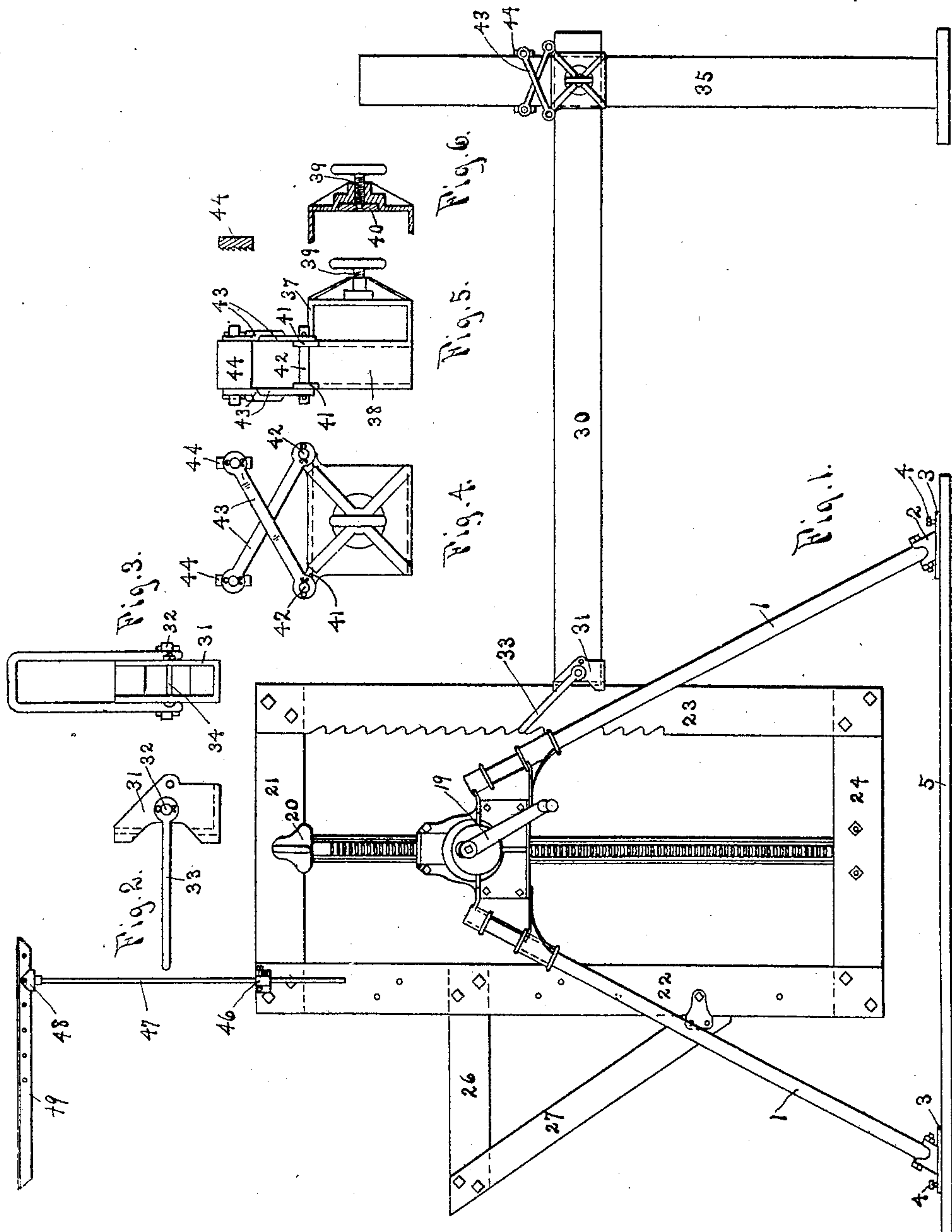


No. 805,524.

PATENTED NOV. 28, 1905.

E. S. BRYANT.  
ADJUSTABLE STANDARD.  
APPLICATION FILED FEB. 3, 1905.

3 SHEETS—SHEET 1.



Witnesses:

*E. S. Bryant*  
Geo. W. Barnes.

