

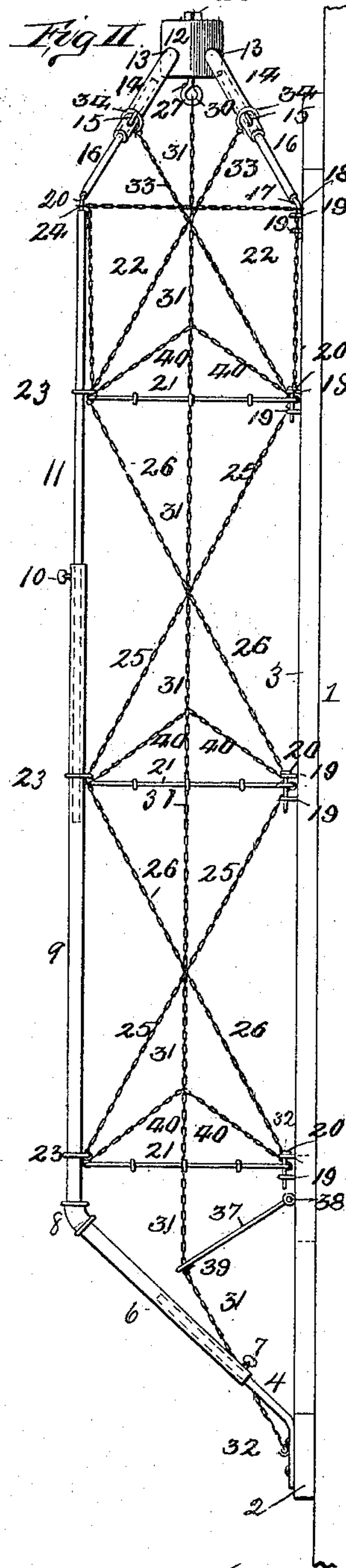
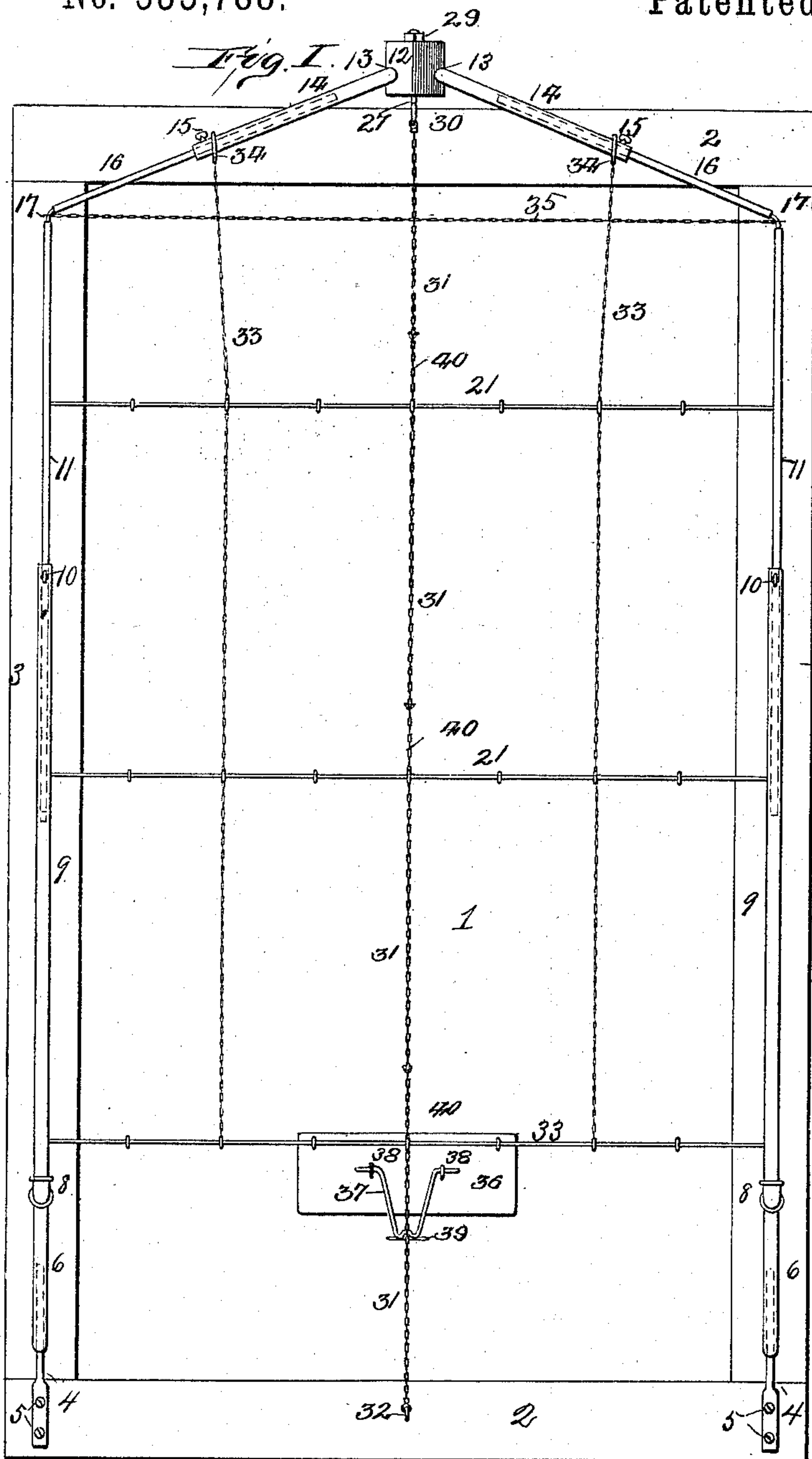
(No Model.)

