

R. W. BAKER.
HYDRAULIC JACK.
APPLICATION FILED MAR. 18, 1908.

957,177.

Patented May 10, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

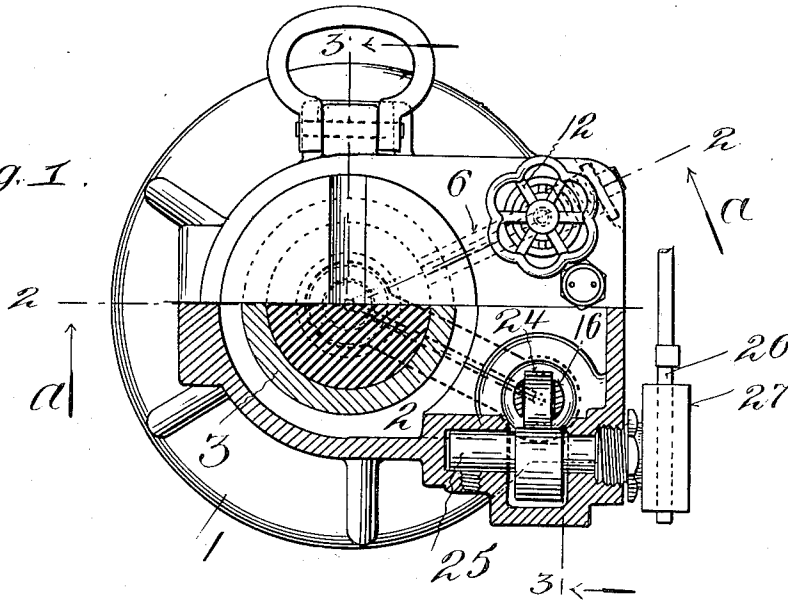
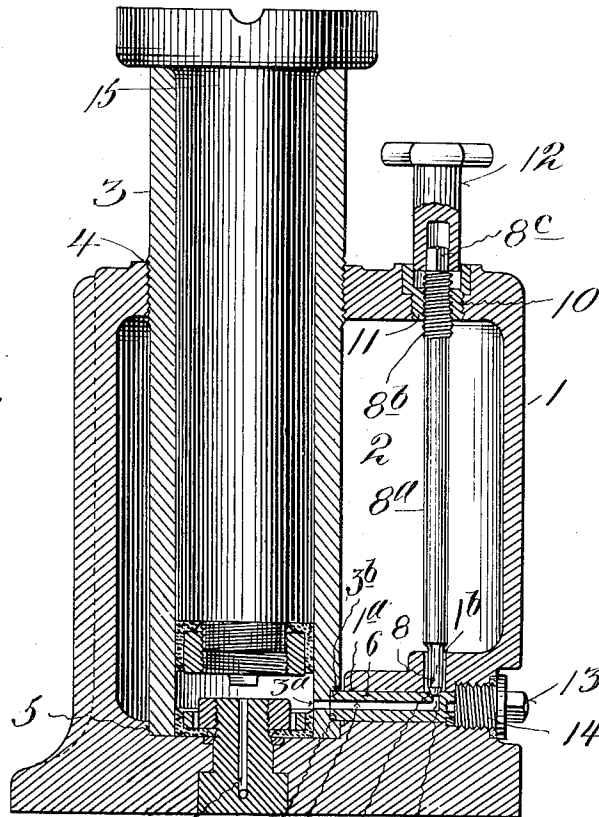


Fig. 2.



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Inventor
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By his Attorney
J. F. Bourne.