By his Attorney

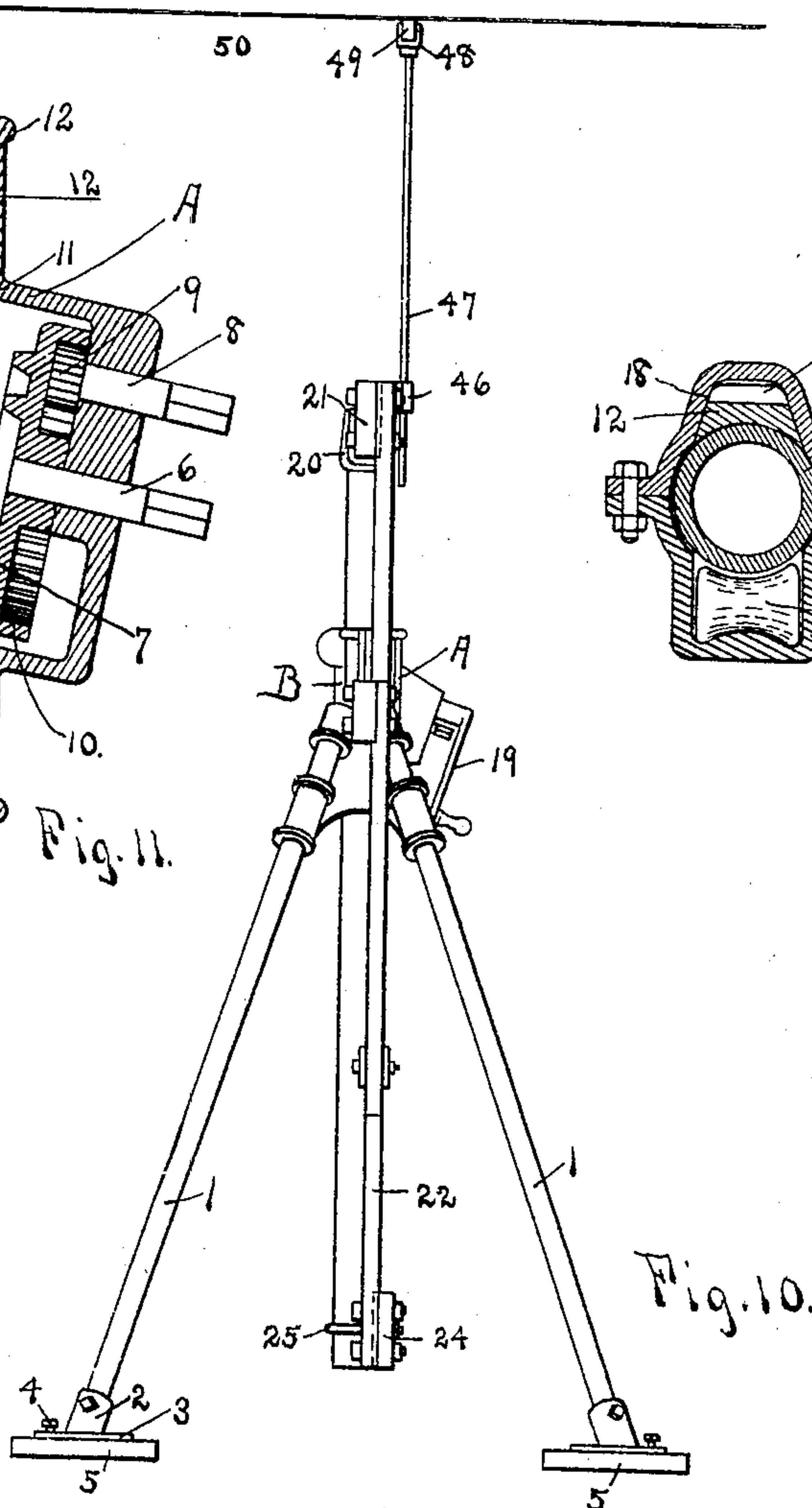
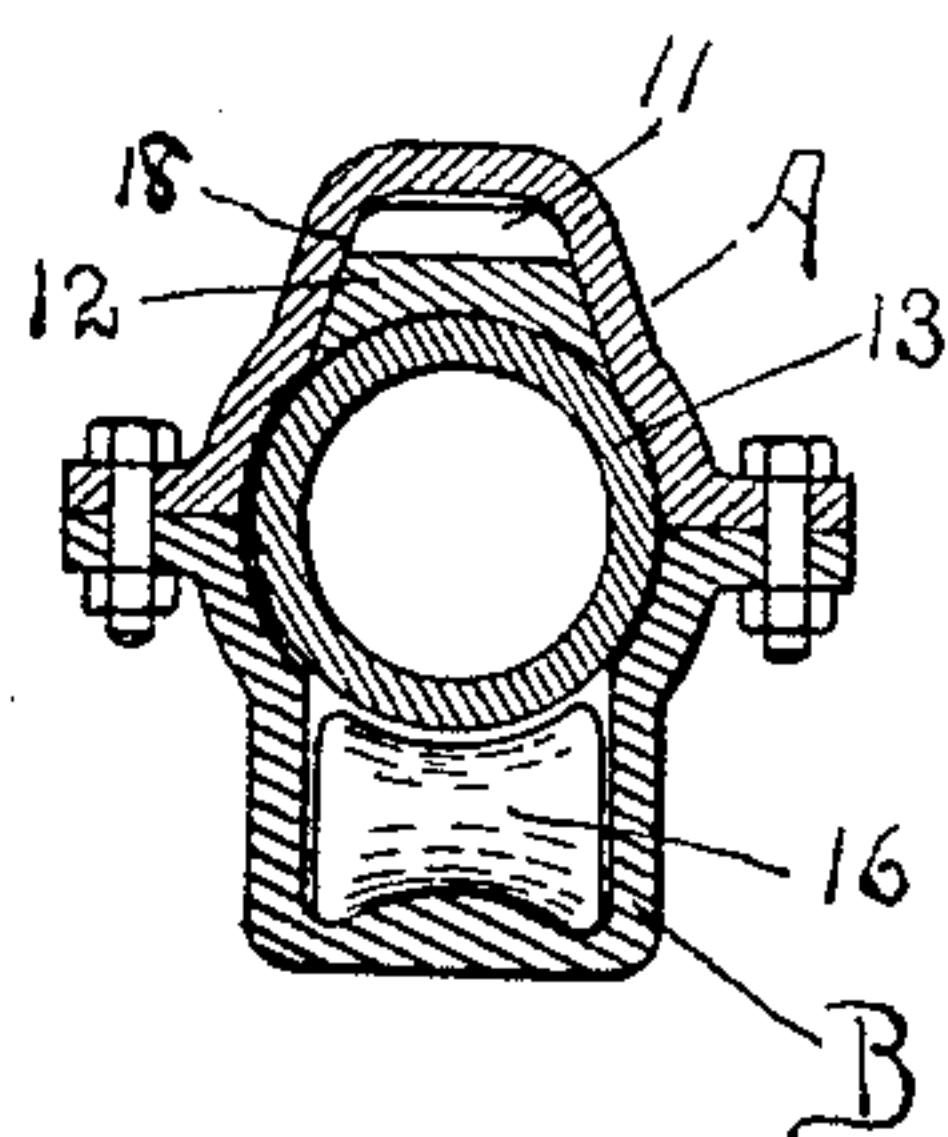
