United States Patent [19]

Davis et al.

[11] **3,850,409**

[45] **Nov. 26, 1974**

[54] **DUAL HYDRAULIC JACK AND HOLDING DEVICE**

[76] Inventors: **Oliver Thurston Davis; Norman R. Jones,** both of Rt. 1, Dunlap, Tenn.

[22] Filed: **Mar. 23, 1973**

[21] Appl. No.: **344,440**

[52] **U.S. Cl.** ..... **254/89 H,** 254/133, 254/93 R

[51] **Int. Cl.** **B66f 7/12,** B66f 3/00

[58] **Field of Search** ..... 254/89 R, 89 H, 2 R, 2 B, 254/2 C, 93 R, 45, 133, 134; 292/264; 248/60; 214/390

[56] **References Cited**

UNITED STATES PATENTS

832,420	10/1906	Rinaldy	292/264
1,064,538	6/1913	Quickel et al.	254/2 B
2,369,545	2/1945	Dunn	254/134
2,527,841	10/1950	Mueller	254/93 H
2,565,072	8/1951	French	254/45
3,095,182	6/1963	Platt	254/134

FOREIGN PATENTS OR APPLICATIONS

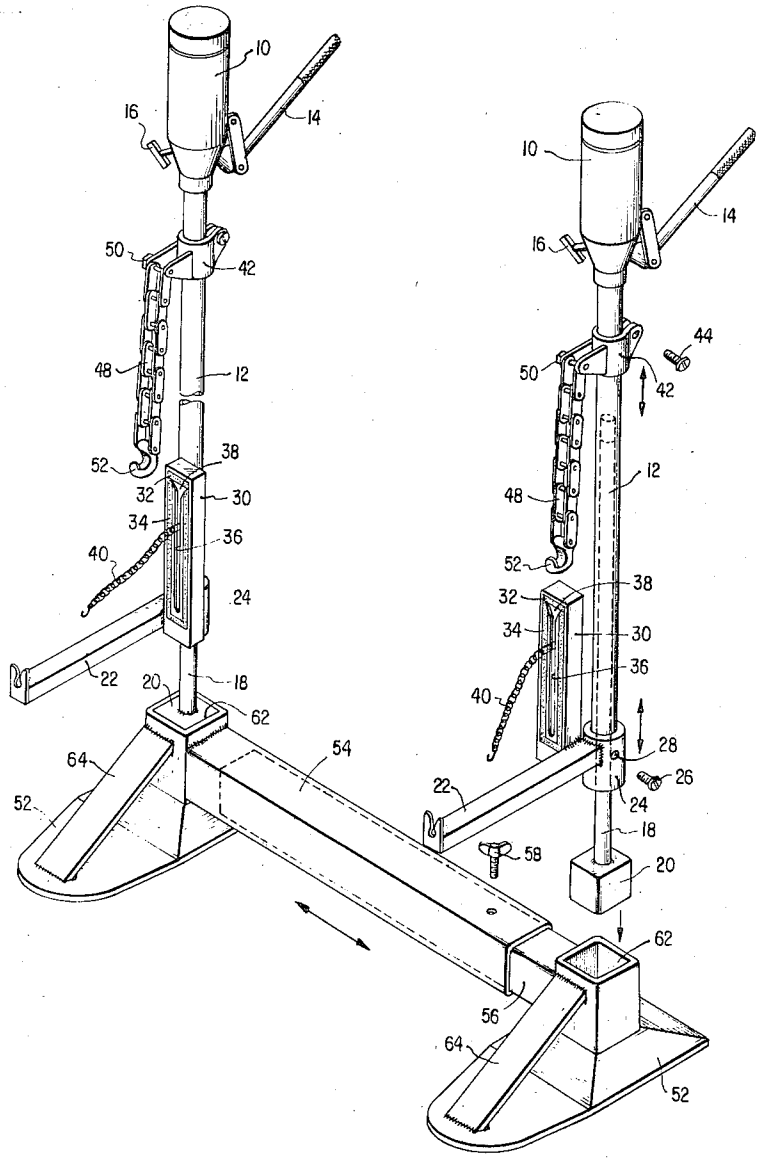
678,669	7/1939	Germany	254/134

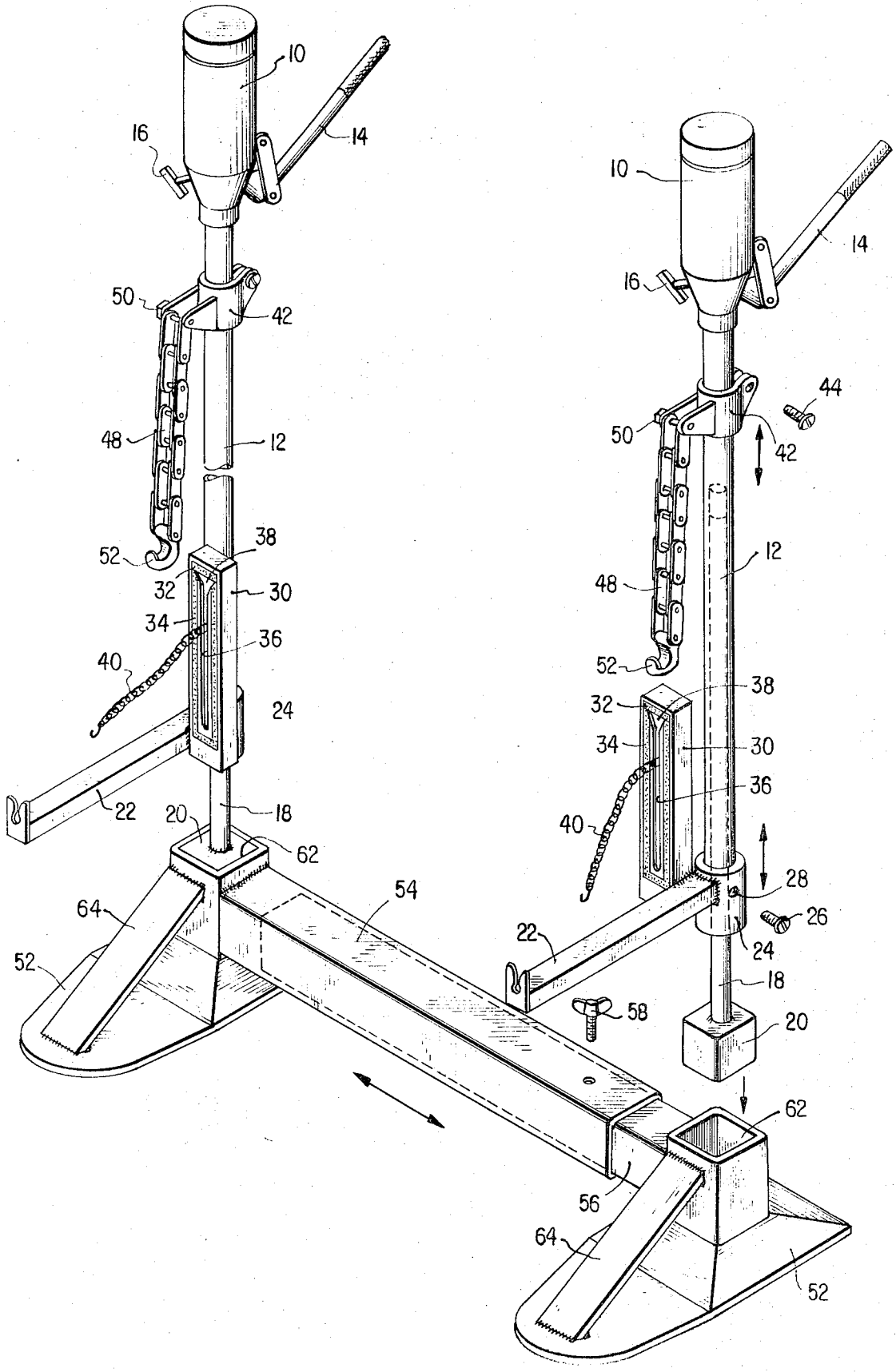
Primary Examiner—Othell M. Simpson
Attorney, Agent, or Firm—J. T. Martin; Gerald J. Ferguson, Jr.; Joseph J. Baker

[57] **ABSTRACT**

A dual jacking device for automobiles and the like having a ground supported base for holding a pair of vertically upstanding pistons. A lifting cylinder surrounds each piston and is connected to a pump for pumping hydraulic fluid into the cylinder. Each cylinder has a lifting bracket movably mounted on the cylinder and a slidable holding chain mounted on the bracket. Each cylinder also has a lifting chain, one end of which is movably mounted on the cylinder, and the other end has secured to it a hook.