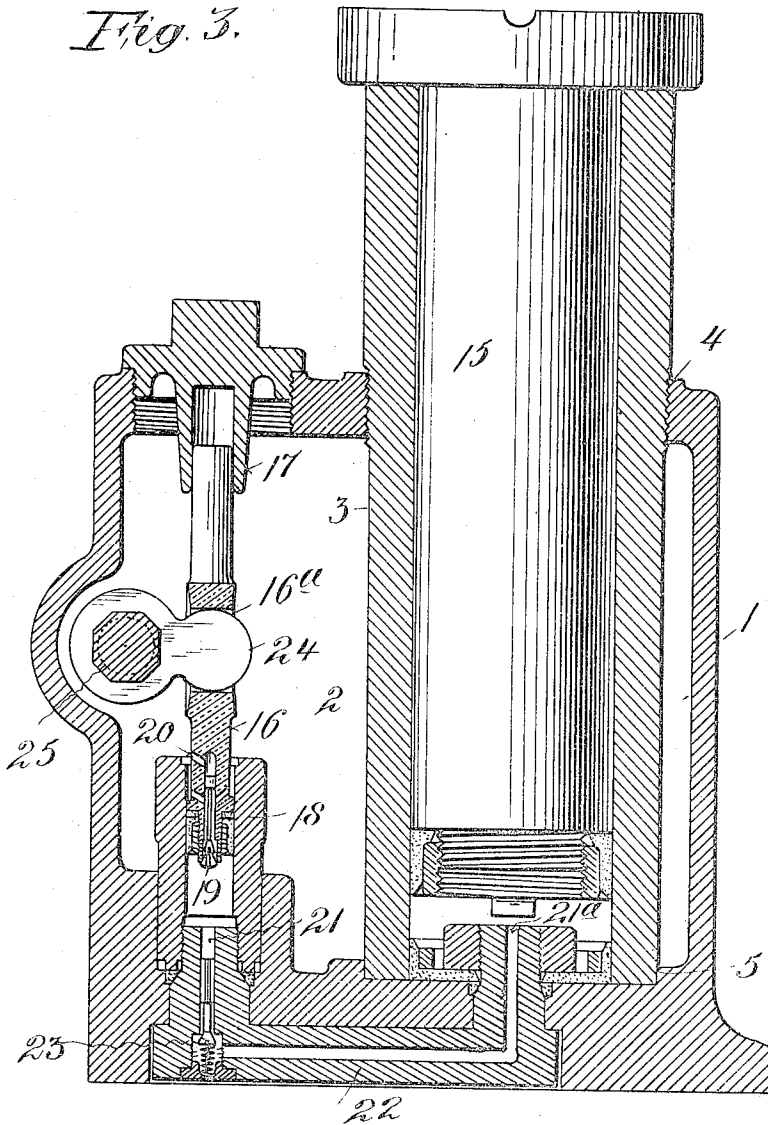
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2 SHEETS—SHEET 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD WARD BAKER, OF ROSELLE, NEW JERSEY, ASSIGNOR TO THE WATSON-STILLMAN COMPANY, A CORPORATION OF NEW JERSEY.

HYDRAULIC JACK.

957,177.

Specification of Letters Patent.

Patented May 10, 1910.

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To all whom it may concern:

Be it known that I, RICHARD W. BAKER, a citizen of the United States, and resident of Roselle, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Hydraulic Jacks, of which the following is a specification.

My invention relates to improvements in the class of hydraulic jacks that are provided with a liquid reservoir adjacent the ram or plunger, and the invention has for its object to provide efficient and convenient means to control the flow of liquid from the ram or plunger cylinder to the liquid reservoir as required.

My invention comprises the novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Figure 1 is a partly section plan view of a hydraulic jack embodying my invention, Fig. 2 is a section substantially on the plane of the irregular line 2, 2, looking in the direction of the arrows *a, a*, in Fig. 1, and Fig. 3 is a section substantially on the plane of the irregular line 3, 3, looking in the direction of the arrows *b, b*, in Fig. 1.

In the drawings the numeral 1 indicates the main casing or casting of the jack having a liquid reservoir 2 into which the cylinder 3 projects, which cylinder is shown provided with threads 4 meshing in corresponding threads in an opening in casing 1, whereby said cylinder is firmly held in said casing, the lower end of the cylinder being shown centered in a socket 5 at the bottom of reservoir 2. The casing or casting 1 has a transverse bore 1^a in which is fitted a plug or tube 6 whose horizontal bore 6^a communicates at its inner end with a passage 3^a, in the wall of cylinder 3, the inner end of plug 6 being shown fitting within a recess 3^b in the wall of cylinder 3, packing 7 making a fluid tight joint between the end of plug 6 and cylinder 3. The bore 6^a of plug 6 has an upturned portion 6^b near the outer end that aligns with a bore 1^b in casing 1, whereby communication is made from cylinder 3 through bore 6^a and passage 3^a to the interior of reservoir 2. At 8 is a valve shown carried by a stem 8^a and adapted to fit against a seat 9 at the upper part of bore 6^b whereby the flow of liquid from cylinder 3 to reservoir 2 may be controlled. Stem 8^a at its upper part is shown provided with

threads 8^b fitting corresponding threads in a nut 10 having exterior threads meshing in threads in a bore 11 in a casing 1, the upper end of stem 8^a being shown squared at 8^c to receive a key or handle 12 for operating said stem. It will thus be seen that the upper end of valve stem 8^a is located at one side of cylinder 3 above casing 1 in convenient position to permit ready operation of key or handle 12, whereby quick adjustment of valve 8 may be made as required. At 13 is a screw plug meshing in threads 14 in casing 1 and in line with plug or tube 6, whereby the latter may be readily fitted in bore 1^a and removed when required.

