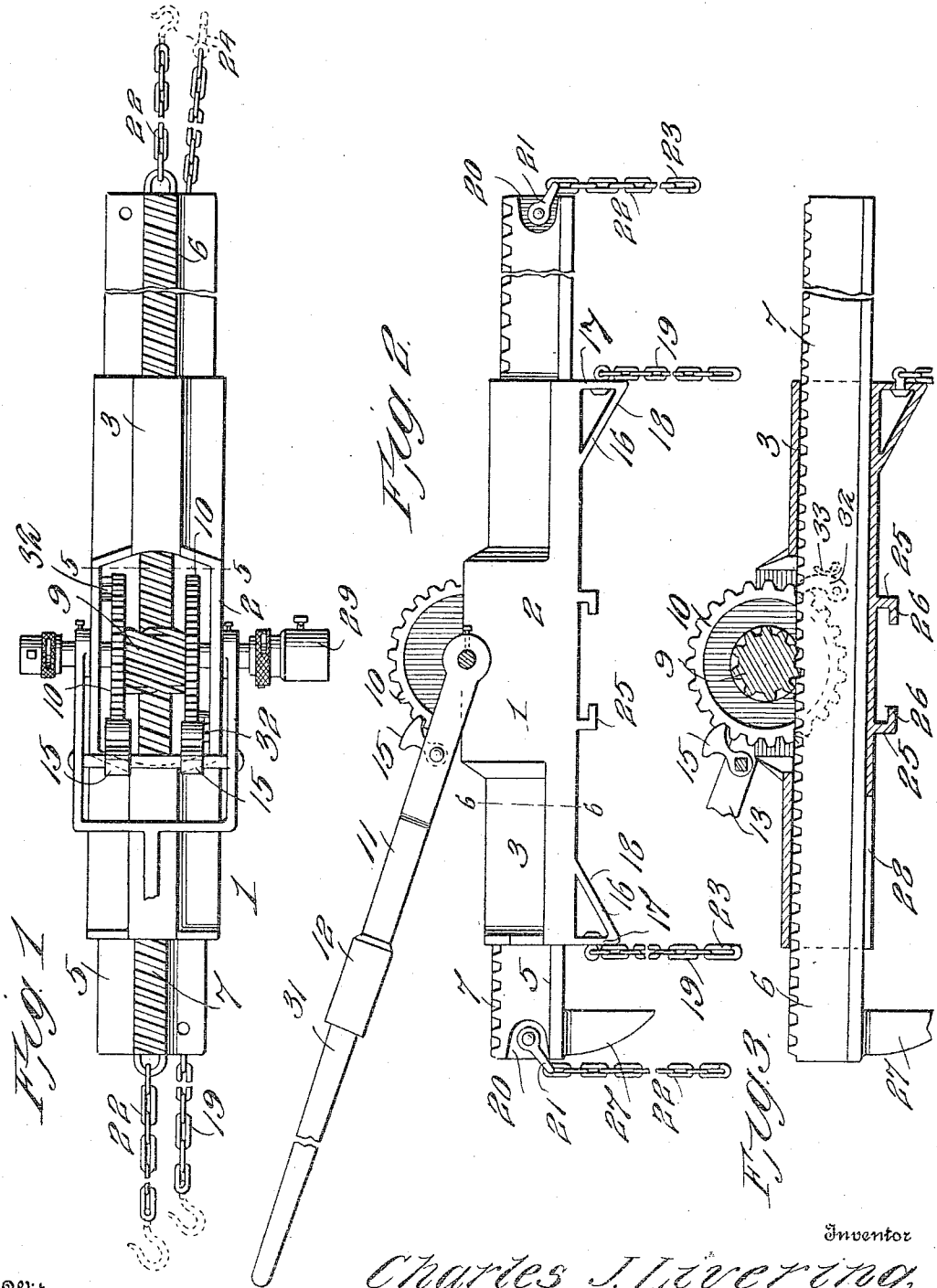


C. J. LIVERING.
COMBINATION IMPLEMENT.
APPLICATION FILED DEC. 18, 1908.

957,692.

