United States Patent [19]

Hollingsworth

[11] **3,840,210**

[45] **Oct. 8, 1974**

[54] **SKID JACK FOR MOBILE HOMES**

[76] Inventor: **Richard L. Hollingsworth,** 105 Watson Ave., Shrewsbury, W. Va. 25184

[22] Filed: **June 5, 1973**

[21] Appl. No.: **367,137**

[52] **U.S. Cl.** ..... **254/9 R,** 254/84, 280/43.23

[51] **Int. Cl.** **B66f 11/04**

[58] **Field of Search** ..... 254/9 R, 9 B, 9 C, 84, 254/85, 89, 124; 280/43.17, 43.22, 43.23; 214/1 D, 1 M; 238/13

[56] **References Cited**

UNITED STATES PATENTS

2,471,901	5/1949	Ross	254/89
2,896,909	7/1959	Taylor	254/9 R
2,929,519	3/1960	Taylor	214/1 D
2,931,519	4/1960	Beach	214/1 D
3,544,127	12/1970	Dobson	280/43.17

Primary Examiner—Al Lawrence Smith
Assistant Examiner—Robert C. Watson
Attorney, Agent, or Firm—Gustave Miller

[57] **ABSTRACT**

This is a skid jack for mobile or trailer homes. It consists of a substantially rectangular frame having mobility provided by a pair of castor wheels and a pair of power wheels on an axle having a slip clutch so that it can be steered. The entire jack as assembled is of substantial size, weighing about 1,800 or 2,000 pounds. The wheels are only for providing mobility in properly positioning the jack under the mobile home, and are retracted so that the frame is based on the ground directly. Hydraulic power means is provided for the various operations, including powering the wheels, lifting a support rail against the bottom of a mobile home to lift it up, skidding the supported mobile home up to twelve inches at a time. Separately controlled hydraulic means are provided for lifting, supporting and lowering each end of the support rail.

The procedure is repeated often as necessary according to the distance it must be moved. The castor wheels may be latched against castoring to move the jack in a straight line. A separate hydraulic cylinder is provided for raising or lowering the four wheels simultaneously, another cylinder for skidding the support rail, another for lifting one side, another for lifting the other side and hydraulic means are provided for power in the wheels. A separate valve is provided for each cylinder, the valve being controllable for operating in both directions, as well as for locking the part against operation.

9 Claims, 9 Drawing Figures

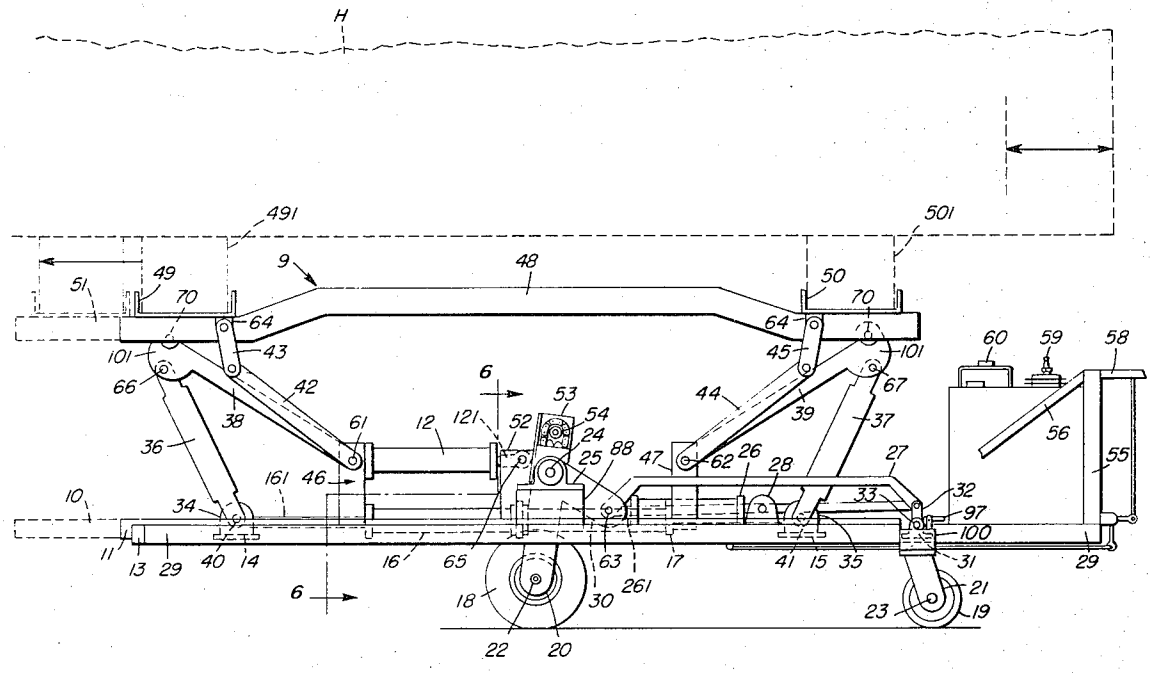
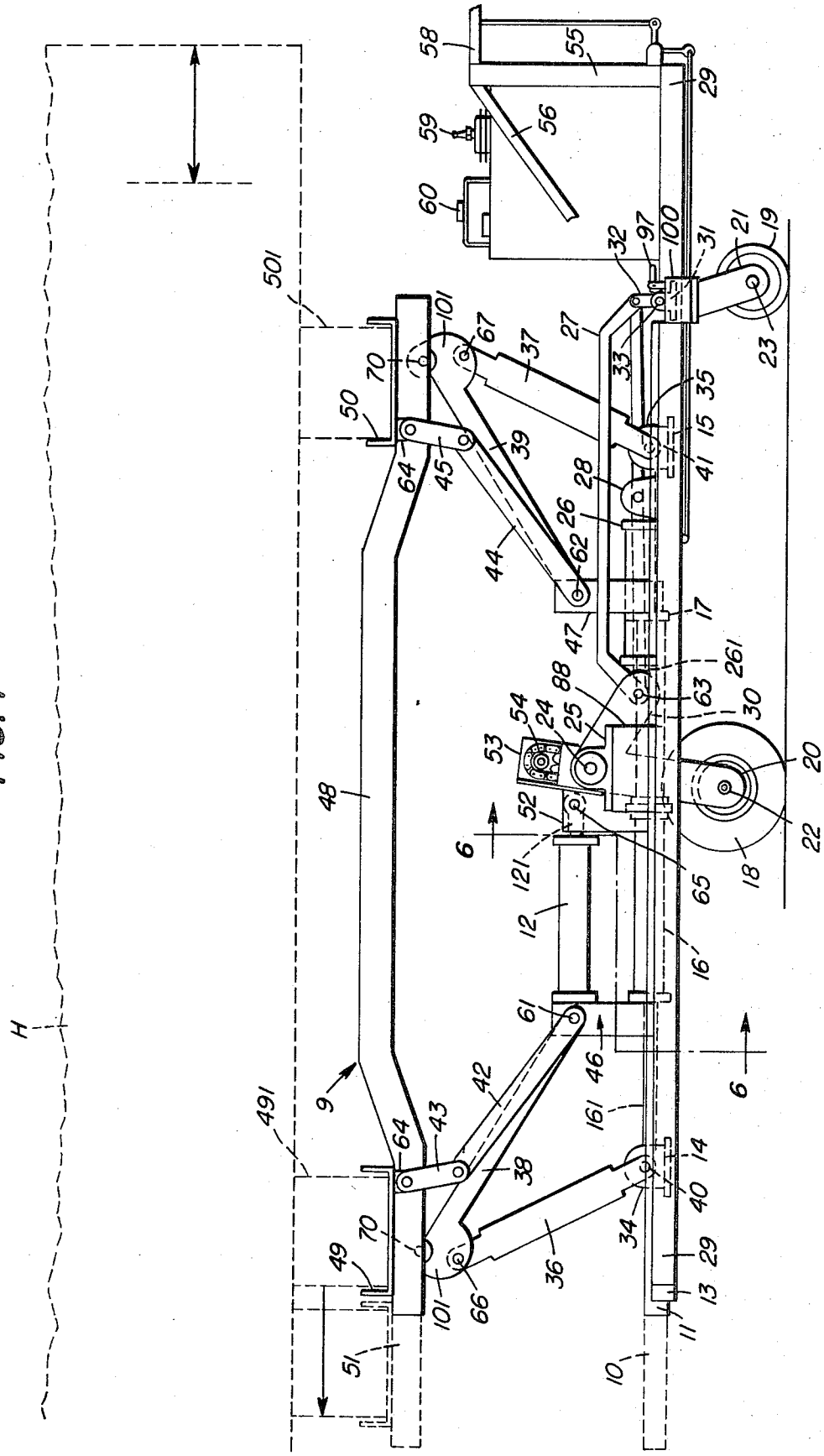