The means I have shown for operating ram or plunger 15 are arranged as follows: A plunger 16 slides at its upper end in a guide 17 and at its lower end travels in a guide 18 communicating with reservoir 2 and said plunger is provided with a suitable valve 19 and with ports 20, the guide 18 at its lower end communicating with a passage 21 in a block 22, the opposite end 21^a of said passage communicating with cylinder 3, a valve 23 in passage 21 preventing the return flow of fluid from the cylinder. A rocker arm 24 operating in an opening 16^a in plunger 16 serves to reciprocate the latter, said arm being carried by a suitable shaft 25 journaled in bearings in casing 1 and adapted to be rocked by handle 26 fitted to a socket member 27 on the end of shaft 25. The above described fluid forcing or pumping device comprises efficient means for operating ram 15 in well known manner, and my invention is not limited to the particular pumping device described.

Having now described my invention what I claim is:

1. A hydraulic jack comprising a casing having a reservoir, a cylinder, a ram, means to force fluid into the cylinder, a passage located in a plug set in the casing independent of said fluid forcing means communicating with the lower part of the cylinder and with said reservoir, and a valve to control said passage provided with a stem extending upwardly through the reservoir to the outer side of said casing and provided with means above the casing to permit operation of said valve and a screw plug set in the casing against the first named plug to hold the latter in position.

2. A hydraulic jack comprising a casing having a reservoir, cylinder, a ram, means to charge said cylinder from said casing, a horizontal passage located in a plug set in the casing independent of said fluid forcing means communicating with said cylinder and having an upturned portion provided with a valve seat, and a valve for said seat having a stem extending upwardly through the reservoir and provided with means for operating the stem above the reservoir and a screw plug set in the casing and bearing against the first named plug to hold the latter in proper position.

3. A hydraulic jack comprising a casing having a reservoir, a cylinder, a ram, means for charging said cylinder from said reservoir, a plug located in a bore in the casing transverse to the ram and having a passage communicating with a passage in the cylinder and having a lateral upwardly extending opening communicating with the reservoir and provided with a valve seat, and a valve for said seat having a stem passing upwardly through the reservoir and entering an opening in the casing aligned with the lateral opening in the plug and provided with means adjacent the upper portion of the reservoir for operating said stem and valve.

4. A hydraulic jack comprising a casing having a reservoir, a cylinder, a ram, means for charging said cylinder from said reservoir, said cylinder having a passage and an exterior recess, a plug fitting said recess and located in a bore in the casing and having a bore communicating with said passage and provided with an upwardly extending outlet to communicate with said reservoir,

a valve to control said outlet, and means to operate said valve.

5. A hydraulic jack comprising a casing having a reservoir, a cylinder, a ram, means for charging said cylinder from said reservoir, said cylinder having a passage and an exterior recess, a plug fitting said recess and located in a bore in the casing and having a bore communicating with said passage and provided with an upturned passage to communicate with said reservoir, a valve to control said passage provided with a stem extending upwardly through the reservoir, and means to operate said stem located adjacent the upper part of the reservoir.

6. A hydraulic jack comprising a casing having a reservoir, a cylinder, a ram, means to charge said cylinder from said reservoir, said cylinder having a passage and an exterior recess, a plug fitted in a bore in the casing and having its inner end fitted in said recess and provided with a bore communicating with the passage in the cylinder, a plug fitted in an opening in the casing against the outer part of the first named plug, the bore in the first named plug having an upward extension provided with a valve seat, a valve for said seat provided with a stem passing upwardly through the reservoir, said stem being provided with threads meshing in threads carried by the casing, and means to operate said stem.

Signed at New York city, in the county of New York, and State of New York, this 13th day of March A. D. 1908.

RICHARD WARD BAKER.

Witnesses:

DAVID GRANT,
JAS. W. HARGAN.