2 Sheets—Sheet 1.

H. B. BUTTS.
PORTABLE SHELVEING.

No. 535,788.

Patented Mar. 12, 1895.



Witnesses:
Albert M. Ebersole
C. Knight

Inventor:
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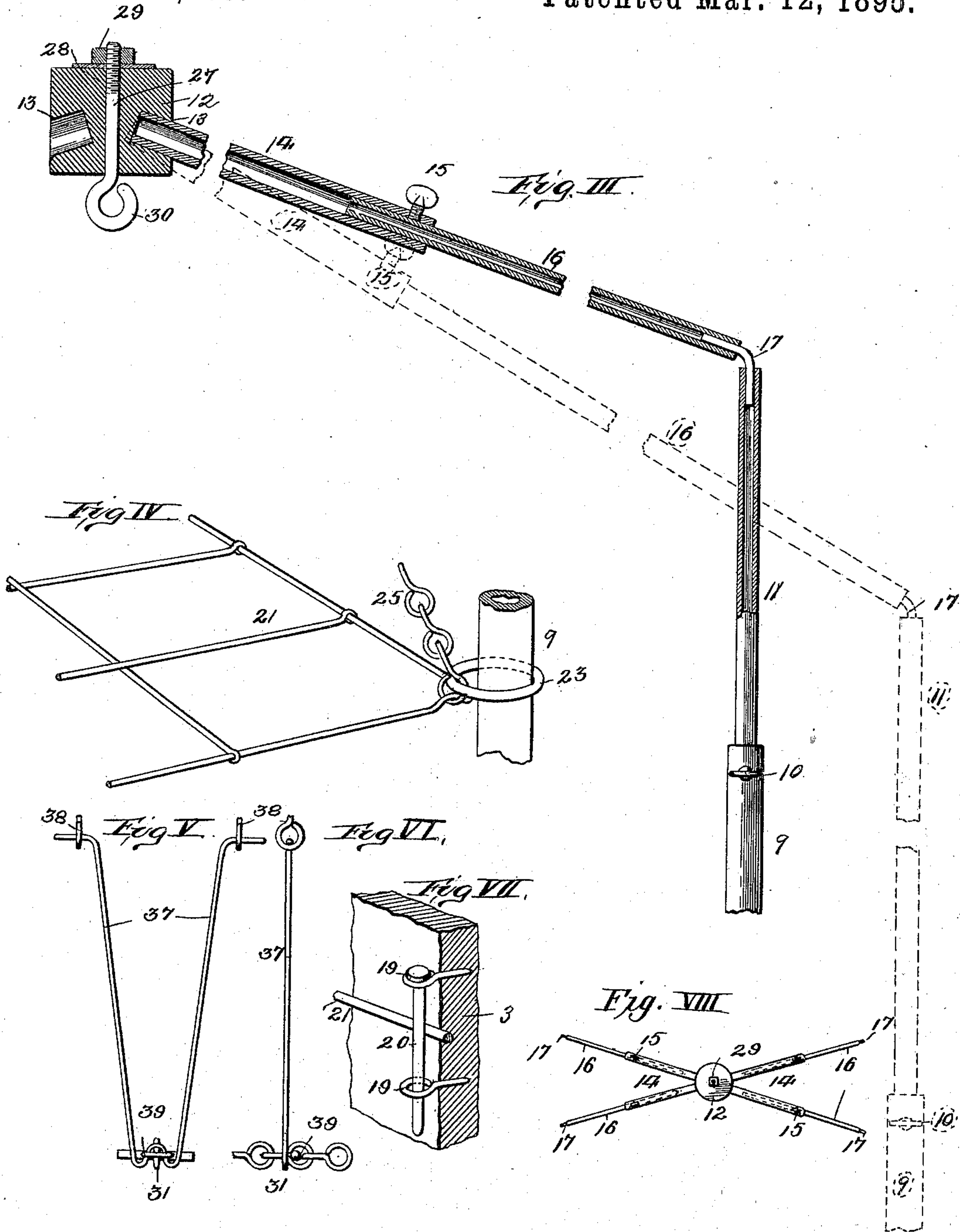
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UNITED STATES PATENT OFFICE.