FIG. 1


H
501
491
9
6
6
58
55
29
59
56
60
32
97
100
31
21
19
23
101
67
37
27
70
33
35
50
15
41
64
45
39
28
26
62
44
17
47
261
88
63
30
54
24
25
53
20
48
52
22
121
65
18
12
16
61
46
42
161
43
14
38
40
34
70
49
36
29
13
66
101
11
51
10

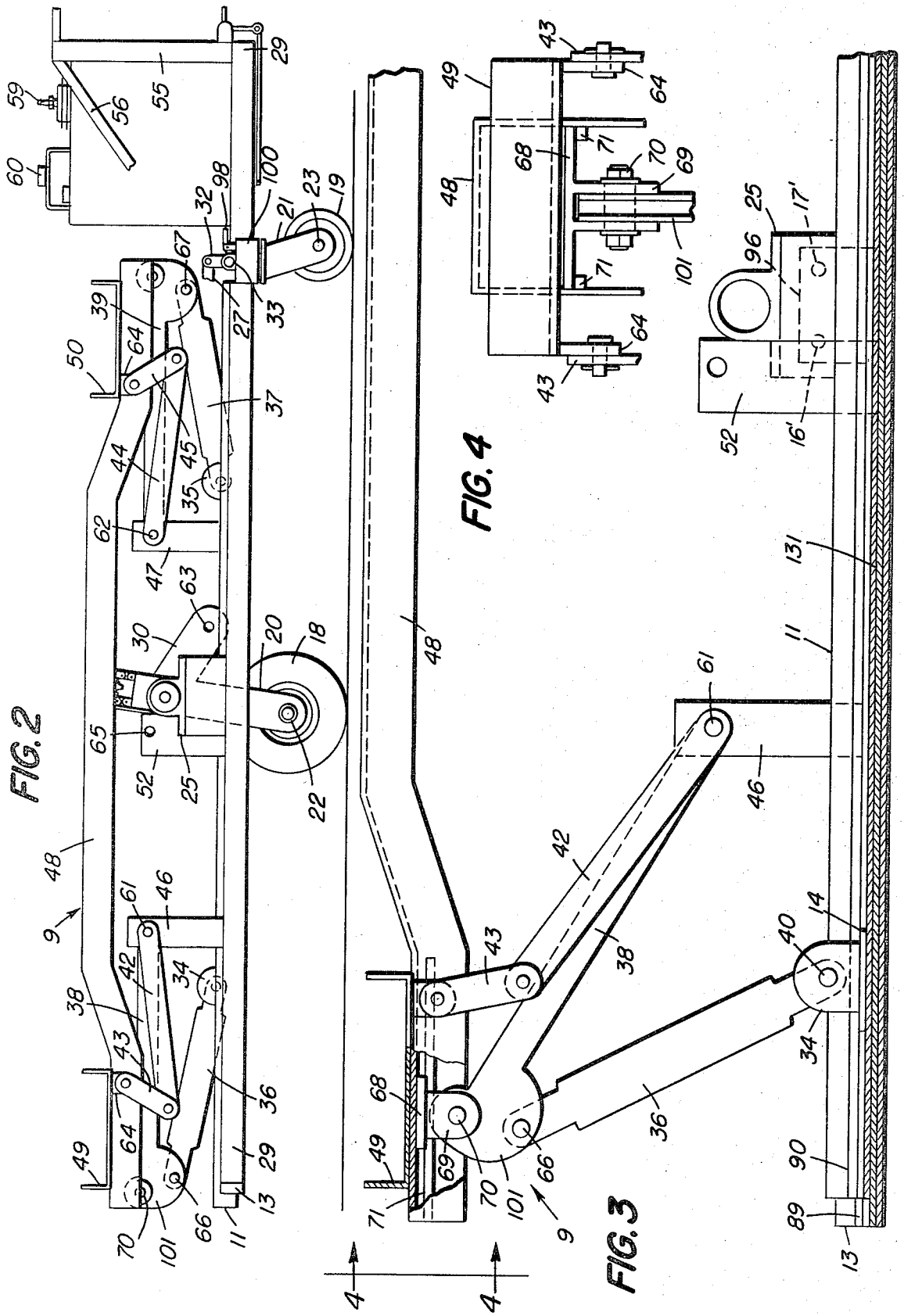

