

Dec. 7, 1965

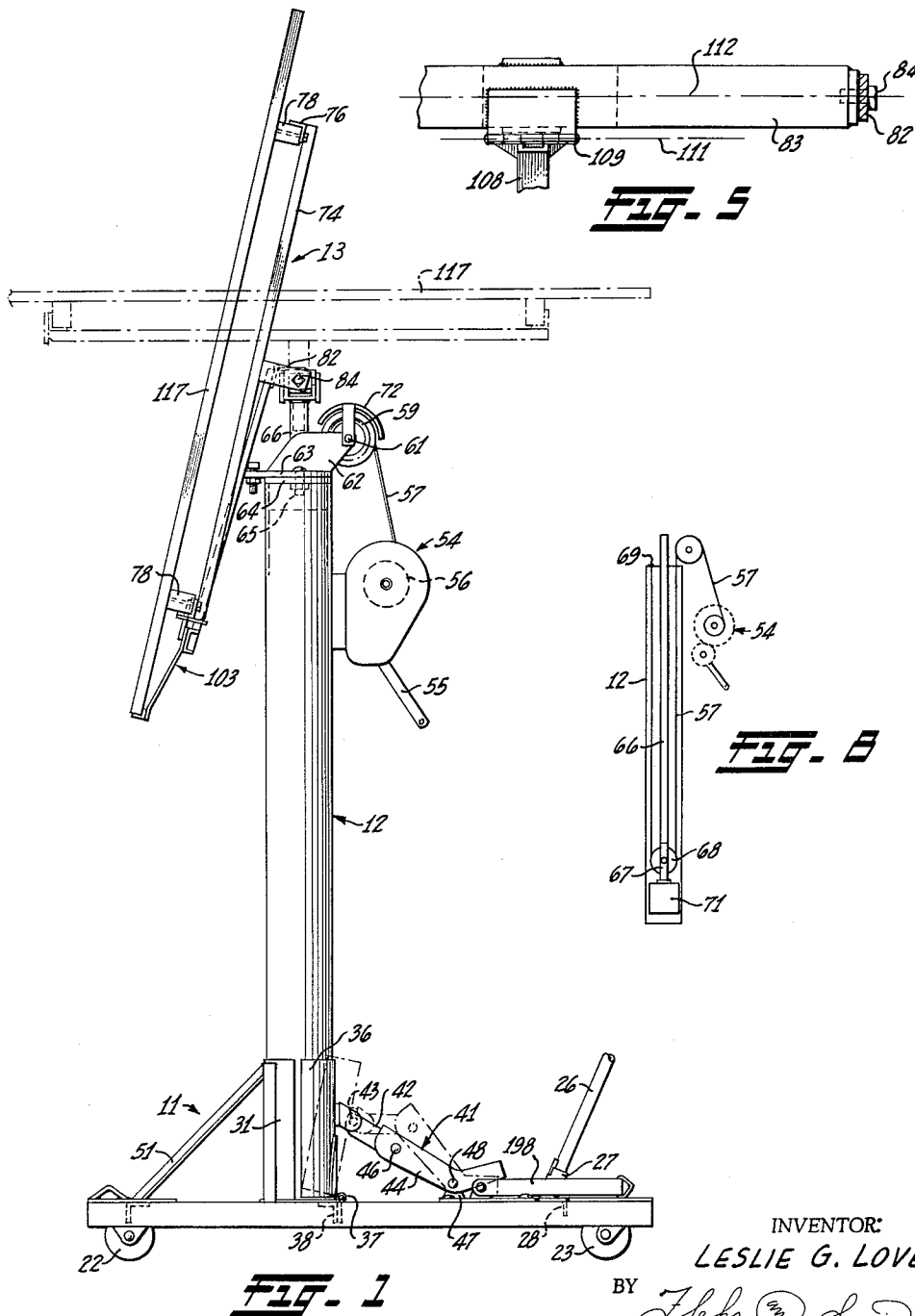
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3,221,900

APPARATUS FOR POSITIONING BUILDING BOARD

Original Filed Nov. 2, 1961

5 Sheets-Sheet 1



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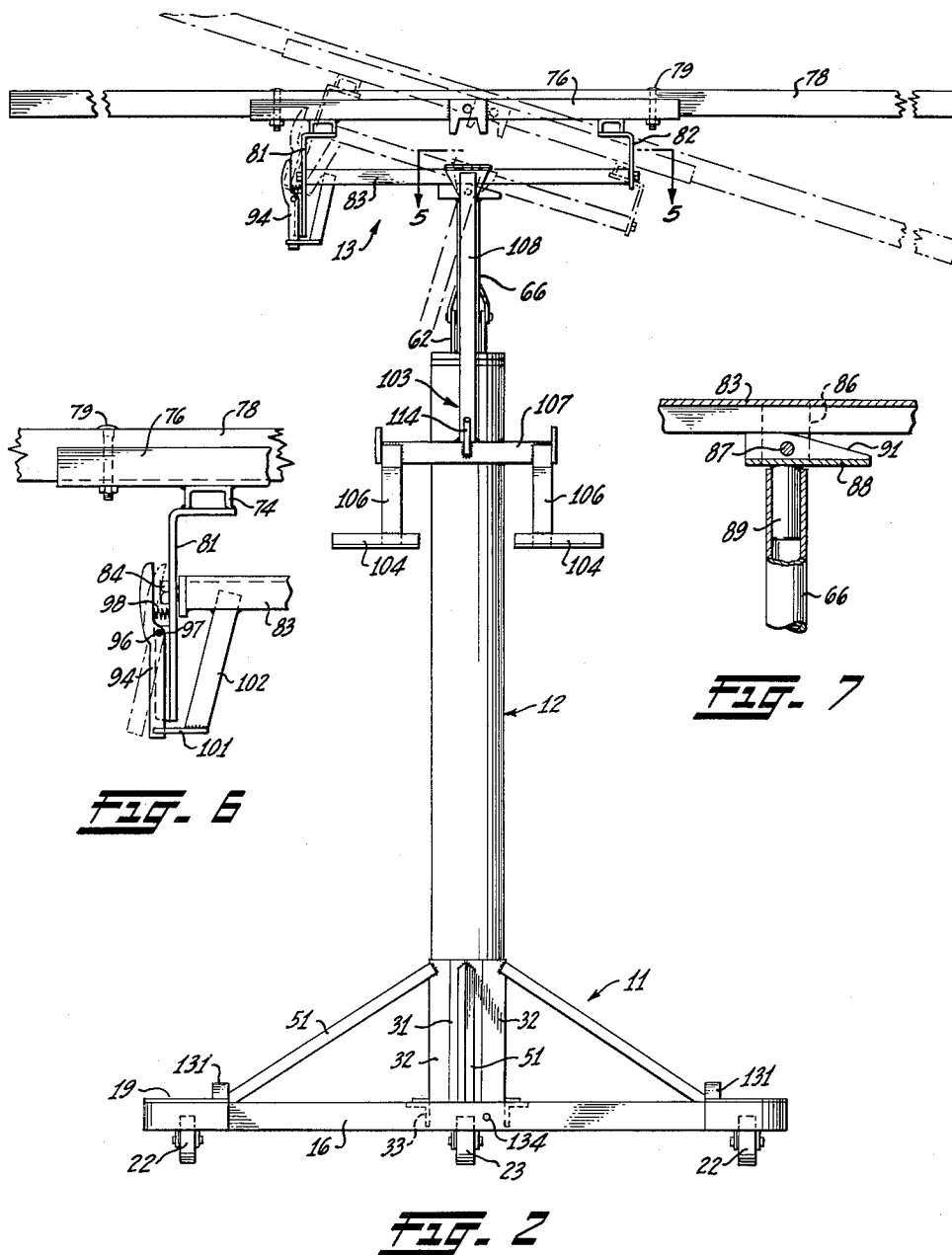
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APPARATUS FOR POSITIONING BUILDING BOARD

