

No. 743,616.

PATENTED NOV. 10, 1903.

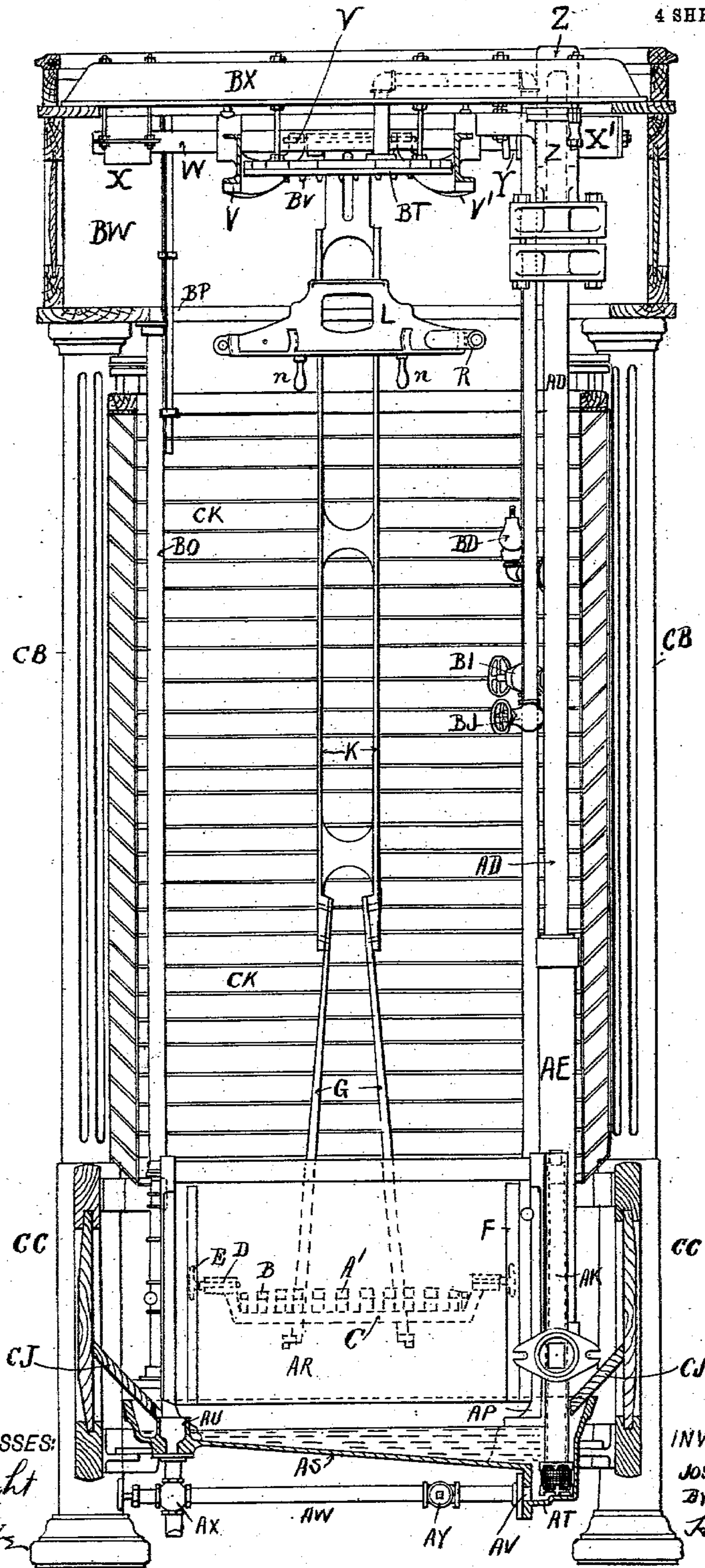
J. J. BUTCHER.
SHOWER BATH.

APPLICATION FILED SEPT. 5, 1901.

NO MODEL.

4 SHEETS—SHEET 1.

FIG. 1.