FIG. 2
FIG. 4
FIG. 3

FIG. 5

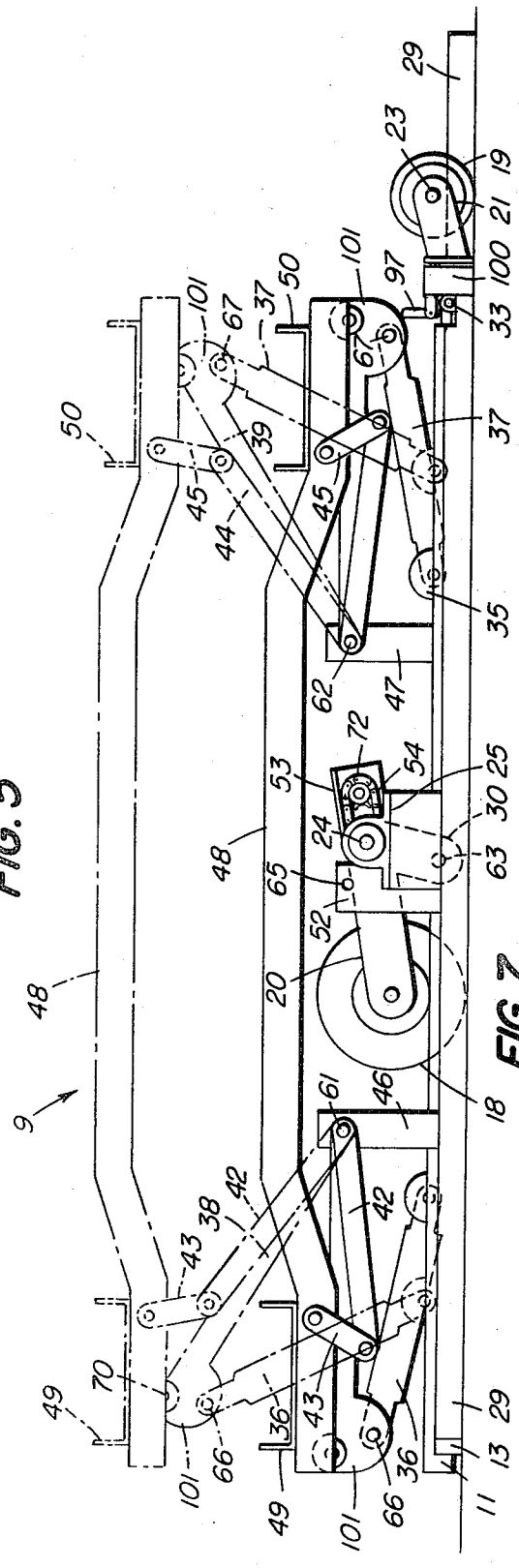

9
11
13
18
20
23
24
25
28
29
30
35
36
37
38
39
42
43
44
45
46
47
48
49
50
52
53
54
61
62
63
65
66
67
70
72
97
100
101

FIG. 7

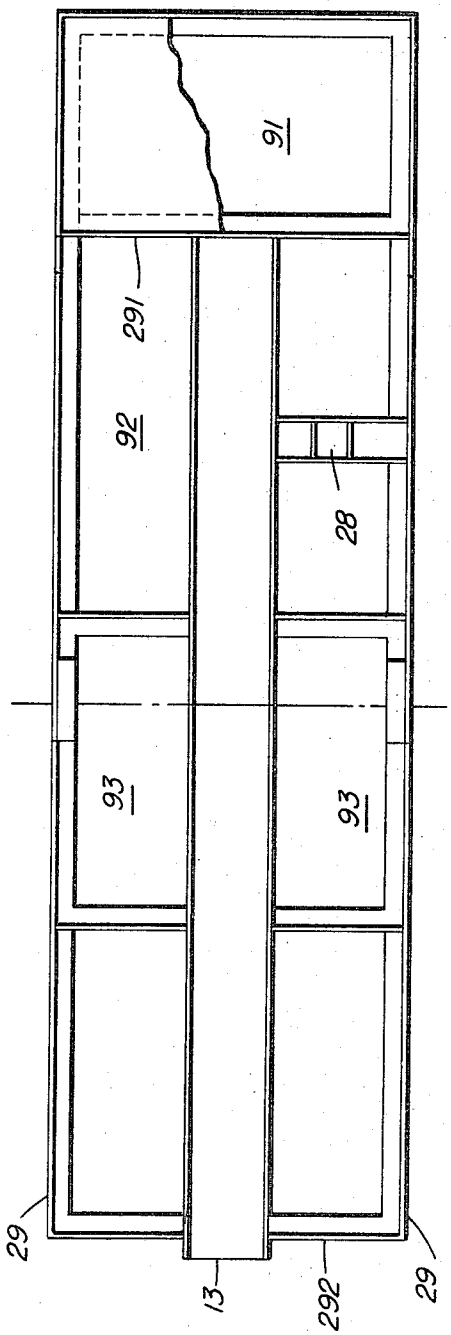
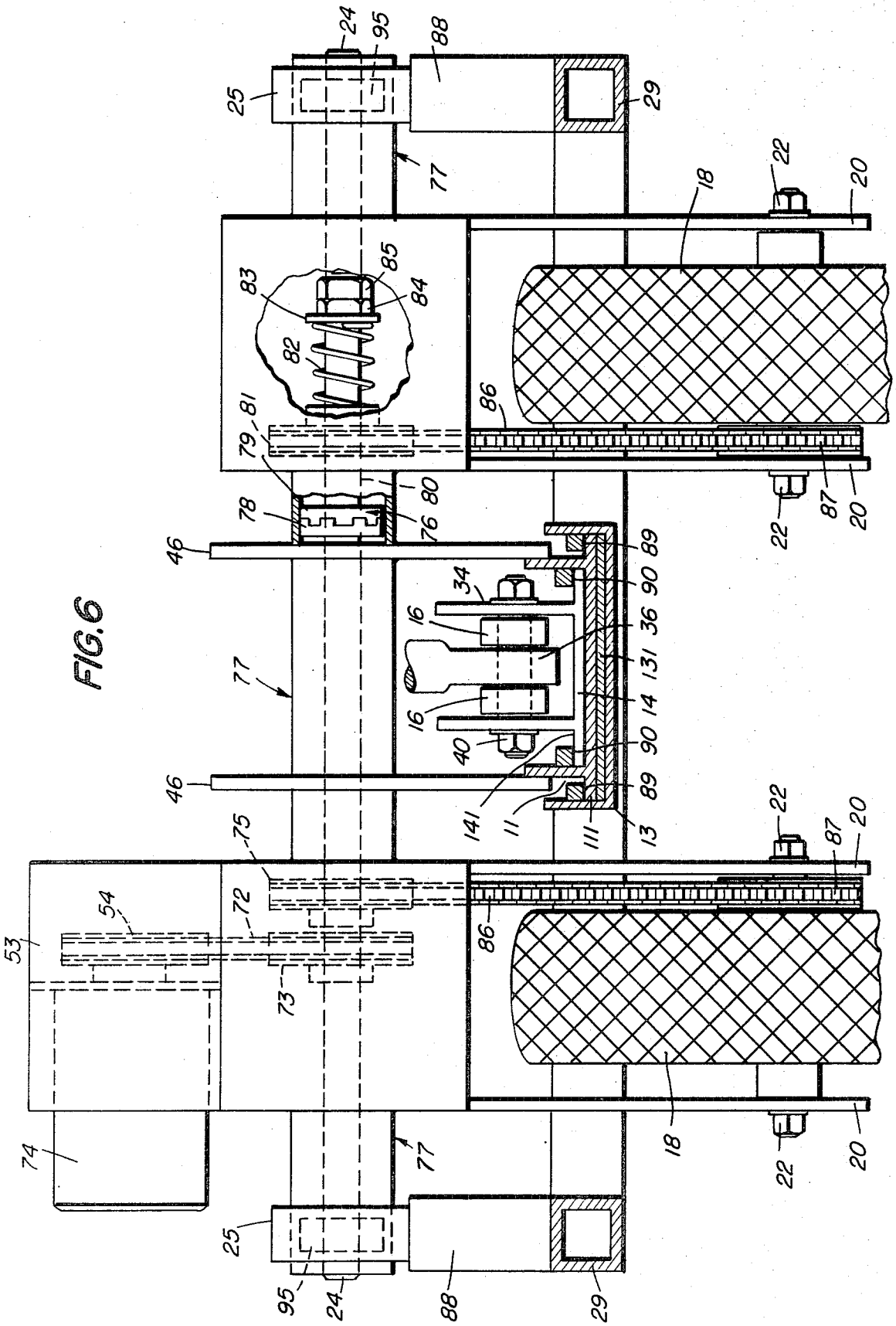