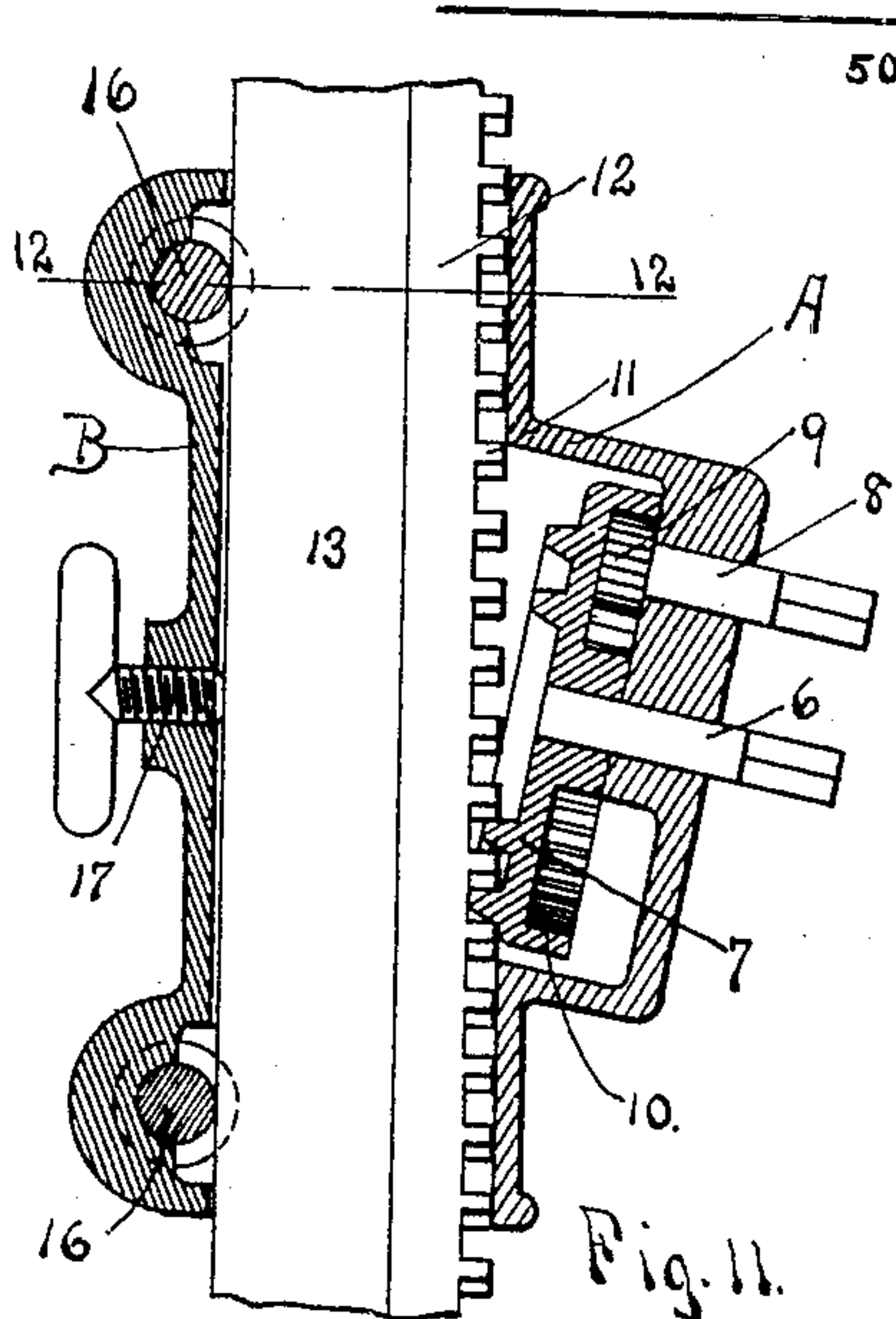
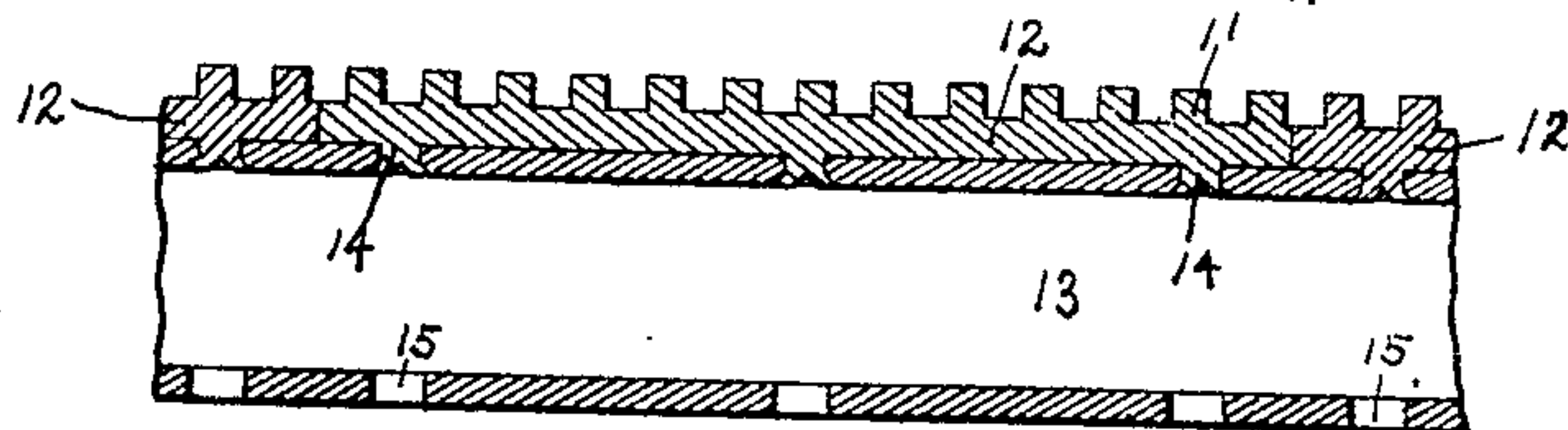
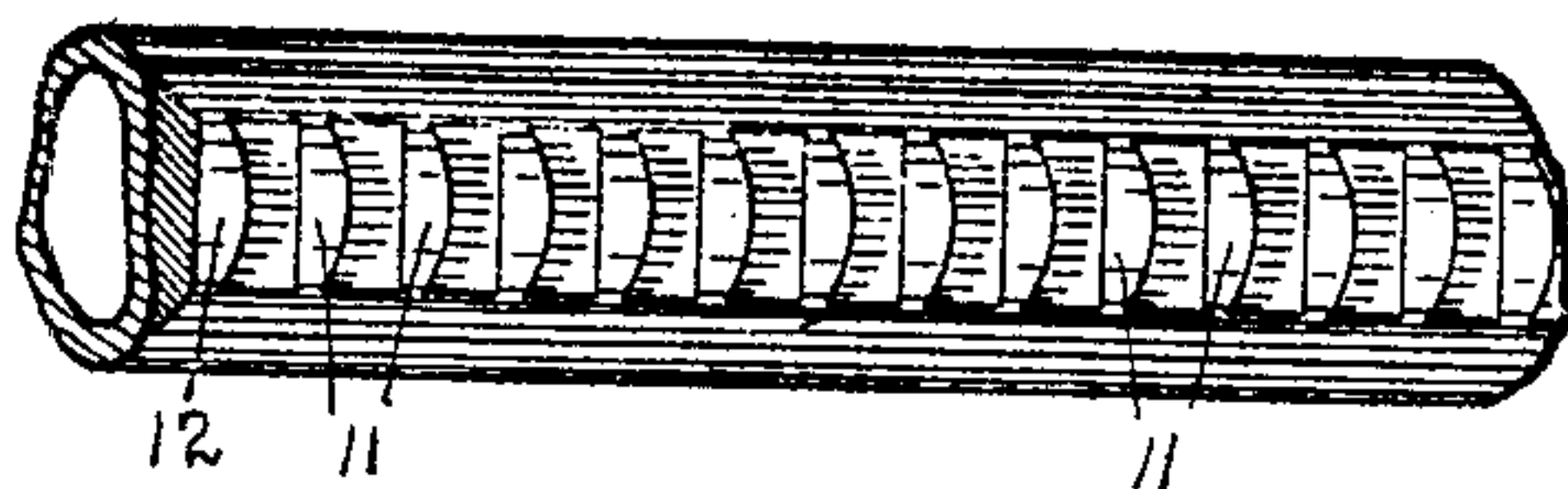