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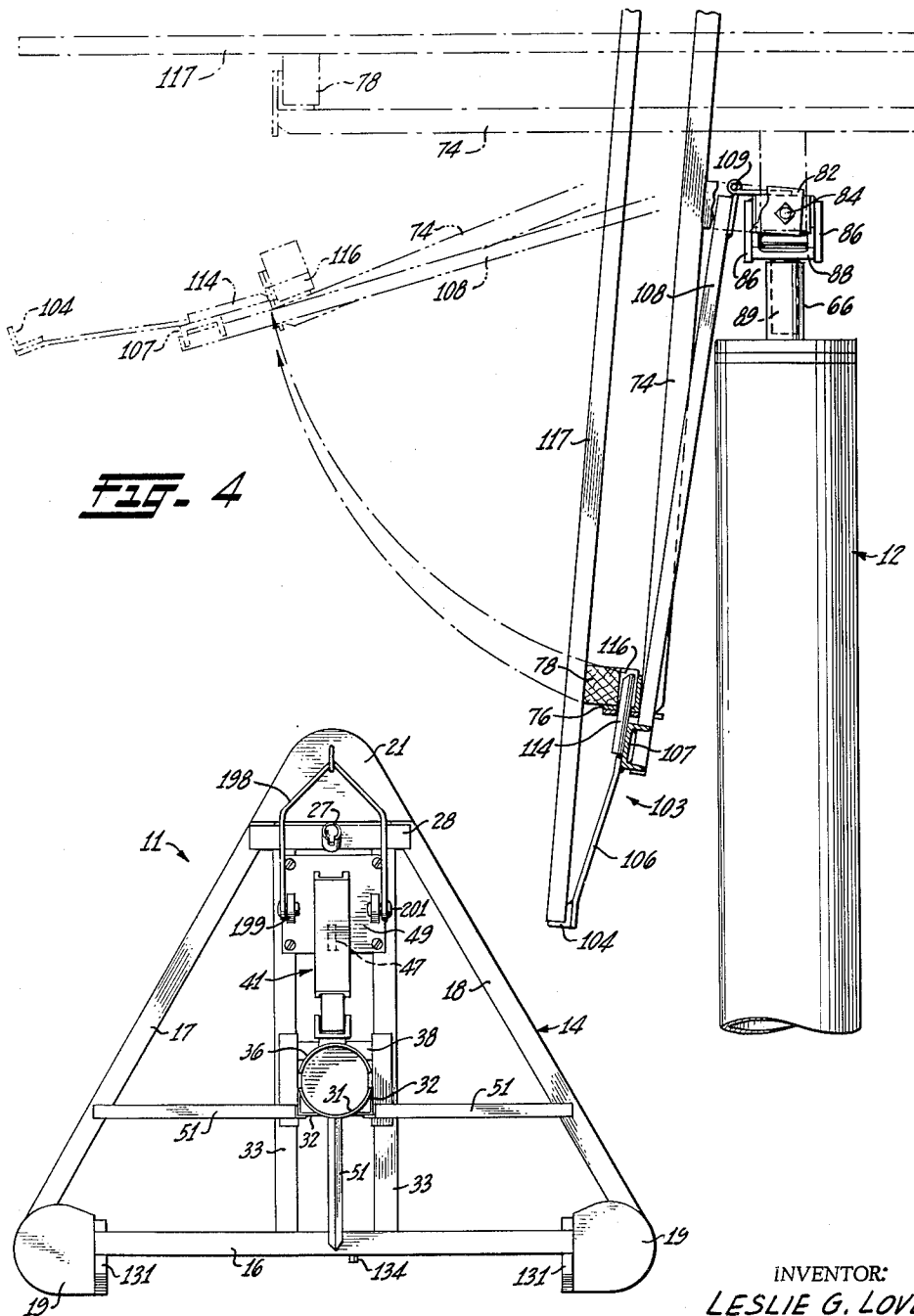