91
92
93
93
28
291
29
13
292
29

FIG. 6


24
95
88
25
29
77
22
20
18
83
85
84
82
81
79
86
78
80
76
46
89
90
34
16
36
131
14
40
141
11
111
13
87
75
72
54
53
73
74

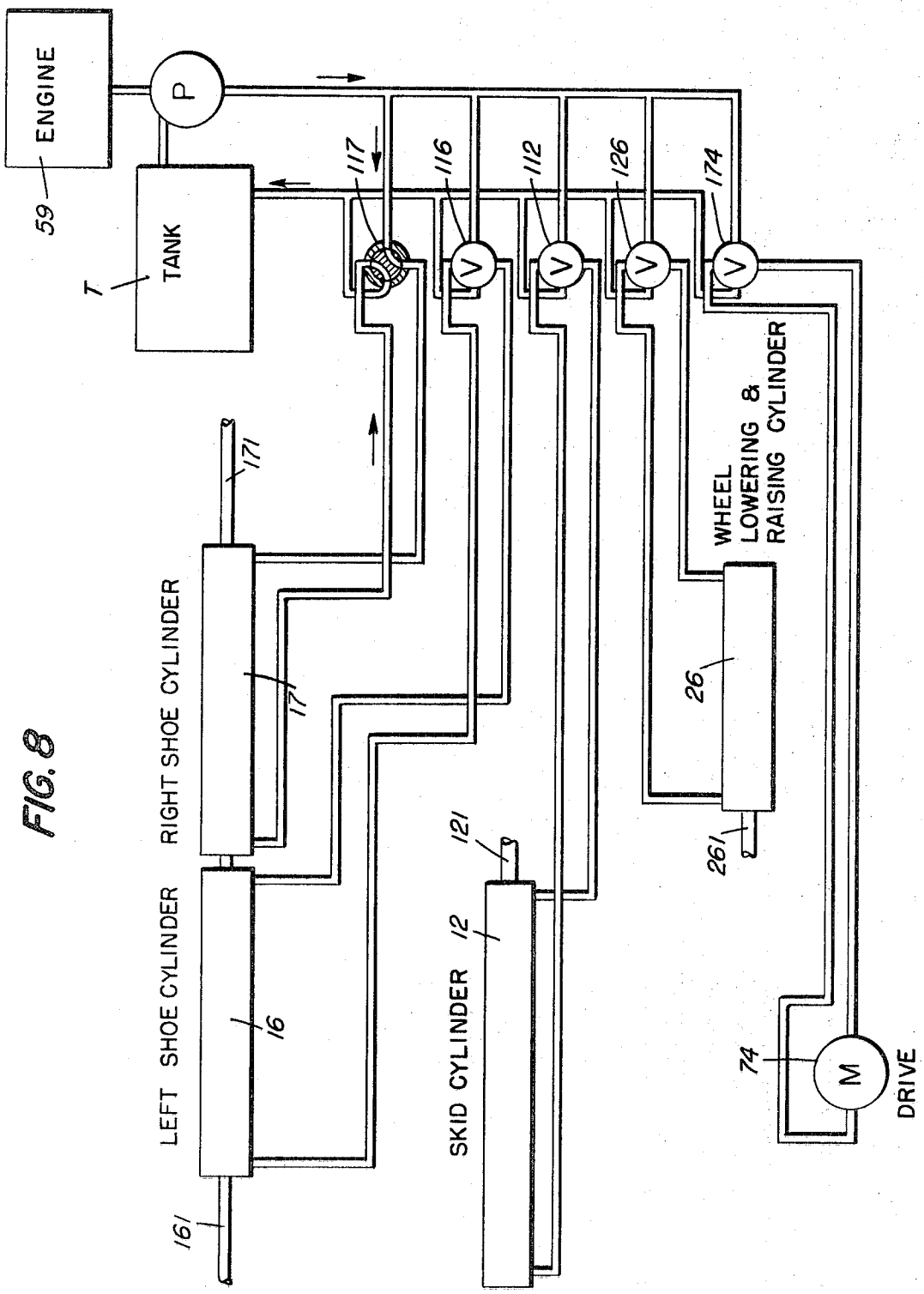

ENGINE
59
P
TANK
T
117
116
112
126
174
V
171
RIGHT SHOE CYLINDER
17
LEFT SHOE CYLINDER
16
161
121
SKID CYLINDER
12
WHEEL LOWERING & RAISING CYLINDER
26
261
74
M
DRIVE