3 Claims, 1 Drawing Figure




10
16
14
50
42
48
12
52
38
32
30
34
36
40
24
22
20
18
62
64
54
52
10
14
16
44
50
42
12
48
52
38
32
30
34
36
40
28
26
24
22
18
58
20
62
56
64
52

DUAL HYDRAULIC JACK AND HOLDING DEVICE

BACKGROUND OF THE INVENTION

1. Field Of The Invention

This invention relates to jacking devices for automobiles and the like and more particularly to a dual jacking device capable of lifting and holding various shaped objects at a plurality of angles with respect to the horizontal.

2. Description Of The Prior Art

There has long been a need for a device which can lift elongated members to various heights above the ground and at various angles with respect thereto. The need is particularly acute in the automotive field where doors, fenders, bumpers, and the like must be accurately positioned and securely held prior to being attached to the remainder of the automobile. There is also a great need for such a device in general repair and metal fabricating shops where objects or other structural elements must be maintained in precise elevated position.

SUMMARY OF THE INVENTION

The device includes two base plates which are connected by telescoping tubular members for maintaining the base plates in a plurality of spaced apart positions. The base plates have short vertically extending rectangular-shaped tubular members which receive holding blocks secured to one end of a piston associated with a hydraulic jack. Each hydraulic jack has a pump for forcing hydraulic fluid into a lifting column as a handle associated with the pump is actuated. The lifting column is connected to the pump and encircles the piston. A lifting bracket is mounted on each of the lifting columns which is capable of being moved to and set at a plurality of different positions on the lifting column. Each lifting bracket has mounted thereon a guard bar and a chain for holding objects on the bracket. A movable clamp is also mounted on each lifting column and is capable of being set at a plurality of different positions. A chain is secured at one end thereof to the clamp, the other end of the chain being secured to a lifting hook. Objects held by the lifting bracket and/or lifting chain can easily be raised or lowered and held at any position relative to the horizontal plane of the base plates.

BRIEF DESCRIPTION OF THE DRAWING

The drawing is a perspective view with parts in phantom of the preferred embodiments of our invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawing, where like numerals indicate like parts, a dual hydraulic jacking device made in accordance with the present invention is illustrated as having a conventional hydraulic pump **10** of the general type disclosed in U.S. Pat. No. 3,615,157 to L. D'Amico Trotta connected to a hollow, cylindrical lifting column **12.** The pump **10** has a handle **14** which upon actuation, forces hydraulic fluid from a reservoir (not shown) in the pump **10** into the lifting column **14.** A check-type valve (also not shown) in the pump **10** prevents the hydraulic fluid pumped into the lifting column **14** from returning to the reservoir. A bypass valve knob **16** when opened, permits the hydraulic fluid in the lifting column **12** to return to the reservoir.

A piston **18** is slidably positioned in the lifting column **12** and has a rectangular-shaped block of metal **20** welded to one end thereof, the function of which will be described in greater detail later. As can readily be seen, as the pump handle **14** is actuated, hydraulic fluid is forced against the piston **18** to thereby move the lifting column **12** relative to the piston **18.**

A bracket **22** for supporting objects to be lifted has a collar **24** which is slidable to any position on the lifting column **12.** A set screw **26** is located in threaded hole **28** on the collar **24** to hold the collar **24** in the desired position on the lifting column **12.** A hollow guard box **30** is secured to one side of the collar **24** adjacent the lifting column **12** such that any object supported on the bracket **22** will engage the front surface **32** and not the lifting column **12.** The front surface **32** has bumper strips **34** made of any suitable resilient material such as rubber or plastic secured thereto to prevent damage from scratching and the like on the object being supported on bracket **22.** The guard box **30** has a slotted recess **36** and an open portion **38** in the front surface **32** for accommodating a holding chain **40.** The holding chain **40** is comprised of links which are of a size sufficiently wide to prevent their passage through the slotted recess **36** but which, at their connection point, are sufficiently narrow to permit the chain to move freely in the slotted recess **36.** The length of the holding chain **40** can be adjusted by moving it to the open portion **38** and either withdrawing more chain from the guard box **30** or feeding more chain into the guard box **30.** The holding chain **40** serves to hold objects in position on the lifting bracket **22** and against the bumpers **34** on the guard **30.**