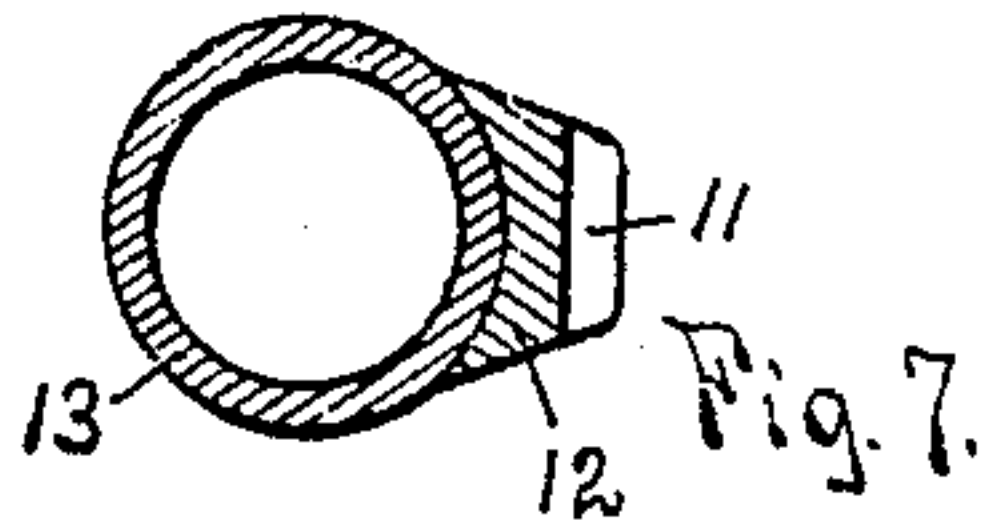
E. S. Bryant.  
Edward M. Pagelen  
Inventor