FIG. 8

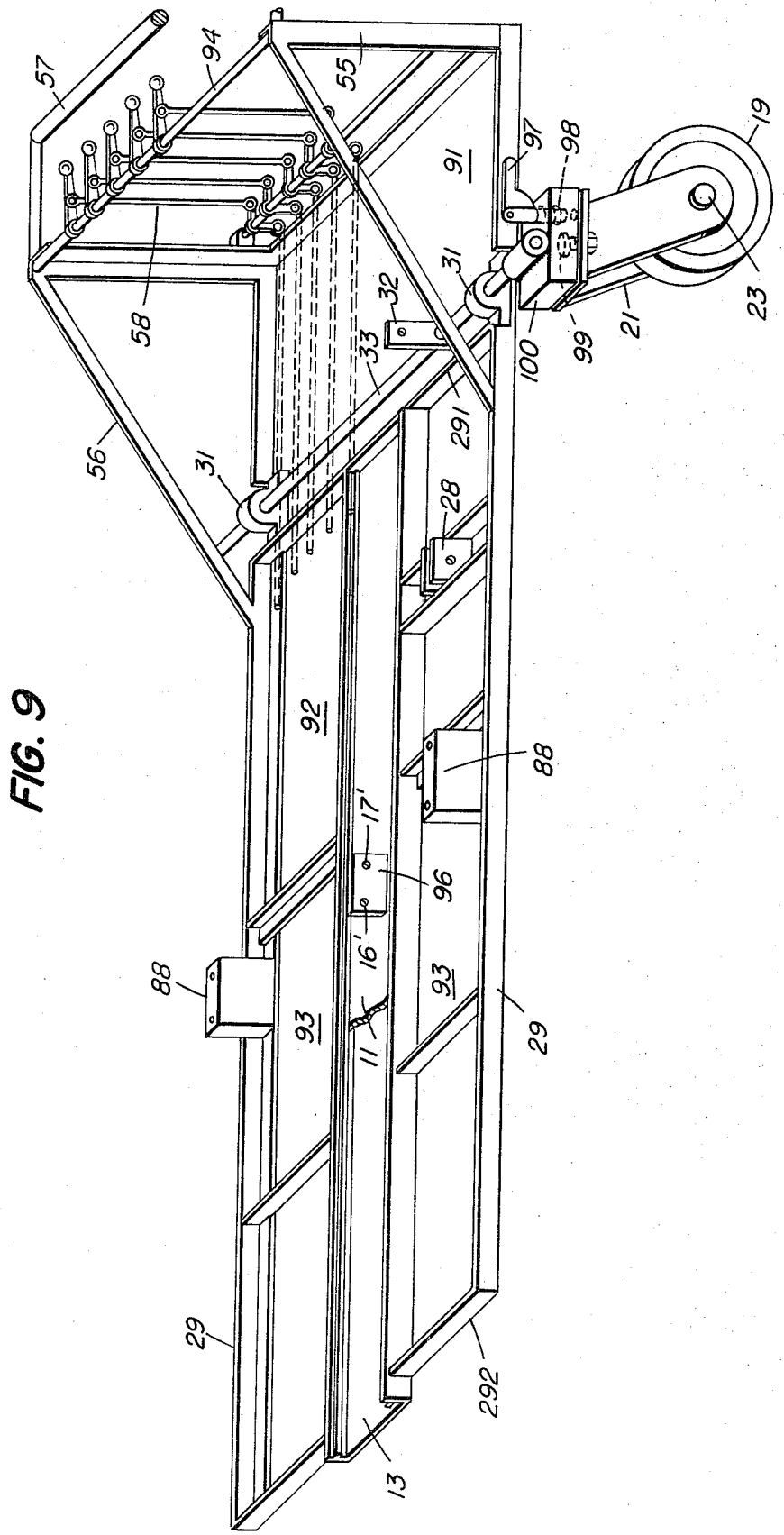

57
94
55
19
97
98
91
58
31
32
23
21
99
100
33
291
56
31
28
92
88
17'
96
16'
88
93
93
11
29
29
292
13

FIG. 9

SKID JACK FOR MOBILE HOMES

BACKGROUND OF THE INVENTION

Mobile homes or trailer homes are being built bigger and bigger, both in length and width, sometimes being made in two longitudinal portions, up to 75 feet in length and 14 feet in width, especially when in two pieces. Such large mobile homes or halves thereof must be transported over highways and then often over winding, narrow roads, with curves too sharp for the mobile home to be towed around the curves, or around sharp corners. Then, at the destination, the mobile home must be maneuvered onto the mobile home site, often a question of moving them laterally, there being no possibility of moving them longitudinally. At present, this is handled by a tow truck, placing greased panels under the mobile home, and pushing or pulling thereagainst, always with extensive damage to the mobile home, and at considerable cost in time, as well, severely tying up traffic on the narrow highways.

OBJECTS OF THE INVENTION

It is an object of this invention to provide a skid jack capable of safely maneuvering large mobile homes or the like in very limited areas, such as on narrow curved or winding highways, or in positioning the trailer or mobile home into its permanent location.

A further object of this invention is to provide a skid jack capable of maneuvering all sizes of mobile homes, particularly the very large sizes, to move or skid them around corners or into position when positioning the mobile home into its permanent location.

Still, a further object of this invention is to provide a skid jack that can lift a mobile home and move it a step at a time, up to twelve inches per step, to move it either in a desired direction or to position it as desired.

A further object of this invention is to provide a skid jack capable of moving or rather skidding a very heavy, large load a short distance at a time without damage to the load.

A further object is to provide a skid jack that is mobile and self-contained.

A further object of this invention is to provide a skid jack that rests its base firmly on the ground when jacking up the load and skidding the load, and that has powered and castored wheels that are extendible for mobility and retractable for jack operation.

A further object of this invention is to provide an improvement over prior art jacks such as illustrated in U.S. Pat. Nos. 2,535,221; 2,471,901; 2,896,909; and 2,929,519, amongst others.

BRIEF DESCRIPTION OF FIGURES

With the above and related objects in view, this invention consists in the details of construction and combination of parts, as will be more fully understood from the following description, when read in conjunction with the accompanying drawings, wherein:

FIG. **1** is a side elevation showing both the lifting rail in elevated position and the wheels in extended position, for economy of drawing. In actual operation, the wheels are retracted while the rail is being elevated, held up or being lowered. The top rail is kept in lowered position when the wheels are extended for moving or positioning the entire skid jack, as in FIG. **2.**

FIG. **2** shows the skid jack with the top rail in lowered position and the wheels in extended position for moving the skid jack about to properly position it, the hydraulic power system being omitted for clarity.

FIG. **3** is an enlarged view, partly in section, showing the details of one of the movable top and bottom shoes and of the skid plate.

FIG. **4** is a framentary end view on line **4—4** of FIG. **3.**

FIG. **5** shows the jack in full lines as positioned under a mobile home, and in dotted lines with the top rail in elevated position for lifting a mobile home for skidding it.

FIG. **6** is an enlarged transverse sectional view on line **6—6** of FIG. **1.**

FIG. **7** is a top plan view of the rectangular frame and skid channel member.

FIG. **8** is a shematic plan of the operating hydraulic mechanism and drive motor.

FIG. **9** is a perspective view of the frame and skid channel member of FIG. **7** with some additional details.

There is shown at **9** the skid jack of this invention for skidding or positioning mobile homes. As an assembled whole, it usually weighs about 1,800 to 2,000 pounds. Lifting jack **9** includes a substantially rectangular base frame. It is made up of end, side and transverse heavy angle iron members providing a rigid frame as apparent in FIGS. **7** and **9.** Extending from one transverse angle iron member **291** across the other two intermediate angle iron members and the end angle iron member **292** longitudinally of the center line is a bottom skid channel plate **13,** the inside of which is kept well greased at **131** in operation. A skid channel member **11** may be skidded or moved in the skid channel plate **13,** up to a distance of approximately 12 inches, as far as position **10.** The bottom skid channel plate **13** is approximately 8 feet long. These and other dimensions mentioned here and elsewhere in this specification are that of a full size jack that has been constructed and operated, and are mentioned to show approximate proportions of the various details.

Guide bars **89** (see FIGS. **3** and **6**) are welded to the inner sides of the side walls of skid channel plate **13** and cooperate with laterally extending webs **111** of skid **11** to retain the skid **11** slidably in position within skid channel plate **13.** Similar guide bars **90** on the inner side walls of channel skid **11** cooperate with webs **141** of left and right bottom travel shoes **14** and **15,** each of which are independently movable a distance of approximately 10 inches on a coating of grease on the inner bottom of channel skid **11.**

Clevis eyes **34** and **35** on bottom travel shoes **14** and **15** receive one inch clevis pins **40** and **41** on which are pivoted left and right pusher rods **36** and **37** for controllably lifting, supporting and lowering either or both ends of the inverted channel to rail **48.** This top rail **48** is about 8 feet long, being about three inches lower at each end in order to keep the height of the jack **9** as low as possible. Fixedly straddling these lowered ends of rail **48** are lifting brackets **49** and **50** for cooperating with left and right bottom beams **491** and **501** of mobile home H being transported and positioned.