WITNESSES:
P. W. Wright
Mattie Abbs

INVENTOR
JOSEPH J. BUTCHER
BY
Hawson & Hawson
HIS ATTORNEYS

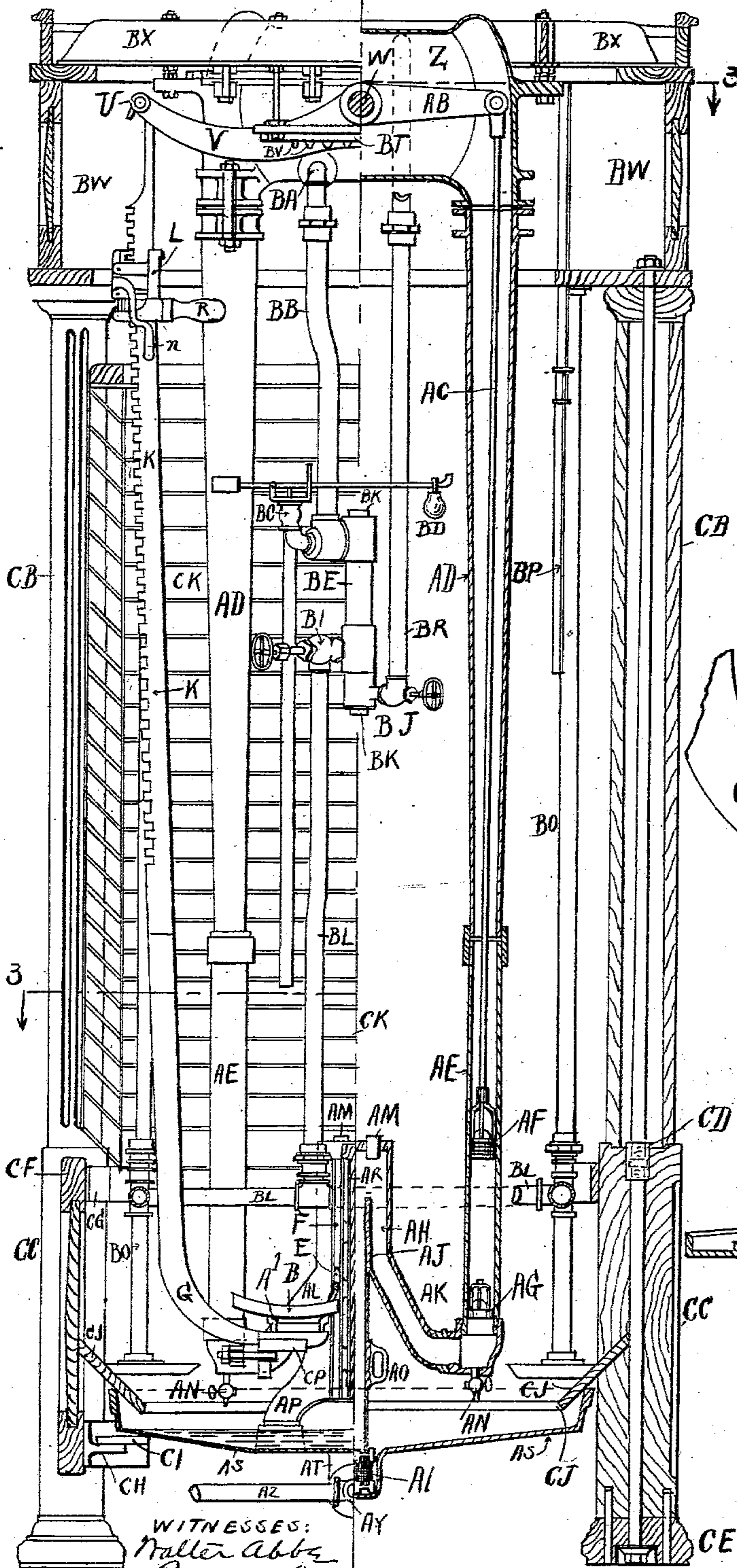
J. J. BUTCHER.
SHOWER BATH.