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3 SHEETS—SHEET 2.



Witnesses:

*E. S. Bryant*  
*Geo. W. Barrie*

By his Attorney

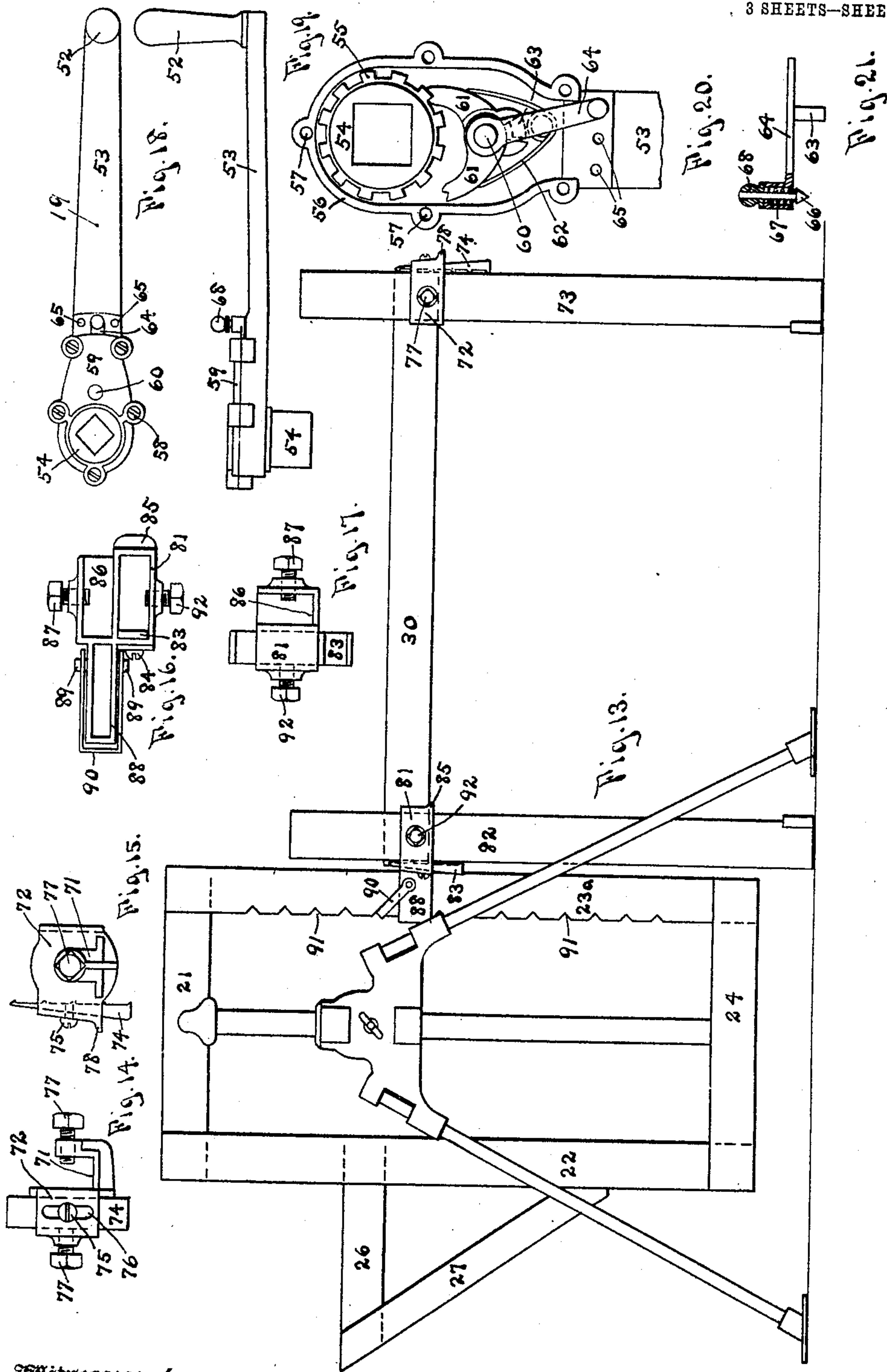
*E. S. Bryant.* Inventor  
*Edward M. Pagelsen.*