The top ends of pusher rods **36** and **37** are pivotally connected by one inch clevis pins **66** and **67** to knee portions **101** of right and left lifting linkage rods **38** and **39.** These knee portions **101** are in turn pivotally con-

nected by one inch clevis pins **70** to clevis eyes **69** extending downwardly from left and right upper travel shoes **68.** These upper travel shoes **68** are slidable about 7 inches in the inverted bottom ends of rail **48,** being slidably retained therein by guide bars **71** extending the length of the lower end portions of top rail **48** and are well greased.

The bottom ends of lifting linkage rods **38** and **39** are each pivotally connected by clevis pins **61** and **62** respectively to left and right lifting linkage rod base posts **46** dnd **47,** each welded to the skid member **11.** Also pivotally connected to these same linkage rod base posts **46** and **47** by the same clevis pins **61** and **62** are two pairs of pivotally connected stabilizer bars **42** and **43,** and **44** and **45,** the longer stabilizer bars **42** and **44** being pivoted to the base posts **46** and **47,** the shorter bars **43** and **45** being each respectively pinned by clevis pins to clevis eyes **64** (see FIG. **4**) integrally depending from brackets **49** and **50** at the ends of top rail **48.**

The base posts **46** and **47** are each welded at their bottom ends to the skid channel member **11.** Base post **46** is abutted by skid cylinder **12,** and the piston rod **121** of cylinder **12** is pivoted by clevis pin **65** to base post **52.** Base post **52** is welded to the side of skid channel plate **13,** and thus fixed relative to the frame **29.** No cylinder is needed or provided for the right base post **47** because it also is fixed to skid **11** and is thus fixed relative to the left base post **46.**

Left travel shoe **14** is independently actuated by cylinder **16** and its cylinder rod **161,** cylinder **16** being pinned and abutted at eye **16'** to bracket **96** fixed on skid **11.** Right travel shoe **15** is similarly actuated by right cylinder **17,** pinned and abutted by the same bracket **96** at eye **17',** the piston rod **171** of cylinder **17** being pinned to right travel shoe **15.**

Mobility for the jack **9,** for positioning it, is provided by a pair of powered wheels **18** and a pair of castor wheels **19,** which may be simultaneously extended below the jack **9** or entirely retracted by having their power wheel forks **20** and castor wheel forks **21** connected together by a tie rod **27** and actuated, that is, raised or lowered, by cylinder **26** and piston rod **261,** operating details of which follow.

The back or castor wheels **19** have their axles **23** in castor forks **21.** These castor forks **21** are vertically pivoted at **99** for castor movement in a pillow block **100.** A latch **97** and latch spring **98** may be manually operated to latch or release the castor fork **21** for castor movement relative to pillow block **100.** The pillow block **100** in turn is securedly fastened on cross shaft **33,** which is journaled on a bearing **31** fixed on frame **29** for 90° rotation by actuating arm **32** fixed thereto for thus raising or lowering all the wheels. This actuating arm **32** is operated by being pivoted to the tie rods **27** whose other ends are pivoted by one inch clevis pins **63** to front or power wheels fork angular arm **30** as well as to tie rods **27.**

The arm **30** is an angular arm integrally extending from the top of fork **20** so as to raise or lower front power wheels **18** simultaneously with the back castor wheels **19.** The raising or lowering is done by the wheel lowering and raising cylinder **26** and its piston rod **261** pivoted by clevis pin **63** to arm **30.** Cylinder **26** is abutted and pivoted to base bracket **28,** which is fixed to frame **29.** The piston rod **261** has its outer end pivoted on the angular arm **30** of front wheel forks **20** and thus controls and actuates the tie rod **27,** thereby controlling the lifting and lowering of the front power wheels **18** and the back castor wheels **19.**

As shown in FIG. **9,** a series of controls **58** are provided for each of the four cylinders **12, 16, 17** and **26,** consisting of hydraulic valves, as in FIG. **8** valve **112** for skid cylinder **12,** valve **116** for left shoe cylinder **16,** valve **117** for right shoe cylinder shoe **17,** and valve **126** for wheel lowering and raising cylinder **26.** A fifth hydraulic valve **174** is provided for hydraulically operating the hydraulic motor **74** that powers the wheels **18** in either direction. As shown in section for the hydraulic valve **117,** all the valves can direct the hydraulic pressure fluid in either direction, as well as for cutting off and locking the pressure fluid in place.

The hydraulic fluid is provided by a pump P run by a gasoline engine **59** and the pressure fluid travels through each of the valves as called for by their setting and then goes to the reservoir tank T and back to the pump P, as needed. The gasoline engine **59,** pump P, gasoline tank **60,** reservoir tank T and other incidental operating mechanism are located in area **91** on the frame **29** between the cross angle iron **291** and the end of the frame and between the brace arms **56** and hydraulic control panel bar **94** on an upright support post **55,** to which is connected the handle bar **57** for manually steering the jack **9.**

The hydraulic valves are physically located in the area **92** and are operated by remote control by the hydraulic control members **58.** Openings **93** in the frame **29** are wells for receiving and storing the retracted power wheels **18,** while the castor wheels **19** are retracted outside the frame **29** but adjacent the area **91.**

The mechanism for powering the wheels **18** is shown in more detail in FIG. **6.** The wheels **18** are journaled on axles **22** in the forks **20.** A sprocket **87** is secured within the fork **20** on each wheel **18,** and a sprocket chain **86** connects the wheel sprocket **87** to shaft sprocket **75** or **81** in power wheel assembly **77,** the left sprocket chain **86** connecting to sprocket **75** and the right sprocket chain **86** connecting to shaft sprocket **81.** Both shaft sprockets **75** and **81** are powered by a drive shaft **24** journaled inside roller bearings **95,** the assembly **77** being also journaled on the outside of bearings **95** and inside bearing blocks **25** supported at **88** on frame **29.**

The hydraulic motor **74** is mounted in a bracket **53** and the motor shaft of motor **74** has a sprocket **54** connected by sprocket chain **72** to a sprocket wheel **73** fixed on drive shaft **24** for rotating the drive shaft **24** and thus supplying power to the drive shaft **24.** The drive shaft **24** in the assembly **77** includes a slip clutch assembly **76** consisting of a serrated clutch face **78** integrally united to the shaft **24,** and a second serrated clutch face **79** on a spacer member **80** journaled on and axially slidable on the power shaft **24** and having the sprocket **81** integrally secured thereto. The spacer **80,** sprocket **81,** and its clutch face **79,** are yieldably urged into clutching contact with clutch face **78** by a spring **82** biased thereagainst by a washer **83** adjusted by a nut **84** and locked in adjusted position by a lock nut **85,** both threaded on the end of shaft **24.** The clutch faces being serrated, their tapered saw-like teeth will slip away from each other whenever back or forward pressure on either one wheel is greater or less than on the other wheel, thus permitting the wheels to rotate at different speeds in either direction.