FIG. 4

FIG. 3

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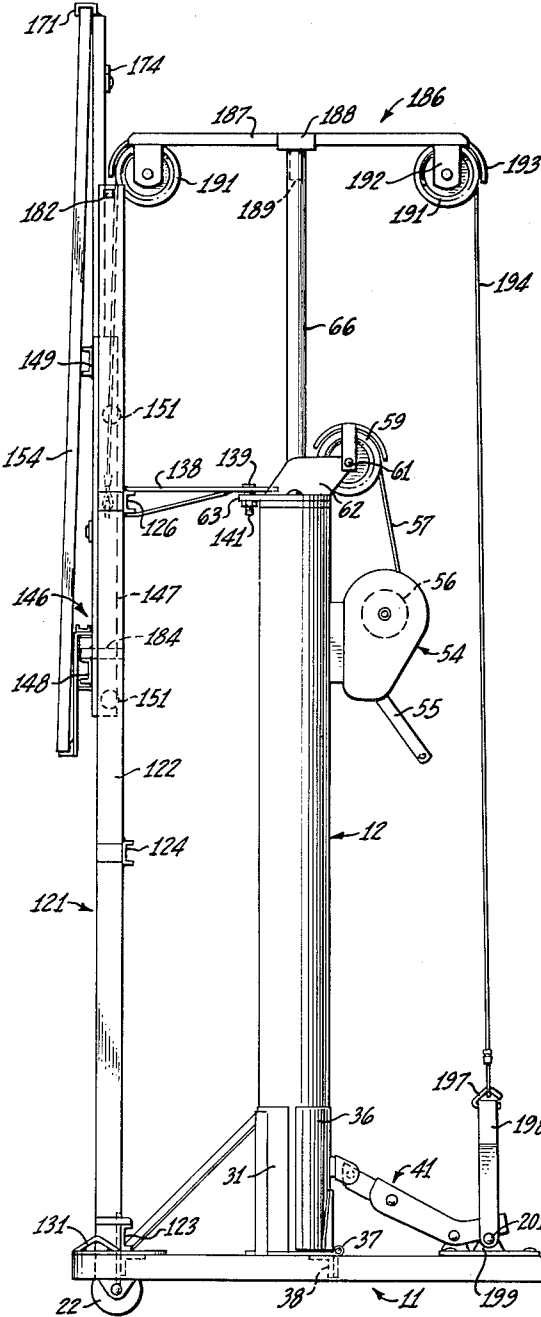
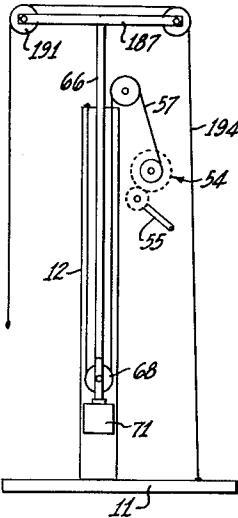


FIG. 9

FIG. 13



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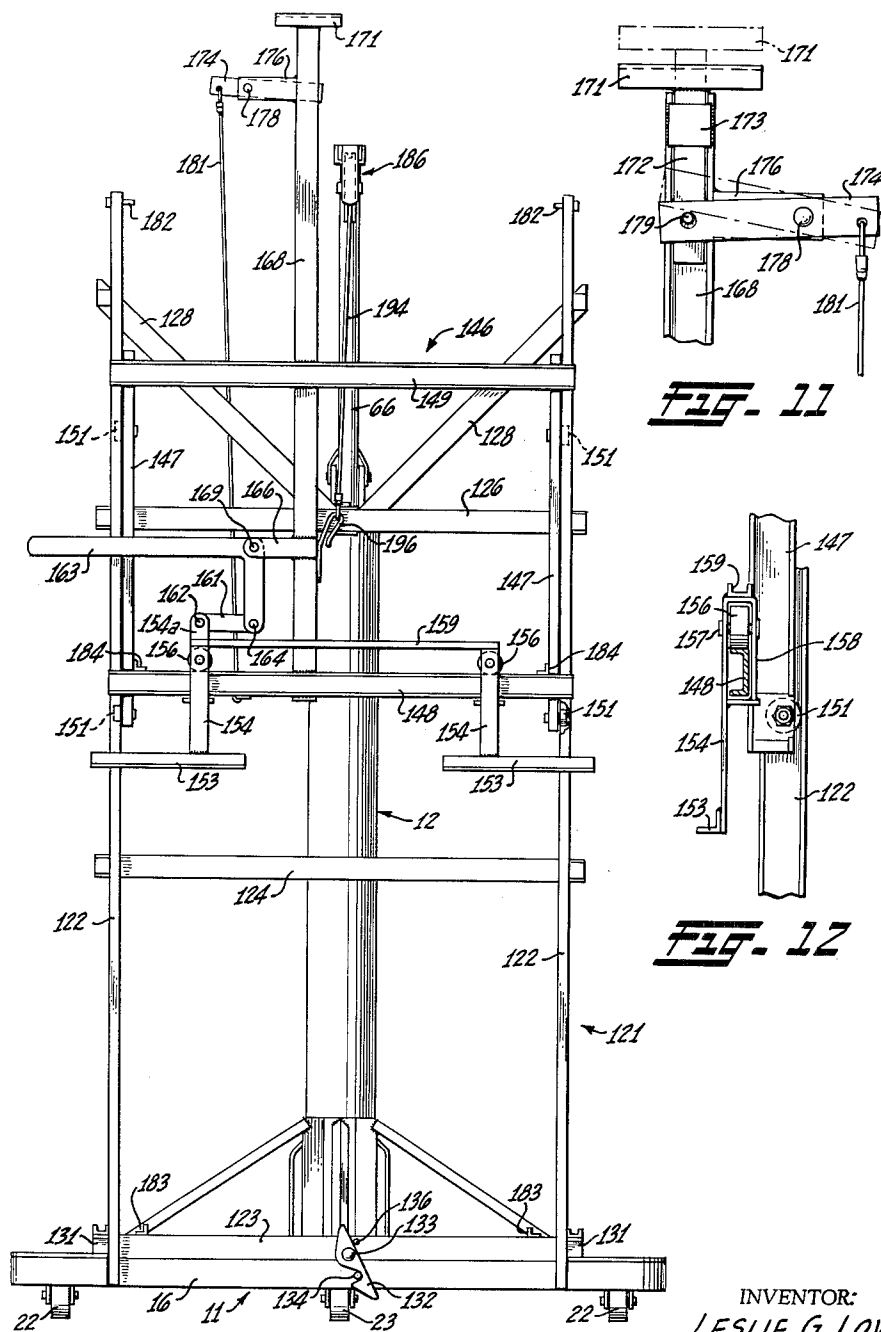


Fig. 11

FIG. 12

Fig. 10

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3,221,900

APPARATUS FOR POSITIONING BUILDING BOARD

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Original application Nov. 2, 1961, Ser. No. 149,607, now Patent No. 3,178,038, dated Apr. 13, 1965. Divided and this application Feb. 26, 1965, Ser. No. 435,505 7 Claims. (Cl. 214—1)

This application is a division of my copending application Serial No. 149,607, filed Nov. 2, 1961, now Patent Number 3,178,038, granted Apr. 13, 1965.

This invention relates to apparatus for positioning building board and more particularly to apparatus for positioning building board for nailing or otherwise securing building board to the walls and ceilings during construction of a building.