HENRY B. BUTTS, OF ST. LOUIS, MISSOURI, ASSIGNOR TO LUCINDA BUTTS,
OF SAME PLACE.

PORTABLE SHELVING.

SPECIFICATION forming part of Letters Patent No. 535,788, dated March 12, 1895.

Application filed March 13, 1893. Renewed February 6, 1895. Serial No. 537,528. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. BUTTS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Portable Shelving, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

The object of my improvement is to provide a portable shelving in which the front, back, sides and top may be extended or contracted to suit the space wherein it is desired to place the frame of the shelving, or to accommodate shelves of different widths and lengths. It is provided with a tension device by which the whole may be readily secured after adjustment, flexible supports adjustably secured to the frame through which the shelving may be shifted to enlarge or diminish the space between the shelves to accommodate the size of articles to be located thereon, and flexible, movable partitions dividing the shelving into compartments.

My invention consists in novel features of construction hereinafter described and claimed.

Figure I is a front elevation of my improved, portable frame for shelving shown in using position. Fig. II is a side elevation thereof. Fig. III is an enlarged view illustrating the head, telescoping, adjustable tubes, part in section, and part in elevation, and in dotted lines the enlarged adjustment. Fig. IV is an enlarged, perspective view of one corner of the shelf-adjusting chain-support, a front tube and a ring by which the shelf and front tubes are connected. Fig. V is an enlarged, front elevation of the chain tension device. Fig. VI is a side elevation thereof. Fig. VII is an enlarged, perspective view of the rear attachment by which the shelving is secured to the wall or to a separate supporting frame. Fig. VIII is a top view of the top frame.

1 represents the wall, 2 bottom and top strips and 3 side strips.

4 are rod brackets, secured by means of screws 5 to the bottom strip, and on their upper ends are fitted telescoping tubes 6, adjustably secured by set screws 7, at any point on the rod-brackets.

8 are couplings in which are secured the upper ends of the telescoping tubes 6, and in the upper ends of the couplings are secured upright tubes 9 provided near their upper ends with set screws 10 that adjustably secure reduced tubes 11 fitting in the tubes 9.

12 is a flexible head, preferably of rubber, in which are openings 13. In these openings are inserted telescoping tubes 14 near the lower end of which are set screws 15, that secure within the telescoping tubes 14, reduced tubes 16, which receive the upper ends of bent rods 17, the lower ends of the front rods being inserted into the upper ends of the tubes 11 and the lower ends of the rear rods being inserted into the eyes of staples 18 secured to the side strips 3 of the supporting wooden frame.

19 are eye screws secured in pairs to the side strips and through each pair of which is passed a pin 20 that engages and retains the rear strand of each wire shelf 21 and is the means by which the rear parts of the shelves are supported at their rear outer corners.

22 is a chain which provides a support for the upper shelf, one end of said chain engaging a ring 23 to support the front edge of the shelf on the tubes 11, and passes up and is secured by a link 24 to a bent rod 17, from which point it is carried to the back part of the frame and is secured by a link to a rear bent rod, thence passing downward and having its end secured to an eye-screw 19. The other, intermediate and lower shelves, may be increased or diminished in number, and are supported at their ends by chains 25 secured to eye-screws 19 whence they extend downward and forward and are fastened to rings 23 and to the front corners of the shelves. 26 are similar chains, crossing the chains 25, having their upper ends secured to rings 23 and front corners of the shelves and their lower ends secured to eye-screws 19.