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E. S. BRYANT.  
ADJUSTABLE STANDARD.  
APPLICATION FILED FEB. 3, 1905.

3 SHEETS—SHEET 3.



Witnesses:

*John W. Barrow*

By his Attorney

*E. S. Bryant.*  
*Edward N. Pagehen.*

Inventor



# UNITED STATES PATENT OFFICE.

ELLSWORTH S. BRYANT, OF DETROIT, MICHIGAN.

## ADJUSTABLE STANDARD.

No. 805,524.

Specification of Letters Patent.

Patented Nov. 28, 1905.

Application filed February 3, 1905. Serial No. 243,931.

*To all whom it may concern:*

Be it known that I, ELLSWORTH S. BRYANT, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a new and Improved Adjustable Standard, of which the following is a specification.

My invention relates to adjustable standards for masons' scaffolds, and particularly the type shown in the patent granted to Bryant and Murdock on June 21, 1904, Serial No. 763,344.

My improvements have for their objects to provide a standard of this type by which a plurality of platforms may be raised or lowered simultaneously, to provide means whereby an adjustable auxiliary platform of great width may be connected to the main standards, to provide means for locking all the parts, and to provide means for supporting a canopy or awning over either of two platforms.

My invention further consists in the details of the several parts, as more fully set forth in the specification and illustrated in the accompanying drawings, in which—

Figure 1 is a side view of the standard. Figs. 2, 3, 4, 5, and 6 are details of one form of the connecting members of the support for the auxiliary platform on an enlarged scale. Figs. 7, 8, and 9 are details of the rack-bar on an enlarged scale. Fig. 10 is an end view of the standard. Fig. 11 is a central vertical cross-section of the head on an enlarged scale. Fig. 12 is a cross-section on the line 12-12 of Fig. 11. Fig. 13 shows a different form of the auxiliary platform and its connections. Figs. 14 to 17, inclusive, are views of these connections. Figs. 18 to 21, inclusive, are views of the main operating-crank and its details.

Similar reference characters refer to like parts throughout the several views of the drawings.

The standard is composed of a head supported on four legs, through which head is slidable a rack-bar which carries a frame. The frame is constructed to furnish supports for scaffold-platforms and for one end of a beam that is one of the supports of an auxiliary platform. The general construction of the head and operating mechanism is similar to that shown in the Bryant and Murdock patent cited above. The head is provided with sleeves to fit the upper ends of the legs 1, which are preferably of pipe. These legs

fit into the sleeves 2 on the foot-plates 3, being secured by bolts. The plates are threaded for the adjusting-screws 4, by means of which all the legs can be given a good footing on the supporting-planks 5. The head is formed of two parts A and B, bolted together. The part A is provided with a casing in which is journaled the shaft 6 of the spiral worm-wheel 7 and the shaft 8 of the pinion 9, that meshes with the teeth of the internal gear 10, formed on the web of the worm-wheel. The worm-wheel engages the teeth of the racks 12, which are secured to the tube 13 and together form the rack-bar of the standard. The tube is provided with holes countersunk on the inside, into which are riveted the lugs 14, projecting from the racks 12. The holes 15 provide access for the tools used to rivet the lugs. In the part B of the head are the rollers 16, which guide the rack-bar and prevent excessive friction. A screw 17 may engage the rear of the rack-bar, forcing the tapering rack 12 into the tapering groove 18, Fig. 12, of the part A of the head, and thus lock the rack-bar firmly in the head. The crank 19 fits the ends of both shafts 6 and 8. At the upper end of the rack-bar is a fork 20, in which rests the cross-bar 21 of the frame. To this cross-bar are connected the side bars 22 and 23, which in turn are connected to each other and to the lower end of the rack-bar by the bottom cross-bar 24 and U-bolts 25. A bracket composed of the horizontal member 26 and diagonal member 27 is bolted to the upright 22 and may be secured at any height. The left side, Fig. 1, of the standard is generally toward the wall that is being erected, and planks extending across between the cross-bars 26 of several standards form the platform upon which the masons stand, while the brick and mortar are placed on the planks resting on the cross-bars 21. The brackets 26-27 will be adjusted so that the mason can work most advantageously.