The shaft **24** will deliver power to both wheels **18** equally as long as no side pressure is applied manually by the manually held and controlled steering handle **57.** However, when it is desired to turn the direction of the jack in either direction, appropriate side pressure is manually applied to handle **57** so that one wheel **18** will have to turn faster or slower than the other. The back or forward pressure from the right wheel **18** (as viewed in FIG. **6**) along its sprocket chain **86** will cause the serrated clutch face **79** to move axially against the spring **82** and slip away from the fixed serrated clutch face **78** on shaft **24,** the serrated teeth being saw-like or tapered thus permitting the two wheels **18** to operate at different speeds to make a turn in either direction.

OPERATION OF THE INVENTION

When the jack is being raised, the wheels **18** and **19** are first lowered or extended by control valve **126** receiving and directing hydraulic fluid from pump P (being in operation from the engine **59**). With the wheels fully extended, the valve **174** is adjusted to lock the fluid in the cylinder **26** and thus maintain the jack in raised position.

If jack **9** has been transported on a truck or small tractor and must be unloaded, the back castor wheels are locked against castoring by the latch pin **97.** This keeps the back wheels **19** in straight line with the power wheels **18** so that jack **9** can readily back down the truck or tractor ramp for unloading. Then, when on the ground, the latch pin **97** is actuated to free the castor wheels **19** for pivoting as needed in guiding the jack **9.**

When the jack **9** is at the point to be placed under the mobile home H, latch pin **97** is actuated to lock the castor wheels **19** against castoring. With the top rail **48** in lowered position, the wheels **19** and **20** are lifted from the fully extended position to a position contacting the ground just an inch or two below the frame **29,** just below the position illustrated in FIG. **5,** enough for the wheels **18** and **19** to have good frictional contact with the ground. In this position, the jack **9** is only 13 or 14 inches high, and it can be readily maneuvered under a mobile home H. Then, when the jack **9** is thus manervered into the proper position, the rail **48** may be raised enough to verify that the lifting brackets **49** and **50** are properly positioned to mobile home supporting beams **491** and **501.** Then, when valve **126** is operated, it retracts all the wheels, lowering the jack so that it rests and is based on the ground therebeneath. Next, the valves **116** and **117** are operated independently but simultaneously to lift both ends of the rail **48** if on level ground. If the ground is slightly uneven, the lower end may be raised to make the home level, or it may be deliberately placed at an angle as desired. The home H may be raised as much as thirty inches if needed. Then, while valves **116** and **117** are placed in jack supporting position, valve **112** is actuated to skid or transversely move the skid **11,** the rail **48** and home H, as desired, up to a maximum distance of twelve inches to positions **10** and **51.** If more distance is needed, the rail **48** is lowered, and the procedure is repeated to reposition the jack **9,** then the rail **48** is again raised after repositioning the skid **11,** and the entire procedure may be repeated as often as necessary. Either side of the mobile home H may be lifted independently by either control valve **116** or **117** to hold one side up, as for changing a tire on the mobile home, or for changing the angle level of the home H, as may be necessary or desired. The mobile home H may be similarly manipulated on a narrow highway to take it around a corner without damaging it, much more quickly and safely than with present methods of using tow truck and greased panels.

ABSTRACT OF THE DRAWINGS

In the drawings, like numbers refer to like parts, and for the purpose of explication, set forth below are the numbers part of the improved MOBILE HOME JACK of this invention.

9 jack
10 set over or extended position of skid **11**
11 channel shaped skid member, 8 feet long, greased on both inside and bottom side
12 skid operating cylinder
13 channel shaped skid plate in which skid **11** is reciprocable to a maximum of 12 inches up to position **10**
14 left bottom travel shoe, slidable in skid **11**
15 right bottom travel shoe in skid **11**
16 left travel shoe cylinder abutting against bracket **96** at **16'**
16' left clevis pin eye in **96**
a right travel shoe cylinder abutting against bracket **96** at **17'**
17' right clevis pin eye in **96**
18 front powered wheels, retractable and extendable
19 castored back wheels, retractable and extendable
20 front wheel forks
21 castored back wheel forks
22 one inch axles in forks **20** for wheels **18**
23 one inch axles in forks **21** for wheels **19**
24 front wheel assembly power shaft
25 front wheel pillow type bearing block
26 wheels lowering and raising cylinder
27 tie rod connecting all wheels for simultaneous lowering and raising operation.
28 mounting base bracket for wheel cylinder **26**
29 main frame, rectangular in outline
30 integrally extending angular arm of forks **20** and pivoted to cylinder **26,** and also to tie rod **27**
31 pillow type bearing block secured on frame **29** for cross axle **33**
32 upright arm on **33**
33 cross axle for connecting both castor forks **21**
34 left clevis eye member welded to left travel shoe **14**
35 right clevis eye member welded to right travel shoe **14**
36 left pusher rod that lifts left end of top rail **48.** It is pivoted by clevis pin **66** to knee portion **101** of left lifting linkage **38** and at bottom to clevis pin **40** of left travel shoe **14**
37 right pusher rod, operates same as **36** on other side
38 left lifting linkage rod, at top end pivoted by clevis pin **70** to clevis eye **69** of left top travel shoe **68**
39 right lifting linkage rod, on right side similar to **38**
40 clevis pin pivotally linking travel shoe **14,** bottom of left pusher rod **36** and head end of left shoe cylinder **16**

41 clevis pin on right side similar function as left clevis pin 40
42 left long stabilizer bar, pivoted at bottom by clevis pin 61 to base post 46
43 left short stabilizer bar, pivotally connected at bottom to top of long left stabilizer bar 42 and at top to lifting bracket 49
44 long right stabilizer bar
45 short right stabilizer bar. 44 and 45 function same as 42 and 43.
46 left lifting linkage rod base post, welded at bottom to skid 11 and is a base post for butt end of skid cylinder 12, to push or pull skid 11
47 right lifting linkage rod base post, same as 46, but no cylinder is attached
48 load support top rail, 8 feet long, dropped at each end 3 inches, keeping as low as possible the height of jack
49 left load lifting bracket straddling left end of rail 48, about 14 inches long
50 right lifting load bracket on 45, similar to 49
51 dotted lines showing left limit of travel of 48, above position 10 of skid 11
52 base post for piston rod 121 welded to side of skid plate 13
53 bracket for housing hydraulic motor 74
54 sprocket on shaft of hydraulic motor 74
55 steering handle bar support post
56 angle brace arms for 55
57 handle bar for steering jack 9
58 controls for hydraulic valves
59 gasoline engine
60 gasoline tank
61 one inch clevis pin, pivotally connects left lifting linkage rod 38, stabilizer lower bar 42, butt end of skid cylinder 12 and left linkage rod base post 46.