APPLICATION FILED SEPT. 5, 1901

NO MODEL.

FIG. 2.

4 SHEETS—SHEET 2.



WITNESSES:
Matter Abbs
P. W. Wright.

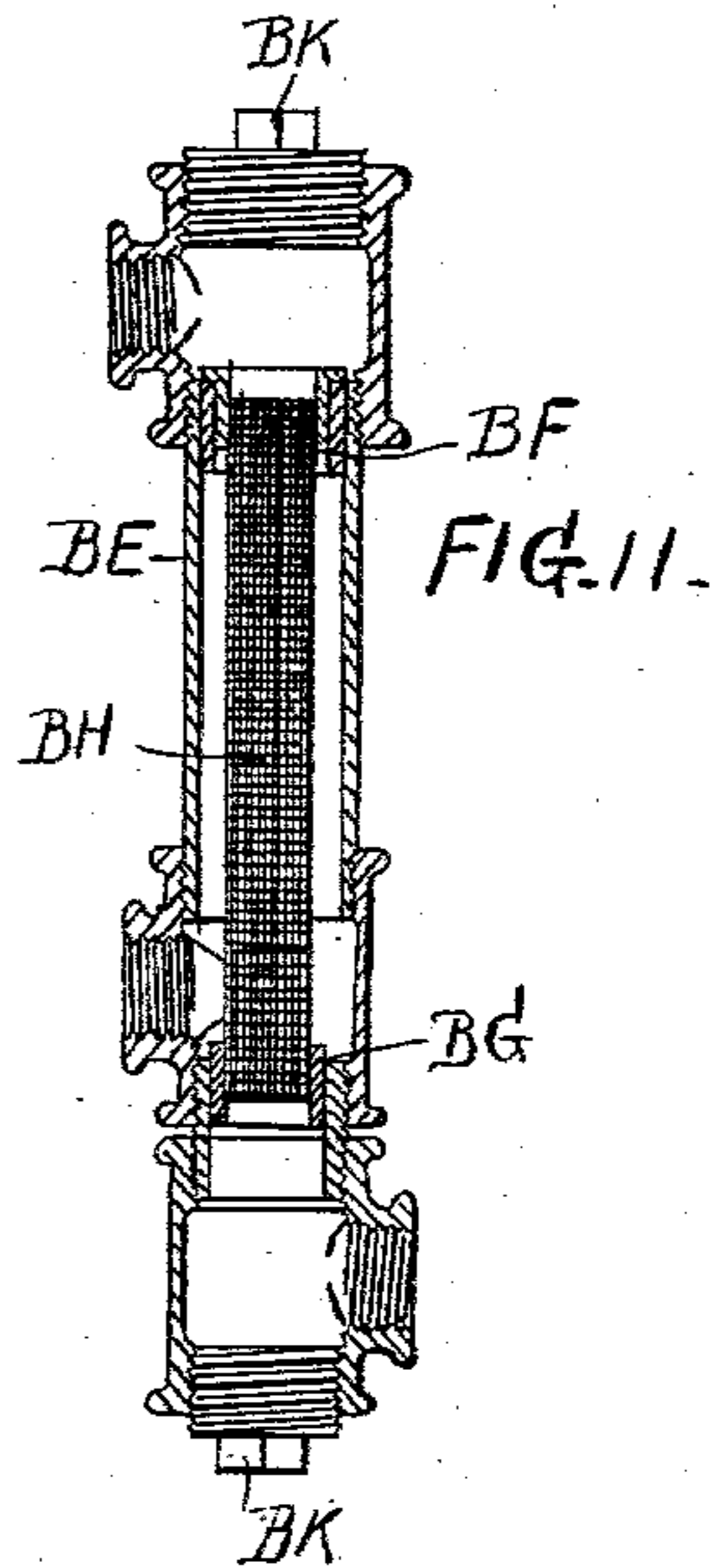


FIG. 11.