The beam 30 is intended to form one of the series of supports upon which a broad scaffold is laid to provide a walk for the helpers where they may run wheelbarrows and should be of sufficient width to permit two barrows to pass. The difference in height between the platform supported by the cross-bar 21 and that supported by the beam 30 should be such that the helper may unload his hod or barrow with the least exertion.

The beam 30 is supported at its inner end by the upright 23, and connection between the



two is made by the metal socket 31, which is provided with pins 32, on which is pivoted the yoke 33. This yoke may engage in any one of the notches in the upright 23. The bolt 5 34 passes through the wall of the socket and the end of the beam 30. The outer end of the beam is supported by the post 35, which, like the beam, may be a two-by-four or two-by-six piece of timber. The connection be- 10 tween the beam and post is constructed as follows: A double metal sleeve has a portion 37 to receive the beam and a second portion 38 at right angles to the first to receive the post. The beam is securely held by means of the 15 screw 39, that acts on the plate 40, pressing it against the beam. At the upper side of the sleeve are four lugs 41, through which pass pins 42, on which are pivoted the links 43. Blocks 44 are provided with rounded pins 20 on their ends that fit in the holes in the ends of the links. The inner faces of the blocks are grooved to form teeth that will engage the edges of the post. The heavier the load on the beam the deeper these teeth will be 25 pulled into the edge of the post. The sleeve may be slid up the post without difficulty; but when it is desired to lower the sleeve it must first be raised to disengage the teeth. Secured to the upper part of each frame is a 30 bracket 46, in which is slidable a rod 47, which is provided at its upper end with a fork 48. In this fork is held the cross-bar 49, which supports a portion of the awning 50. The bar may be slid back or forward in 35 the fork, being secured in place by a pin, as indicated.

In using standards of this kind the height of the members 26 27 with reference to the cross-bars 21 is first determined according to 40 the position that is most advantageous for the mason to handle his material. The beams 30 are similarly adjusted. As the wall grows in height the frames are raised by means of the cranks 19. The sleeves supporting the outer 45 ends of the beams 30 are also adjusted, being pushed up to keep the beam level. The parts are then locked by means of the screws 17 and 39.

The crank 19 is shown more fully in Figs. 50 18 to 21. The handle 52 is secured in one end of the bar 53, in the other end of which is rotatable the socket-sleeve 54, provided with the gear-teeth 55. The crank is cut out and has a wall 56, in which are the screw- 55 threaded holes 57 to receive the screws 58 to hold down the plate 59. This plate is provided with an opening to furnish a bearing for the upper end of the sleeve 54 and another opening to receive the end of the pin 60. On this pin are journaled two pawls 61, 60 which are normally held toward the gear-teeth by the spring 62. Each pawl has a rearwardly-extending spur which is adapted to contact with the depending pin 63 on the le- 55 ver 64, pivoted on the pin 60. When the

lever 64 is central, its pin 63, contacting with the spurs, will hold both pawls out of engagement with the gear-teeth. When swung to the right, Fig. 20, the pawl on the left will be held out, the other being permitted to en- 70 gage the gear-teeth. The well-known ratchet action is had upon swinging the crank. To hold the lever 64 in its various positions, I provide three holes 65 in the body of the crank, in which the point of the pin 66 is 75 adapted to engage. The spring 67 is stiff enough to hold the pin and lever 64 in place. Upon pulling out the knob 68 the lever 64 can be moved.