Patented May 10, 1910.

2 SHEETS—SHEET 1.



Witnesses

Frank Hough
J. L. Crook.

Charles J. Livering,

By Victor J. Evans

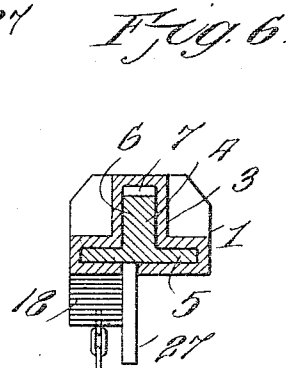
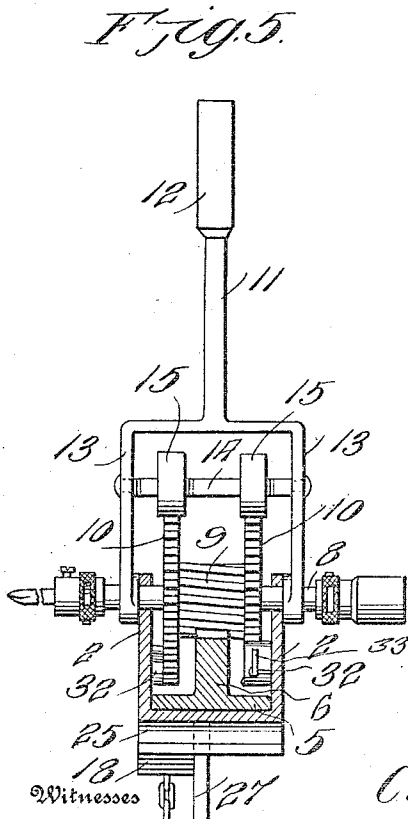
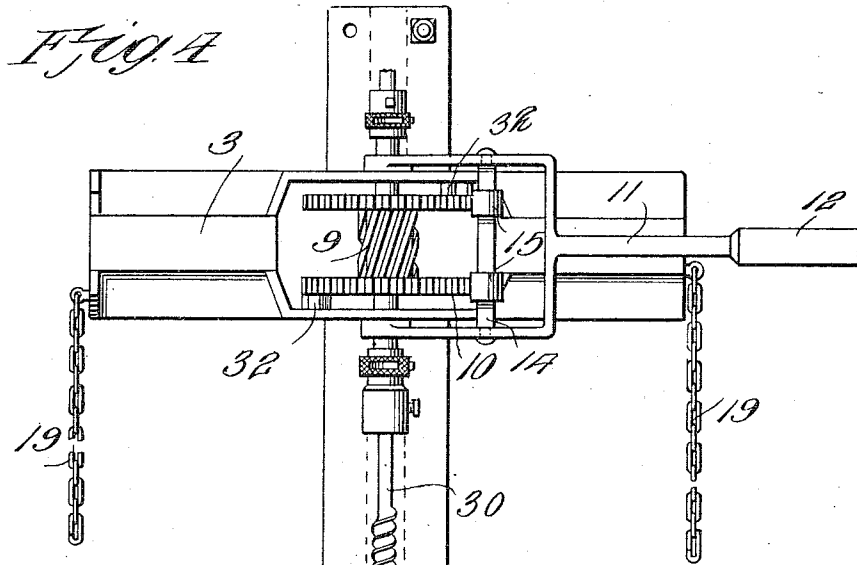
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Attorney

UNITED STATES PATENT OFFICE.

CHARLES JEFFERSON LIVERING, OF LOUISVILLE, KENTUCKY, ASSIGNOR OF THREE-FIFTHS TO ANNIE LIVERING, OF LOUISVILLE, KENTUCKY, AND TWO-FIFTHS TO WILLIS E. PEMBERTON, OF CLARK, KENTUCKY.