27 is a screw threaded bolt which fits in an opening 28 in the flexible head 12; the bolt being secured to the head by a nut 29 on its upper end, and on its lower end is formed a ring 30 in which is secured the upper end of a tension chain 31 that is passed down and through the center of the frame, and the lower end secured by a staple 32 in a strip 2.

33 are partition chains having at their upper ends rings 34 fitting over the telescoping tubes 14 and held from slipping below a certain limit on the tubes by the set-screws 15. 5 From their rings the chains pass down toward the front and rear of the frame respectively and the front chains have the shelves supported at the front thereon in one of their links while the rear chains are secured to the eye-screws. I have only shown two sets of 10 these partition chains; but more may be added, if desired.

To prevent the spreading of the front supporting tubes, I provide a chain 35 secured to 15 the front bent rods.

36 is a block secured to the wall 1, and to this block is pivoted a tension lever 37 pivoted to the block by staples 38. This tension lever is brought into engagement with the 20 chain 31 which is drawn taut and secured at its lower end by a bolt 39, that is passed through openings in the end of the lever and through a link of the chain 31 as shown in Figs. V and VI. The tension lever when 25 brought into contact with the chain and forced down, throws the chain slightly out of line, and draws all the parts of the frame taut.

40 are chains one end of each of which is secured to the front of the shelves and the 30 other end of each of which is secured in the back part of the frame to the eye-screws 19, the central part of each chain 40 being elevated and secured to a link of the chain 31.

My improved shelving may be manipulated 35 as follows: When the device is in using position as shown in Figs. I and II, and it is desired to enlarge or diminish the size of the frame, the pin that retains the tension lever in its upper limit in engagement with the 40 tension chain is removed, and the tension lever may be readily turned in its bearings, out of engagement with the tension chain, which leaves all of the parts free to be adjusted. If it is desired to enlarge the frame 45 from the size in Figs. I and II, the set screws 7 are loosened, and the telescoping tubes 6, moved on the brackets 4 until the space to be used is wide enough to receive the shelf, when the set screws 7 are again tightened. To increase the height of the frame to accommodate a greater number of shelves or to increase the space between the shelves, I loosen 50 the set screws 10 and move the tubes 11 up to the desired height and again tighten the set screws 10. The top of the frame is enlarged by the moving out, after loosening the set-screws, of the reduced tubes far enough to correspond with the lower part of the frame, and then tightening the set screws. 55 To accommodate longer shelves, the top of

the frame is enlarged as above stated, and the lower part by setting the brackets farther apart. The frame may be adjusted to suit small shelves and a less number by moving the brackets closer together, and instead of 65 elevating the tubes 11 by lowering them into the telescoping tubes 9, and in place of drawing the reduced tubes 11, in the top out, pushing them up into the telescoping tubes 14, and after tightening the set screws and adjusting the chains on the ends and those 70 forming the partitions to suit the distance apart it is desired to arrange the shelves, the tension chain which is secured to the hook on the lower end of the head 12 is then drawn 75 down through the center of the frame and the lower end secured at the bottom of the frame, to the staple in the strip 2. The tension lever is then turned up into engagement with the tension chain until the tension is 80 sufficient to draw all of the parts of the frame taut, when the bolt is passed through the upper end of the tension lever, and a link of the chain, which action firmly secures all the parts together and renders the shelving ready 85 for use.

Having thus described my invention, the following is what I claim as new therein and desire to secure by Letters Patent:

1. A portable shelving comprising the front 90 telescoping tubes, the top supporting frame consisting of a head carrying telescoping tubes, the shelves, and means for supporting the shelves from the tubes; substantially as described. 95

2. A portable shelving comprising the front telescoping tubes, the top supporting frame consisting of a head carrying telescoping tubes, the shelves, and flexible supports for engaging and supporting the front portions 100 of said shelves; substantially as described.

3. A portable shelving comprising telescoping tubes, fasteners for holding the tubes, shelves, flexible supports for the shelves, a flexible connection between the top and the 105 bottom of the shelving, and a tension-lever engaging the flexible connection; substantially as described.

4. A portable shelving comprising a support an adjustable frame, a flexible connection 110 between the top of the frame and the bottom of the support, and a tension lever hinged to the support and engaging the flexible connection to press it outward; substantially as described.

HENRY B. BUTTS.

In presence of—

ALBERT M. EBERSOLE,
E. S. KNIGHT.