Where heavy scaffolds are to be used for 80 the helpers, it is sometimes desirable that independent supports are provided for the inner ends of the beam 30. In Figs. 13 to 17, inclusive, I have shown a construction for this purpose and a set of attachments to secure 85 the different parts together. The outer end of the beam 30 rests in the jaw 71, secured to the sleeve 72, which is slidable upon the upright 73. The sleeve is tapering on one side to receive the wedge 74, which is pro- 90 vided with a screw 75, slidable in the slot 76 to keep the wedge from being lost. Set-screws 77 are adapted to engage the beam and upright. The sleeve is provided with the lug 78, against the lower side of which the work- 95 men may strike to release the wedge 74. When the parts are in the desired position, the screws are tightened and the wedge driven up tight. To release the sleeve, the screw is slackened and the workman strikes up against 100 the lug 78. The wedge is provided with teeth to insure engagement. The connection between the inner end of the beam and the upright 23<sup>a</sup> of the frame is provided with a similar sleeve 81 to receive the upright 82, which 105 sleeve has a wedge 83, screw 84, and lug 85. On the side of this sleeve is the jaw 86, having a screw 87 to engage the end of the beam 30. A second sleeve 88 is joined to these parts and is adapted to slide on the upright 23<sup>a</sup> of 110 the frame. On the pins 89, projecting from the sides of this sleeve, is journaled the yoke 90, which is adapted to engage the notches 91 of the side bar 23<sup>a</sup> of the frame. When it is desired to raise the frame and scaffold, the 115 workmen slack the screws 92 and strike up against the lugs 85, releasing the wedges. The sleeve 81 will then rise with the side bar 23<sup>a</sup>. When the desired height is reached, the wedge 83 is driven up, after which the con- 120 nection on the outer end of the beam 30 is brought to the desired height. If the beam 30 is already at the desired height, the screw 92 may be slackened and the yoke 90 swung out of its notch 91, when the frame may be 125 raised or lowered irrespective of the beam 30.

Many changes may be made in the details of this construction without departing from the spirit of my invention.

Having now explained my improvements, 130



what I claim as my invention, and desire to secure by Letters Patent, is—

1. In a standard, the combination of a casing, legs to support said casing, a rack-bar slidable in said casing, means to slide said bar, a cross-bar carried by said slidable bar, side bars secured to said cross-bar, a bracket carried by one of said side bars, a beam adjustably connected to the other side bar, a post to support the outer end of the beam, and a second cross-bar connecting the lower ends of the side bars and rack-bar.

2. In a standard, the combination of a casing, legs to support the casing, a hollow tube slidable in said casing and having a longitudinal row of holes, toothed bars having lugs to fit in said holes to secure said bars to said tube, a gear to engage said toothed bar, and means to drive said gear.

3. In a standard, the combination of a casing, a hollow tube slidable in said casing and having a longitudinal row of holes, toothed bars having lugs to fit in said holes to secure said bars to said tube, a gear in said casing to engage the teeth of said bar, and means to drive said gear.

4. In a standard, the combination of a casing, legs to support said casing, a tube slidable in said casing and having a longitudinal row of holes, a rack having a series of lugs to fit in said holes to secure the bar to the tube, a gear in said casing to engage the teeth of said rack-bar, rollers in said casing to engage the rear of said tube, said casing having a groove to receive the rack-bar, and means to force said rack-bar into said groove to lock the tube within the casing.

5. In a standard, the combination of a casing having a tapering groove, a longitudinal member slidable within the casing, a rack secured to said member and having tapering sides, and means to force said rack into the said groove to lock the tube within the casing.

6. In a standard, the combination of a frame, means for raising and lowering said frame, a horizontal beam a link for adjustably securing one end of said beam to said frame, a post to support the other end of said beam, and an adjustable connection between said post and beam.

7. In a standard, the combination of a cross-bar, means to raise and lower the same, a side bar secured to the cross-bar, one of said side bars having a series of notches, a horizontal beam abutting against said side bar, a bracket fitting the end of said beam to support the

same, and a stirrup pivoted on said bracket and adapted to engage in any desired notch in said side bar.

8. In a standard, the combination of a frame, means for raising said frame, a horizontal beam adjustably connected at one end to said frame, a post at each end of said beam to support the same, and adjustable connections between said posts and beam.

9. In a standard, the combination of a frame, means for raising said frame, a horizontal beam adjustably connected at one end to said frame, a post, a sleeve adjustable on said post, a jaw attached to said sleeve to receive the other end of said beam, a wedge in said sleeve to engage said post, and a screw in said wedge slidable in a slot in said sleeve.

10. In a scaffold construction, the combination of a frame, means for raising said frame, a horizontal beam, a post, a sleeve adjustable on said post, a wedge to lock said sleeve to said post, a second sleeve connected to the first and slidable on a portion of said frame, a yoke pivoted on said second sleeve and adapted to engage a portion of said frame, a jaw secured to said sleeves and adapted to engage one end of the horizontal beam to support the same, and means to support the other end of said beam.

11. In a scaffold construction, the combination of a frame, means to control the elevation of said frame, a bracket carried on one side of said frame, a beam connected at one end to the other side of said frame, and means to support the free end of said beam.

12. In a scaffold construction, the combination of a frame, means to control the elevation of said frame, a bracket adjustably connected to one side of said frame, a beam adjustably connected to the other side of said frame, and means to support the free end of said beam.

13. In a standard, the combination of a casing, a hollow tube slidable in said casing and having a longitudinal row of holes, a toothed bar having lugs to fit in said holes to secure the bar to said tube, and means to engage the toothed bar to actuate the same.

In testimony whereof I have signed my name to this application in the presence of two subscribing witnesses.

ELLSWORTH S. BRYANT.

Witnesses:

EDWARD N. PAGELSEN,  
LOUIS OTT.