A clamp **42** is also movably mounted on the lifting column **12** and has a bolt **44** located in a threaded hole **46** for frictionally holding the clamp **42** on the lifting column **12** in any desired position thereon when the bolt **44** is tightened down. A link chain **48** is rotatably secured to the clamp **42** by means of a bolt **50.** The link chain **48** is provided with a hook **52** for grasping and holding objects such as the narrow edges of bumpers, fenders or the like. Link chains **48** of different lengths and hook configurations can be easily substituted by simply removing the bolt **50** and attaching the new chain and reinserting the bolt **50.**

A base is provided having floor plates **52** which are maintained in spaced-apart relationship by means of a first rectangular-shaped horizontally extending tubular member **54** secured to one of the floor plates **52.** A second rectangular-shaped horizontally extending tubular member **56** is secured to the other floor plate **52** which is positioned within the tubular member **54** and is slidable relative thereto. A winged screw **58** is positioned in threaded hole **60** and frictionally engages the second tubular member **56** to hold it in the desired position relative to the first tubular member **54.** The floor plates **52** also have vertically extending rectangular-shaped tubular elements **62** secured thereto for receiving the rectangular-shaped block of metal **20** secured to the end of each piston **18.** When the metal blocks **20** are positioned in the tubular elements **62,** the pistons **18** and the hydraulic pumps and lifting columns **10, 12** mounted thereon are held in rigid, parallel alignment relative to each other. Braces **64** are also provided which extend from the floor plates **52** to the tubular el-

ements **62** and serve to maintain the tubular elements **62** perpendicular to the floor plates **52** under the heavy loads being supported by either the bracket **22** or the link chain **48.**

When it is desired to transport or to store the dual jacking device of the present invention, the metal blocks **20** can be removed from the tubular elements **62** and the second tubular member **56** can be withdrawn or completely telescoped within the first tubular member **54.**

Although we have shown and described a certain embodiment of our invention, it will be understood that we do not wish to be limited to the exact construction shown and described, but that various changes and modifications may be made without departing from the spirit and scope of the invention as defined in the appended claims.

What we claim is:

1. A dual jacking device comprising:

a. a base having spaced-apart floor plates, said floor plates being movable relative to each other and securable against further movement at any desired position, said floor plates further having vertically extending tubular elements secured thereto,

b. two vertically upstanding jacking means mounted on said base in spaced-apart relationship, each of said jacking means further comprising a hydraulic pump, a lifting column secured to said pump, and a piston positioned in said column and movable relative to said column upon actuation of said pump, said tubular elements being capable of receiving one end of said piston, and

c. first and second lifting means secured to each of said jacking means for supporting an object relative to said jacking means.

2. A jacking device as set forth in claim **1** wherein one end of each of said pistons has a metal block secured thereto, said metal block being insertable into said tubular element for supporting said each of said jacking means in vertical alignment with each other.

3. A dual jacking device comprising:

a. spaced-apart base members, said base members being interconnected by tubular members in telescoping relationship to each other, said tubular members serving to maintain said base members in spaced-apart relationship,

b. vertically upstanding jacking means mounted on each of said base members, each of said jacking means having a hydraulic pump, a lifting column secured to said pump and a piston positioned in said column movable relative to said column upon actuation of said pump,

c. a bracket movably mounted on said cylinder having both screw means for securing said bracket to said lifting column in any desired position, said bracket further having guard box means with chain means movable relative to said guard box for holding in position an object supported by said bracket, and

d. clamp means movably mounted on said cylinder having both screw means for securing said clamp to said lifting column in any desired position and chain means secured at one end to said clamp, the other end of said chain means having a hook secured thereto for supporting an object relative to said lifting column.

* * * * *