In the placement of building board such as plaster board without the aid of positioning apparatus, it is often necessary to utilize at least two men in positioning and holding each plaster board in place while it is being nailed. This is primarily due to the fact that building boards are of such large sizes such as 4 x 8, 4 x 12, and 4 x 16 so that it is difficult for one man to handle the sheets of material and also to properly position the same so that it can be nailed in place. There is, therefore, a need for apparatus which will make it possible for one man to accomplish the positioning and nailing or securing of the plaster board in place.

In general, it is an object of the present invention to provide apparatus for the positioning of building board so that building board can be positioned and secured by one man.

Another object of the invention is to provide apparatus of the above character which can be readily disassembled and moved from place to place.

Another object of the invention is to provide apparatus of the above character which is particularly adapted for positioning the building board either on the side walls or on the ceiling.

Another object of the invention is to provide apparatus of the above character which makes it possible to position the building board very accurately so that it can be nailed in place while it is being held in place by the apparatus.

Another object of the invention is to provide apparatus of the above character in which the means utilized for supporting the building board does not interfere with the nailing of the building board into place.

Another object of the invention is to provide apparatus of the above character in which separate frameworks are utilized for positioning the building board on the side walls and on the ceiling.

Another object of the invention is to provide apparatus of the above character which is utilized for positioning the building board against the side walls in which the top edge of the building board can be readily released from the apparatus in any position of the building board.

Another object of the invention is to provide apparatus of the above character for use in positioning building board on the ceiling in which the building board is automatically centered over the supporting standard or mast as the building board is raised into place.

Another object of the invention is to provide apparatus of the above character for positioning building board on the ceiling which can be readily tilted to avoid objects on the walls.

Another object of the invention is to provide apparatus of the above character which utilizes the same mast and dolly for either ceiling positioning or side wall positioning apparatus.

Another object of the invention is to provide apparatus

of the above character which can be readily changed from apparatus for positioning building board on the side walls to apparatus for positioning building board on the ceiling.

Another object of the invention is to provide apparatus of the above character which can be expeditiously and economically manufactured.

Additional objects and features of the invention will appear from the following description in which the preferred embodiments are set forth in detail in conjunction with the accompanying drawings.

Referring to the drawings:

FIGURE 1 is a side elevational view of my apparatus for positioning building board incorporating my invention and particularly shows the type of apparatus used for positioning building board on the ceiling with a sheet of building board mounted thereon.

FIGURE 2 is a front elevational view of the apparatus shown in FIGURE 1 without the sheet of building board.

FIGURE 3 is top plan view of the dolly utilized in my apparatus.

FIGURE 4 is an enlarged view, partially in cross-section showing a portion of the apparatus shown in FIGURES 1 and 2.

FIGURE 5 is an enlarged detail view taken along the line 5—5 of FIGURE 2.

FIGURE 6 is an enlarged detail view of the latch means utilized.

FIGURE 7 is an enlarged detail view, partially in cross section, showing the means permitting tilting of the framework.

FIGURE 8 is a schematic illustration showing the reeving of the winch line and how the winch line is used to raise and lower the telescoping extension in the mast.

FIGURE 9 is a side elevational view of another embodiment of my apparatus for positioning building board incorporating my invention and, in particular, shows apparatus for positioning building board in the side walls of a building with a sheet of building board mounted thereon.

FIGURE 10 is a front elevational view of the apparatus shown in FIGURE 9 without the sheet of building board.

FIGURE 11 is an enlarged detail view of the release mechanism for releasing the top edge of a board.

FIGURE 12 is an enlarged detail view showing the manner in which the carriage is slidably mounted in the framework.

FIGURE 13 is a schematic illustration showing the reeving arrangements utilized in the apparatus as shown in FIGURES 9 and 10.

In general, my apparatus for positioning building board consists of a dolly base which is provided with casters to facilitate movement of the same. A vertical standard or mast is mounted on the base and is provided with a telescoping extension. Winch means is mounted on the standard or mast and is provided with a winch line for raising and lowering the telescoping extension. Two types of frameworks are adapted to be associated with the dolly and mast, one of which is particularly adapted for positioning building board on the side walls of the building and the other of which is particularly adapted for positioning building board on the ceiling. Both of these frameworks are adapted to be raised and lowered into position by operation of the winch means.

As is shown in FIGURE 1 of the drawings, one embodiment of my apparatus for positioning building board consists of a dolly 11 upon which is mounted a standard or mast 12. A framework 13 is mounted on the mast 12. The dolly 11 consists of a substantially triangular frame 14, as shown in FIGURE 3 of the drawings. The frame 14 consists of a front frame member 16 and an inclined side frame members 17 and 18 and a rear hori-

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zontal plate 21 is provided at the intersection of the members 17 and 18. Wheels 22 are mounted beneath the plates 19 in a conventional manner and do not swivel. A caster 23 is mounted beneath the plate 21 and also is of a conventional type which is adapted to swivel. This facilitates movement and positioning of the base 11, by means of a T-shaped handle 26 which is removably mounted within a socket 27 mounted on an angle member 28 affixed to the side frame members 17 and 18.

Means is provided on the dolly 11 for supporting the standard or mast 12 and consists of a fixed semi-cylindrical jaw 31 which has its lower extremity fixed to the frame 14. The fixed jaw 31 is affixed to a pair of vertical angle members 32 which are secured to a pair of parallel spaced longitudinally extending members 33, which form a part of the dolly 11. These members 33 are secured to the front frame member 16 and the rear angle member 28, as shown. Another semi-cylindrical jaw 36 which is movable and adapted to coast with the fixed jaw 31 has its lower extremity hinged by a hinge 37 to a cross member 38 secured to the longitudinally extending members 33.

An overcenter locking clamp 41 is provided for locking the mast 12 between the movable jaw 36 and fixed jaw 31. The clamps 41 consist of a link 42 which has one end pivotally connected to the movable jaw 36 by a pin 43 and which has the other end pivotally connected to a U-shaped clamping member 44 by a pin 46. The clamping member 44 is pivotally connected to an upstanding lug 47 by a pin 48. This over-center locking clamp 41 is described in detail in my United States Letters Patent No. 2,896,293. As can be seen from FIGURE 1 of the drawings, the over-center locking clamp 41 can be moved from a locking position shown in solid lines in FIGURE 1 to an unlocked position shown in dashed lines in FIGURE 1, to permit ready insertion and removal of the mast or standard 12.