COMBINATION IMPLEMENT.

957,692.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed December 18, 1908. Serial No. 468,180.

To all whom it may concern:

Be it known that I, CHARLES J. LIVERING, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful Improvements in Combination Implements, of which the following is a specification.

The invention relates to an improvement in combination implements, being particularly directed to a structure primarily adapted for use as a wire stretcher in fence construction, a lifting jack, and a boring machine.

The main object of the present invention is the provision of a combination implement which, without the use of additional parts or the subtraction of any part, is readily serviceable for use as a wire stretcher, lifting jack or boring machine, the construction providing for the simple operation of the implement in either use.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a plan of the implement, showing the same arranged for use as a wire stretcher. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal section of the same. Fig. 4 is an elevation showing the device in use as a boring machine. Fig. 5 is a transverse section on the line 5—5 of Fig. 1. Fig. 6 is a section on line 6—6 of Fig. 1.

Referring particularly to the accompanying drawings, wherein similar reference numerals indicate like parts throughout the several views, my improved combination implement comprises a body member 1 of hollow construction centrally formed to provide two spaced parallel side walls 2, and shaped in each direction beyond said side walls to provide hollow inverted T-shaped sections 3. The T-shaped sections provide end walls for the central hollow portion of the body member, so that said central portion is in the form of a box-like section closed at the sides, bottom, and ends and open at the top. The end sections are, of course, wholly inclosed except that they open through the ends of the body member and into the central section.

In connection with the body member the

implement comprises a slide member 4 of inverted T-shape and of a sectional area and contour to fit slidably within the hollow end sections 3 of the body member. The slide member comprises a plate section 5 and a bar section 6, the relatively upper edge of the latter being formed with a series of gear teeth 7 extending throughout its length.

Rotatably mounted in the side walls 2 of the central section of the body is an operating shaft 8, said shaft being arranged above the plane of the teeth 7 of the slide member. Fixed upon the shaft between the walls is a worm pinion 9 designed to engage the teeth 7 of the slide member, and on each side of the worm is fixed a ratchet 10, said ratchets having a diameter exceeding the diameter of the worm pinion. An operating lever is arranged to include a stem 11 formed at one end to provide a socket 12 and at the opposite end to form spaced arms 13 which are terminally mounted for independent rotation upon the shaft 8 immediately outside the respective walls 2. A rod 14 is mounted in the arms 13 and on said rod are mounted double ended dogs 15 designed to engage the teeth of the respective ratchets 10. It will thus be obvious that in the reciprocal movement of the lever the dogs 15 will engage the teeth of the ratchets, rotate the shaft 8 and thereby impart independent relative movement to the slide or body member in accordance with the securing of either one of said members. As the dogs are double ended it is obvious that they can be swung to either side of the rod 14, and thereby the ratchet wheels may be operated in either direction as desired.

The body member is formed adjacent each end and on the base surface thereof with hollow bracket extensions 16 including a wall 17 at right angles to the base surface of the member and a brace wall 18 leading therefrom. Chains or other flexible connections 19 are secured to the vertical wall 17 of the bracket members. The respective ends of the slide member are cut away on each side of the bar section to form recesses 20 in which are secured clevises 21 carrying chain or other flexible connectors 22. The terminals of the respective connectors 19 and 22 may be in the form of split rings, as shown at 23 in Fig. 2 or hooks, as shown at 24 in Fig. 1.

The outer side of the base surface of the body member is centrally and transversely formed with spaced flanges 25, terminating beyond the base surface of the member in lips 26 extending toward each other, forming L-shaped projections which are so spaced as to receive and house the plate section 5 of the slide member. One end of the slide member is formed with a foot 27, projecting at right angles from the outer surface of the plate section 5 of said member, and the body member is formed with a longitudinally disposed channel 28 designed to receive the foot in the movement of the slide member. The respective ends of the shaft 8 are formed with drill socket heads 29 designed to receive any appropriate form of boring tool, as 30, these heads being of any approved ratchet pattern, the detailed construction of which is immaterial.