62 clevis pin on right side, similar function to 61, but no cylinder
63 clevis pin pivotally connecting front wheel fork arm 30, tie rod 27 for all four wheels and piston rod 261
64 pair of depending clevis eyes secured to mobile home lifting bracket 49 and pivotally pinned to short stabilizer bar 43
65 clevis pin pivotally connecting piston rod 121 of skid cylinder 12 to base post 52
66 left clevis pin pivotally connecting left pusher rod 36 and knee portion 101 of left lifting linkage rod

67 clevis pin on right, similar function to 66
68 left top travel shoe, travels about seven inches and must be well greased
69 depending clevis eye welded to travel shoe 68
70 left end clevis pin providing pintle joint to left travel shoe clevis eye 69 and knee portion 101 of left linkage rod 38
71 guide bars or tracks for top travel shoe 68 in depending side walls of rail 48
72 sprocket chain on sprocket 54 of motor 74
73 sprocket fixed on wheel power shaft 24
74 hydraulic motor for operating wheels 18
75 sprocket fixed on shaft 24 to operate wheels 18
76 slip clutch assembly for power shaft 24
77 power wheel assembly to which power wheel forks 20 are attached for ninety degree extending and retracting motion within pillow type bearing blocks 25
78 serrated slip clutch face fixed to shaft 24
79 slip clutch face fixed to spacer 80 and both journaled as a unit on shaft 24
80 clutch spacer
81 sprocket fixed to clutch spacer 80
82 clutch face pusher spring
83 washer between 82 and 84
84 clutch spring adjusting nut
85 lock nut for nut 84
86 sprocket chain to wheel sprockets 87 from 75 or 81
87 wheel sprockets
88 support on frame 29 for power shaft pillow type bearing blocks 25
89 guide bars on side of bottom skid plate 13 slidably holding skid 11
90 guide bars about 16 inches long on both inner sides of both ends of 11, cooperating with bottom travel shoe wings 141 holding bottom travel shoes 14 slidably in position in greased skid 11
91 area location of engine and pressure tank
92 area location of hydraulic valves
93 wells for retracting power wheels 18
94 shaft supporting hydraulic controls
95 roller bearings in pillow blocks 25 for power shaft 24 ends of 77
96 base abuttment for shoe cylinders 16 and 17
97 spring loaded latch for castor forks 21
98 spring in 97
99 vertical pivot for castor forks 21
100 castor fork pillow block secured to cross axle 33

101 knee portion of lifting linkages 38, 39
111 extending webs of skid 11
112 skid cylinder valve
116 left shoe cylinder valve
117 right shoe cylinder valve
121 skid cylinder piston rod
126 wheel lowering and lifting cylinder valve
131 grease sheath in frame channel skid plate member 13
141 extending wings of left travel shoe 14
161 left shoe cylinder piston rod
171 right shoe cylinder piston rod
174 hydraulic valve to motor 74
261 piston rod of cylinder 26
291 transverse angle iron members
292 end transverse angle iron member
491 mobile home left support beam
501 mobile home right support beam
H mobile home
P hydraulic pressure pump
T hydraulic pressure fluid reservoir tank
M motor 74

Although this invention has been described in considerable detail, such description is intended as being illustrative rather than limiting, since the invention may be variously embodied within the scope of what is claimed.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. A skid jack (9) for mobile homes and the like, said jack (9) comprising a rectangular frame (29), a channel member (13) rigidly fixed on said frame along the approximate elongate central line thereof, a skid chan-

nel member (11) slidably reciprocable within said frame channel member (13), an inverted channel load support rail (48), a slidable top travel shoe (68) extending into each bottom end of said inverted channel rail (48), means (71) slidably retaining said slidable top shoes (68) in position in said rail (48), each top travel shoe (68) having depending clevis eye means (69), a lifting linkage rod member (38 or 39) having a knee portion (101), a clevis pin (70) pivotally securing said knee portion (101) to said depending clevis eye means (69), a second clevis pin (61 or 62) pivotally securing the bottom end of said lifting linkage rod (38) to a base post (46 or 47) fixedly secured to said skid member (11), a pusher rod (36 or 37) pivotally secured by clevis pin means (66 or 67) at its top end to said depending clevis eye means (69) of said top slidable travel shoe (68) and at its bottom end by a clevis pin (40 or 41) to an upwardly extending clevis eye means (34 or 35) of a travel shoe (14 or 15), means (90, 114) slidably retaining said bottom travel shoe (14) in said skid channel member (11), means (89, 111) slidably retaining said skid channel member (11) in said rigid channel member (13), knee-jointed stabilizer legs (42, 43 or 44, 45) pivotally (61 or 62) secured to each said base posts (46 or 47) and to said inverted channel top load-support rail (48), a base post (52) fixed relative to said frame (29), push and pull means (12) operatively biased between said fixed base post (52) and one said skid base post (46) for controllably sliding said skid channel member (11) within said rigid channel member (13), and separate push and pull means (16 or 17) for each lower travel shoe biased thereagainst and against a base abutment (96) fixed relative to said skid 11 for controllably raising, holding and lowering said load-support rail, and skid jack wheel means (18, 19) retractable relative to and extendable below said frame (29) providing mobility for said jack (9).

2. The skid jack of claim 1, said means for slidably retaining said slidable top and bottom travel shoes and said skid channel member in their respective channel members comprising guide bars (71, 90) secured within said respective channel members (48, 11) and cooperating webs (141 and 111) on said travel shoes (14 and 15) and on said skid channel member (11).

3. The skid jack of claim 2, said lower travel shoe retainer guide bars (90) within said skid channel member (11) being spaced from the bottom thereof, said skid channel member retainer guide bars (89) within said base channel member (13) being spaced from the inside bottom thereof and said upper travel shoe retainer guide bars (71) being secured to depending side walls from said load support rail (48).

4. The skid jack of claim 1, said push and pull means comprising hydraulic cylinder (12) and piston means (121).

5. The skid jack of claim 1, said wheel means including a pair of power receiving wheels (18), a power axle (24) providing rotary power to each wheel, a slip clutch assembly (76) in said power axle (24) providing rotary power to each wheel, a slip clutch assembly (76) in said power axle, and a power motor (74) for said axle.

6. The skid jack of claim 1, said wheel means including two pairs of forks (20, 21) having wheel mounting axles (22, 23) and wheels (18, 19), said forms (20, 21) being pivoted for retracting or extending said wheels (18, 19), tie means (27) securing said forks (20, 21) together for simultaneous retracting or extending movement, and controllable piston (261) and cylinder (26) means biased between said tie means (27) and said frame (29) for retracting or extending said wheels (18, 19).

7. The skid jack of claim 6, one pair of wheel forks (121) being vertically pivoted and castored.

8. The skid jack of claim 7, and latch means (97) for securing said vertically pivoted forks (21) against castoring.

9. The skid jack of claim 8, and power means (74) operatively connected to one pair of forked wheels (18) providing the powered mobility to said skid jack (9).

* * * * *