Suitable additional reinforcing members are provided as a part of the dolly 11 and, for example, can consist of downwardly extending reinforcing members 51 which are secured to the fixed jaw 31 and the frame members 16, 17 and 18 of the base as shown particularly in FIGURE 3. The upstanding lug 47 which is provided as a part of the over-center locking clamp is affixed to a plate 49 which is secured to the longitudinally extending members 33.

The mast 12 is cylindrical as shown and is preferably in the form of a hollow pipe so that it is relatively light. As shown in FIGURE 1, the lower end of the mast is adapted to be disposed between the semi-cylindrical jaws 31 and 36 and is retained therein in a substantially vertical position.

A winch 54 is mounted adjacent the upper end of the mast 12 and may be of any suitable type such as a type 252 manufactured by Fulton. The winch is provided with an operating handle 55 which drives a winch drum 56. A winch line 57 is adapted to be unwound and wound on the drum 56 provided in the winch. Means is provided (not shown) for arresting or retaining the winch drum 56 and the winch line 57 in a predetermined position. The winch line 57 travels over a pulley 59 which is rotatably mounted upon a pin 61 affixed in a pair of side plates 62. The side plates 62 are affixed to a top mounting plate 63 which is affixed to a top casting 64 mounted within the upper end of the mast 12. The casting 64 can be secured to the top end of the mast 12 in any suitable manner such as by a shrink-fit. The mounting plate 63 is secured to the casting 64 by suitable means such as the bolts 65 shown. The bolts 65 are put in place before the upper end of the mast 12 is shrunk onto the casting 64.

A cylindrical telescoping section or extension 66 is slidably mounted within the mast 12. A pulley bracket 67 is affixed to the bottom end of the extension 66 and serves to rotatably mount a pulley 68 on which the winch

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line 57 travels. The free end of the winch line is secured to the top base plate 63 as shown at 69. A guide block 71 of suitable material such as wood is affixed to the lower end of the bracket 67 and guides the pulley 68 during its vertical movement within the mast to thereby prevent it from coming into contact with the inner side wall of the mast. As shown in FIGURE 1 of the drawings, a guard 72 is provided over the pulley 59 for retaining the winch line 57 on the pulley.

The portion of my apparatus thus far described is used in the apparatus for positioning building board so that it can be secured to the ceiling shown in FIGURES 1-8 and also in the apparatus shown in FIGURES 9-13, which is utilized for positioning the building board so that it can be secured to the side wall of the building.

The framework 13 for positioning building board in the ceiling is mounted upon the extension 66 of the mast 12. The framework 13 consists of a pair of spaced parallel frame members 74 and a pair of longitudinally extending frame members 76 which are secured to the end of the frame members 74 to thereby provide a generally rectangular framework. A pair of elongate spaced parallel longitudinal members 78 of suitable material such as wood are secured to the members 76 by suitable means such as carriage bolts 79. The members 78 have a substantial length and are preferably nearly as long as the shortest sheet of building board to be placed by the apparatus. Thus, if building board 8 feet in length is the shortest length to be used, the members 78 can have a length of approximately 6 or 7 feet.

The channel type frame members 74 are affixed to L-shaped brackets 81 and 82 by suitable means such as welding and are spaced approximately equi-distant from the ends of the frame members 74. The L-shaped members 81 and 82 are pivotally mounted upon a laterally extending frame member 83 by suitable means, such as cap screws 84. A bracket 86 is provided equi-distant the ends of the frame member 83 and is pivotally connected by a pin 87 to a shoe 88. The shoe 88 is provided with a downwardly extending pin 89 which is adapted to seat within the upper end of the tubular telescoping extension 66 provided as a part of the mast 12. The shoe 88 is formed in such a manner that it is adapted to engage the longitudinally extending frame member 83 and is provided with an inclined surface 91 so that the entire framework 13 can be tilted to an inclined position shown in dot and dash lines in FIGURE 2 for a purpose hereinafter described. In the inclined position, the lower edge of the frame member 83 engages the inclined surface 91 provided on the shoe 88 as shown particularly in FIGURE 7.

From the construction shown, it can be seen that in addition to the framework being capable of being tilted about an axis which is parallel to the longitudinal axis of the framework 13, it can be tilted about an axis which is perpendicular to the longitudinal axis of the framework.

Means is provided for locking the framework 13 in the substantially horizontal position shown in FIGURE 2. It consists of a spring actuated latch 94 which is pivotally mounted upon a pin 96 fixed in a lug 97 mounted on the L-shaped member 81. Yieldable means in the form of a spring 98 is provided for urging the latch 94 into an engaging position with a notch (not shown) provided in a member 101 secured to the frame member 83 by a bracket 102. The framework 13 can be readily released from this horizontal position by operating of the latch 94 to move the latch out of engagement with the notch in the member 101 to permit tipping of the framework 13 into a substantially vertical position.

Means 103 is provided on the framework 13 for engaging and supporting the building board when the framework 13 is in a substantially vertical position as shown in FIGURE 4. Such means consists of a pair of spaced rail members 104 which extend in a substantial-

ly horizontal plane. The rail members 104 are supported by vertical members 106 which are secured to a transverse horizontal member 107. The transverse horizontal member 107 is secured to an arm 108 which is pivotally secured to the channel frame member 83 by a hinge 109. It will be noted, as shown in FIGURE 5, that the center line 111 for the pivoting of the member 108 is spaced from the center line 112 about which the framework 13 pivots. Cooperative means is provided on the means for supporting the board and the framework 13 so that the means supporting the board follows the framework 13 as it is moved from the vertical position. It consists of a pin 114 mounted on the channel member 107 between the ends thereof and which is adapted to engage and slidably mount in a hole 116 provided in the longitudinally extending members 76 and 78, as shown particularly in FIGURE 4.

Operation and use of my apparatus for positioning building board shown in FIGURES 1-9 may now be briefly described as follows. Let it be assumed that the framework 13 is in the position shown in FIGURE 4 and that a building board 117 such as a sheet of plaster-board has been loaded onto or lifted onto the rails 104 provided on the support mechanism 103 which is in engagement with the framework 13 as shown in FIGURE 4. Normally, the building board can be readily lifted onto the supporting means 103 by one man by lifting the board sideways with one hand on the lower edge of the board and the other hand on the upper edge of the board and then positioning the board so that the lower hand passes between the two rails 104. The board 117 should be positioned on the support means 103 in such a manner so that its center is slightly to the left of the arm 108 to prevent tilting of the board after it has been raised to a horizontal position as hereinafter described.