In the use of the implement as a wire stretcher the connectors, as 19, of the body member are fixed to a post or other suitable support and the slide member arranged in the body member at its outward limit of movement. The appropriate connector of the slide member is then secured to the wire or fence section to be stretched and the operating lever, the socket of which is adapted to receive a handle, as 31, is actuated to feed the slide member in the desired direction. Retaining dogs 32 are mounted at appropriate points within the body member so as to engage and lock the ratchets against backward movement, these dogs being, of course, so arranged as to be manually thrown out of operation when desired, as for example, by shifting the free end of the pawl holding spring 33 from contact with the pawl, as is usual in such constructions.

In the use of the device as a boring machine the slide member is removed from the body member and inserted between the flanges 25. This disposes the body member at right angles to the slide member and in the operation of the lever the shaft 8 is rotated with the effect to feed the drill into the material. The foot 27 of the slide member will in this use serve as a support for the material, or other appropriate support may be provided. The weight of the body member serves to give the desired feed to the drill.

In the use of the device as a lifting jack the parts are assembled as in a wire stretcher, with the foot 27 beneath the article to be lifted. Operation of the lever serves to feed the slide member and therefore the foot upward relative to the body member to secure the desired lifting effect.

It is, of course, to be understood that I contemplate any and all uses to which the device may be put whether herein mentioned or not, and that aside from the details previously noted the various parts may be con-

structed of such sizes and of such material as may be best suited to the uses intended.

Having thus described the invention what is claimed as new, is:—

1. A combination implement comprising a hollow body member, a slide member mounted for longitudinal movement in the body member and flanges carried by and projecting from the lower side of the body member to slidably receive the slide member in a position at right angles to its position when in the body member.

2. A combination implement comprising a hollow body member, a slide member of T-form mounted for movement in the body member, and flanges projecting from the lower surface of the body member to slidably receive the ends of the cross portion of the slide member.

3. A combination implement comprising a hollow body member, a slide member mounted for movement in the body member, means including a shaft for fitting the slide member longitudinally of the body member, said shaft extending beyond the body member, boring-bit heads carried by the ends of the shaft, and means carried by the body member to slidably receive the slide member for movement in spaced parallel relation with the shaft.

4. A combination implement comprising a hollow body member, a slide member mounted for movement in the body member, means including a shaft for fitting the slide member longitudinally of the body member, said shaft extending beyond the body member, boring-bit heads carried by the ends of the shaft, means carried by the body member to slidably receive the slide member for movement in spaced parallel relation with the shaft, and a foot carried by the slide member to serve as a work support in the use of the shaft for boring.

5. A combination implement comprising a body member, a shaft mounted for rotation in the body member and arranged transversely thereof, the ends of the shaft projecting beyond the body member and formed for the connection of tools therewith, a slide mounted for movement longitudinally of the body member, a series of teeth formed on the slide, a gear secured on the shaft to cooperate with the teeth on the slide, ratchets mounted on the shaft at the respective ends of the gear, and a lever engaging the ratchets and operating the gear to move the slide member longitudinally of the body member, the movement of the lever serving to operate the shaft and thereby the tool connections.

6. A combination implement comprising a body member, a shaft mounted for rotation in the body member arranged transversely thereof, the ends of the shaft projecting beyond the body member and formed

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10 the movement of the lever serving to operate

the shaft and thereby the tool connections,
and means carried by the body member to
movably support the slide member in par-
allel spaced relation with the shaft.

In testimony whereof I affix my signature 15
in presence of two witnesses.

CHARLES JEFFERSON LIVERING.

Witnesses:

W. I. TYLER,

JOHN RIEDLING.