As soon as the board has been positioned on the support means 103, the lower edge of the board is tilted upwardly to thereby tilt the support means 103 and the framework 113 upwardly so that the board shifts gradually from a substantially vertical position to a horizontal position. During the time that the board is being lifted to the horizontal position, the pin 114 is gradually retracted from the hole 116 because of the difference in spacing between the center lines 111 and 112. Thus, as the board 117 is raised, the arm 108 gradually pushes the pin 114 out of the opening 104 until it automatically becomes disengaged or released from the framework 13 and drops downwardly to its normal substantially vertical position shown in FIGURE 4. It will be noted that the pin 114 is dimensioned in such a manner that it does not automatically release until the framework 13 has been moved into a position so that substantially all of the weight of the building board is carried by the support members or bars 78, as for example an angle of 80° from the vertical. It also should be pointed out that the support means 103 serves as an automatic centering mechanism in that it serves to position boards of conventional width so that the centerline or longitudinal axis of the board substantially overlies the pin 89 provided as part of the framework 13. This is advantageous because the boards will always be on center and cannot possibly cause the apparatus to tip over.

As soon as the board 117 reaches a substantially horizontal position, it is latched into this position by the latch 94 engaging the notch in the member 101. The building board will not tip about an axis perpendicular to the longitudinal axis of the frame 13, because as explained previously, the board has been positioned on the framework in such a manner that its weight is slightly to the left of the center with respect to the lateral axis of the building board.

As soon as the building board has been raised to the horizontal position, the building board can be raised to the desired height by operating the winch 54. It will be noted that the reeving for the winch line 57 is such

that a mechanical advantage of two is obtained. For every foot of cable reeled in by the winch, the board will be raised one-half foot. Raising is continued until the board is in the proper position. If desired, it may be preferable to generally position the building board below the desired location by shifting the dolly 14 by use of the handle 26. Then, after the building board has been raised to within an inch or so of the desired position, the dolly can be finally positioned, after which the building board can be raised into the exact position desired. The winch 54 will hold the board in this position.

It will be noted that the construction of my apparatus is such that there are no obstructions now holding the side edges of the board and therefore the board can be moved into its exact position adjacent other boards which already have been secured or into a corner. After this been accomplished, the board can be nailed in place. After the board has been nailed in place, the winch can be released and the framework lowered to the position shown in FIGURE 1. The frame 13 can then be tipped to the vertical position by releasing the latch 94. At the time that the framework 13 is moved out of the horizontal position, the support means 103 is brought up into engagement with the framework 13 so that as the framework 13 is lowered, the pin 114 comes into engagement with the hole 116 so that the apparatus will be ready to receive the next piece of building board.

If it is desired to position a piece of building board in a corner or similar location and it is desired to keep the building board out of engagement with small objects hanging on the wall, the building board can be tilted so that the member 83 engages the surface 91 of the shoe 88 to clear the objects. Thereafter, after the object has been cleared, the board can be permitted to return to its normal horizontal position.

In addition to providing apparatus which can be operated by one man, I have provided apparatus which can be readily disassembled and transported from one location to another. Thus, the framework 13 can be removed from the mast 12 merely by removing the pin 89 from the upper end of the extension 66. The mast thereafter can be removed by opening the clamp 41 to remove the mast from between the semi-cylindrical members 31 and 36. Thereafter, the handle 26 can be removed. These parts can be readily handled by one man and moved to another location in a suitable vehicle such as a pick-up. The apparatus can also be readily assembled in the same manner in which it has been disassembled.

Another embodiment of my apparatus for positioning building board is shown in FIGURES 9-13 and is of the type which is particularly adapted for positioning building board so that it can be nailed to the walls of a building. As can be seen from the drawings, the same dolly 11 and mast 12 are utilized in this embodiment of my invention. However, in place of the framework 13, a framework 121 is mounted upon the dolly 11 and secured to the mast as shown. The framework 121 consists of a pair of spaced parallel vertical frame members 122 of the channel type. The framework 121 also consists of lower, intermediate and upper cross frame members 123, 124 and 126 respectively, which are secured to the vertical frame members 122 to provide a unitary framework having a substantially rectangular configuration as shown in the drawings. The framework 121 also consists of a pair of diagonal reinforcing braces 128 extending upwardly from the cross frame member 126 and secured to the vertical frame members 122.

As shown in the drawings, the cross frame member 123 extends beyond the vertical frame members 122 and is adapted to engage inverted V-shaped members 131 provided on the dolly 11 and serves to urge the lower extremity of the framework 121 into engagement with the frame member 16 of the dolly to thereby prevent the

lower extremity of the framework from shifting back and forth. Also, it will be noted that the lower extremities of the vertical frame members 122, when in the position shown in FIGURES 9 and 10 of the drawings, are mounted between the inverted V-shaped members 131 to prevent lateral or transverse movement of the framework.

Means is provided for locking the framework in position and consists of a latch 132 which is pivotally mounted on a pin 133 provided on the cross member 123 of the framework 121. The latch is adapted to engage a pin 134 provided on the frame member 16 of the dolly 11. A stop pin 136 is provided to prevent the latch 132 from travelling beyond a predetermined position. This ensures that when the frame 121 is being lowered into position, the latch 132 will always be in a position so that it can be cammed out of the way of the pin 134 and then drop into engagement with the pin 134 automatically. To release the latch, it is merely necessary to move the latch 132 out of engagement with the pin 134 by a hand or by a foot and then lift the framework 121 off of the dolly.

Means is provided for retaining the upper end of the framework 121 in a predetermined position and consists of a bracket 138 which is secured to the cross member 136. The bracket 138 is provided with a hole (not shown) so that the bracket can drop onto the head 139 of a bolt 141 provided in the plate 63 of the mast 12. Thus, it can be seen that as the framework 121 is lowered into position so that the lower extremity is cammed rearwardly and the vertical frame members 122 engage the horizontal frame member 16 of the dolly 11, the bracket 138 can be lowered onto the head 139 of the bolt 141 so that the framework 121 is substantially parallel to the mast 12 or, in other words, extends upwardly in a vertical direction from the dolly 11.

Means is provided for supporting the building board on the framework 121 and consists of a vertical carriage 146 which is slidably mounted in the framework 121 for vertical movement therein. The carriage 146 consists of a pair of vertical spaced parallel frame members 147 and space upper and lower cross frame members 148 and 149 which are secured to the vertical frame members 147 to provide a substantially rectangular carriage. It will be noted that the cross frame members 123, 124, and 126 are mounted behind the vertical frame members 122 of the framework 121 as viewed in FIGURE 10, whereas the cross frame members 148 and 149 of the carriage 146 are mounted in front of the vertical frame members 147. This permits the carriage 146 to travel within the framework 121 as shown in the drawings. To facilitate this vertical travel in the carriage, the framework 146 is provided with a pair of rollers 151 on opposite sides of the carriage on the upper and lower ends of the vertical frame members 147 as shown in the drawings. The rollers 151 are secured to the frame members 147 and are adapted to ride in the channels provided in the vertical frame members 122.

Means is provided on the carriage 146 for supporting the building board and consists of a pair of horizontal spaced right angle rails 153 which are adapted to engage the lower edge of a building board 154 as shown in FIGURE 9 of the drawings. The spaced horizontal rails 153 are fixed to arms 154. The arms 154 have rollers 156 mounted thereon which travel upon the cross member 148 as shown particularly in FIGURES 10 and 12 of the drawings. As can be seen particularly from FIGURE 12, the rollers 156 are rotatably mounted upon bolts 157 which extend through the arms 154 and U-shaped brackets 158 which are secured to the rear sides of the arms 154. The U-shaped brackets 158 prevent the rollers 156 from slipping off of the cross frame member 148. A connecting member 159 connects the

upper ends of the arms 154 and causes both of the terms to move in unison as hereinafter described.

One of the arms is provided with an extension 154a which is pivotally connected to a link 161 by a pin 162. The link 161 is also pivotally connected to one end of an L-shaped lever arm 163 by a pin 164. The lever arm 163 is pivotally connected to an extension 166 affixed to a vertical member 168 affixed to the cross members 148 and 149. The lever arm 163 is pivotally connected to the extension 166 by a pin 169. It will be noted that the lever arm is formed in such a manner that the lever arm 163 extends beyond the framework 121 so that it can be readily grasped for operating the supporting means for the building board for shifting it laterally as hereinafter described.

Means is provided on the upper end of the vertical member 168 for grasping or engaging the top edge of the building board 154 as shown in the drawings and consists of a U-shaped member 171 which is affixed to a bar 172 slidably mounted within the channel formed by the vertical member 168 as shown particularly in FIGURE 11. The bar 172 is retained within the channel by a cross piece 173 which is secured across the channel by suitable means such as welding. Thus, it can be seen that the bar 172 is slidably mounted within the channel so that the U-shaped member 171 can be raised and lowered as shown particularly in FIGURE 11. Means is provided for raising and lowering this U-shaped member 171 and consists of a lever arm 174 which is pivotally mounted on an extension 176 secured to the member 168. The lever arm is pivotally connected to the extension 176 by a pin 178. The lever arm is also pivotally connected to the lower end of the bar 172 by a pin 179.

Means is provided for operating the lever arm 174 in any position of the vertical carriage and consists of a suitable elongate flexible element such as a cord or cable 181 which has one end secured to the lever arm 174 as shown in the drawings and the other end secured to the cross frame member 148. It will be noted that the lever arm 174 is pivoted in such a manner that the weight of the bar 172 and the U-shaped member 171 is such that the U-shaped member 171 drops downwardly by force of gravity. The cord 181 serves as means for raising the U-shaped member 171 out of this position against the force of gravity. If desired yieldable means in the form of a spring (not shown) can be used to urge the member 171 downwardly.

Stop means is provided for limiting the uppermost and lowermost positions of travel of the carriage 146 and consists of bolts 182 which are provided in the upper end of the vertical frame members 122. The stop means provided on the lower portion of the framework 121 consists of angle members 183 which are affixed to the cross member 123. These angle members are adapted to be engaged by angle members 184 mounted upon the cross member 148 of the carriage 146.

Means is provided for raising and lowering the carriage 146 in the framework 121 and consists of a cable and pulley assembly 186. This cable and pulley assembly 186 consists of a cross member 187 which has a bracket 188 secured thereto equidistant the ends thereof. The bracket 188 is provided with a downwardly extending pin 189 which is adapted to seat within the telescoping extension 66 of the mast 12 as shown in FIGURE 9. A pair of pulleys 191 are rotatably mounted on opposite ends of the cross members 186 in pulley support brackets 192 secured to the ends of the cross member. Guards 193 are also mounted on the ends of the cross members and serve to prevent a suitable flexible elongate member such as a cable 194 reeved over the pulleys 191 from jumping out of the pulleys. One end of the flexible elongate member or cable 194 is releasably secured to a hook 196 which is affixed to the vertical member 168 as shown particularly in

FIGURE 10 of the drawings. The other end of the cable is releasably fastened to another hook 197 which is carried by a V-shaped bracket 198. The bracket 198 is pivotally mounted on the ears 199 provided on the base plate 48 of the dolly 11 by pins 201.

The cable 194 and the cable 57 provided in the winch have been designed so they are approximately the same length. This makes it unnecessary to have more than one replacement cable available.

Operation and use of the apparatus shown in FIGURES 9-13 may now be briefly described as follows. Let it be assumed that it is desired to position a building board on the side wall of a building. The apparatus is first placed in the position shown in FIGURE 10. Thereafter, the workmen may lift the building board 154 into position by lowering the lower edge of the building board onto the rails 153 as shown in the drawings. Thereafter, the upper edge of the board can be tilted rearwardly, while at the same time utilizing the other hand to engage the cable 181 to raise the U-shaped member 171. As soon as the U-shaped member 171 has been raised, the board can be allowed to drop rearwardly into engagement with the member 168. Thereafter, the cable 181 can be released to permit the U-shaped member 171 to drop over the top edge of the board.

After this has been accomplished, the dolly 11 carrying the building board can be shifted into the proper position by use of the T-shaped handle 26 provided onto the dolly. After the dolly has been positioned so that the building board is adjacent the wall, the building board 154 is raised to the desired position by operation of the winch 54.

The final lateral positioning of the board can be accomplished by operating of the lever 163 to shift the board laterally in one direction or another by causing the rollers 156 to travel laterally of the cross member 148. This makes it unnecessary to exactly position the dolly laterally. The final vertical positioning is obtained by operation of the winch 54. After the board has been positioned laterally and vertically, the upper edge of the board 154 is released by operating the cable 181 to raise the U-shaped member 171 out of engagement with the upper edge of the board and then permitting it to drop so that it is below the upper edge of the board so as to not interfere with the placement of the board.

Thereafter, the upper edge of the board is tipped forwardly into engagement with the studs forming the side wall of the building. The upper edge of the building board is then nailed or secured in place in a suitable manner. After the upper edge of the board has been nailed into place, the winch 54 is released to lower the carriage 146 to thereby lower the rails 153 out of engagement with the lower edge of the board. Thereafter, the apparatus is moved out of the way by use of the handle 26. Thereafter, the lower edge and sides of the building board can be nailed into place.

Thereafter, additional building boards can be put in place in the same manner merely by lowering the vertical carriage 146 and then placing another building board on the vertical carriage as hereinbefore described. It should be noted that the rails 153 are spaced apart which permits the operator to grasp the board in the center thereof and to position the board on the carriage so that the lowermost hand carrying the board can be placed between the rails 153.

As with the apparatus previously described for placing building board on the ceiling, the apparatus for placing building board on the walls of a building can be readily disassembled for transportation from one job to another. Thus, in disassembling the apparatus, the cable 194 is first disconnected from the hook 197 after which the cable is disconnected from the hook 196. Prior to disconnecting the cable, it is desirable to lower the carriage 146 to its lowermost position so that it will be unnecessary to lower the same by hand. After the cable 194

has been disconnected, the cross member 187 can be lifted from the telescoping extension 66 of the mast. Thereafter, the framework 121 can be removed from the dolly and the mast by operating the latch 132 to release the pin 134. The framework 121 and the carriage 146 is removed as a unitary assembly and can be readily transported in this manner. Thereafter, the mast 12 and the handle 26 can be removed in a manner similar to that hereinbefore described.

Thus, it can be seen that my apparatus is such that it can be readily transported from one location to another by one man. Also, it is apparent that the dolly 11 and the mast 12 are constructed in such a manner that the framework for either positioning a building board on the side wall of the building or on the ceiling of a building can be readily mounted upon the dolly with very little effort.

It is apparent from the foregoing that I have provided a new and improved apparatus for positioning building board. The apparatus can be readily modified so that it can be utilized for either positioning building board on the ceiling or on the side walls of the building. The apparatus is also constructed in such a manner that it can be readily moved about from one place to another by one man. The apparatus is also constructed so that it makes it possible for one man to position and nail in place large sheets of building board without any difficulty. The apparatus is constructed so that it is easy to operate and is relatively foolproof.

I claim:

1. In apparatus for positioning building board, a dolly, a vertical mast mounted on the dolly, a telescoping extension slidably mounted in the mast, means for raising and lowering the telescoping extension, a substantially vertical framework having its lower extremity mounted on the dolly and being removably secured to the mast, a carriage slidably mounted in said framework for vertical movement, means coupling the carriage to the telescoping extension so that as the extension is raised and lowered, the carriage is raised and lowered, said carriage including means for vertically supporting such building board along the lower edge thereof and selectively shiftable horizontally along said carriage for positioning the building board at the desired location; said carriage further including means retaining the building board along the upper edge thereof, said latter means being selectively shiftable vertically of said carriage to release the building board at the desired location, and means for operating the means engaging the upper edge of the board to permit release of the board in any vertical position of the carriage.

2. In apparatus for positioning building board and the like, the combination comprising: a dolly; a vertical mast removably mounted on said dolly; a winch mounted on said mast, said winch having a winch drum and a winch line adapted to be wound onto and unwound from said winch drum; a telescoping extension slidably mounted in said mast for vertical movement with respect thereto; means carried by the lower extremity of said extension and engaged by said winch line so that as said winch line is wound and unwound from said winch drum it serves to raise and lower said telescoping extension; a framework mounted on said dolly and being disposed in a substantially vertical position; a carriage slidably mounted for vertical movement in said framework, said carriage including means for engaging the lower edge of the building board and means for shifting said last named means laterally of said carriage, said carriage further including releasable means adapted to engage the upper edge of the building board and means for operating said releasable means to release the building board in any position of said carriage; and means connecting said carriage to said telescoping extension and to said dolly so that as said winch is operated the building board carried by said carriage is raised or lowered.

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3. Apparatus as defined in claim 2 wherein said means for connecting said carriage to said telescoping extension consists of a cable having one end secured to said carriage and having the other end thereof secured to said dolly; and means mounted on said telescoping extension for supporting said cable and permitting said cable to travel therethrough.

4. In apparatus for positioning building board, the combination comprising: a dolly; a vertical mast mounted on said dolly; a telescoping extension slidably mounted in said mast; means for raising and lowering said telescoping extension; a substantially vertical framework having its lower extremity mounted on said dolly and being removably secured to said mast; a carriage slidably mounted in said framework for vertical movement; means coupling said carriage to said telescoping extension so that as said extension is raised and lowered said carriage is raised and lowered; means on said carriage for engaging the lower edge of such building board; means for releasably engaging the upper edge of such building board including a vertical member secured to said carriage; a member slidably mounted in said vertical member for vertical movement; a substantially U-shaped member carried by said slidable member; a lever arm having one end pivotally connected to said slidable member and having another portion thereof pivotally connected to said vertical member; and cord means connected between said lever arm and said carriage extending downwardly from said lever arm, said lever arm being pivotally mounted on said vertical member so that the weight of said U-shaped member and said slidable member is such that it is normally urged in a downward position into engagement with such building board by the force of gravity, said cord

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means permitting operation of the lever to urge the U-shaped member out of engagement with the upper edge of such board against the force of gravity.

5. The apparatus defined in claim 4 wherein said means for engaging a lower edge of such board includes a pair of spaced apart rails; means for supporting said rails upon said carriage to permit lateral movement of said rails with respect to said carriage; and lever operated means for causing lateral movement of said rails and such board carried thereby with respect to said carriage.

6. The apparatus defined in claim 4 together with cooperative means mounted on said dolly at the lower portion of said framework to prevent lateral and back and forth movement of a lower portion of said framework with respect to said dolly; and latch means releasably securing said lower portion of said framework to said dolly.

7. Apparatus as in claim 6 wherein said means for coupling said carriage to said telescoping extension consists of a cross member releasably secured to said telescoping extension; at least one pulley rotatably carried by said cross member; and a cable connected to said dolly and to said frame and passing over said pulley.

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