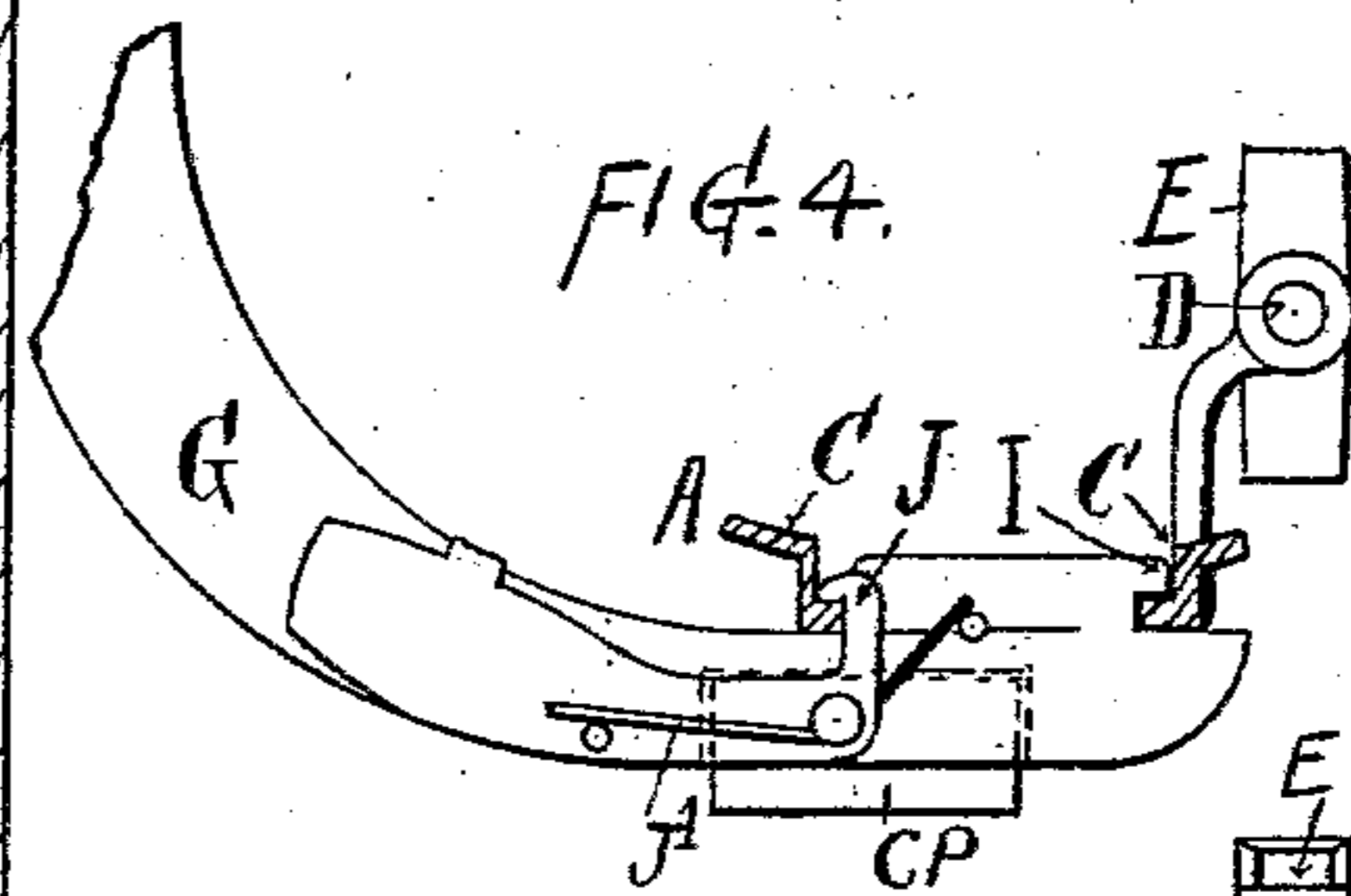
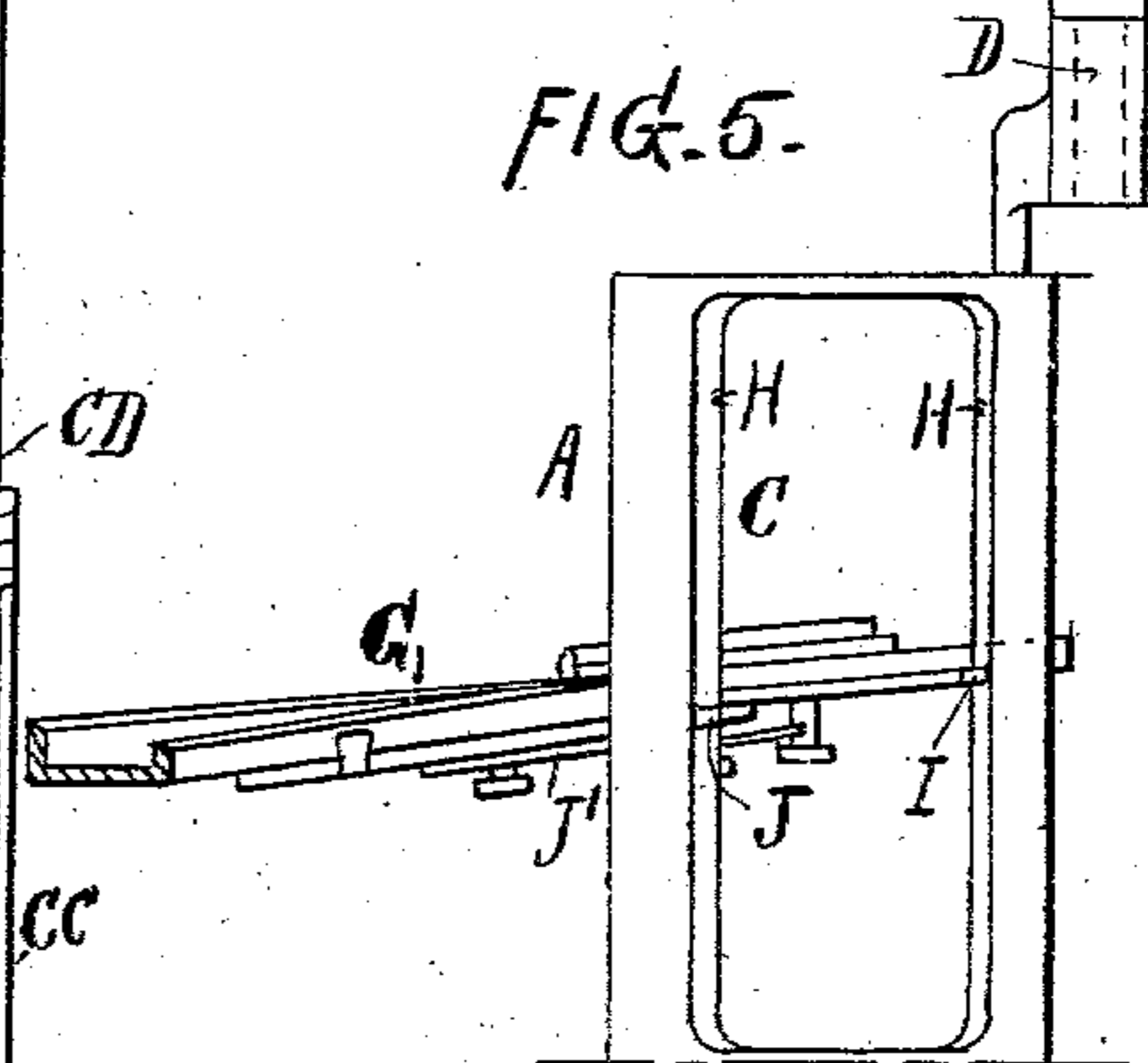


FIG. 4.

FIG. 5.



INVENTOR
JOSEPH J. BUTCHER
BY
Hawson & Hawson
HIS ATTORNEYS

No. 743,616.

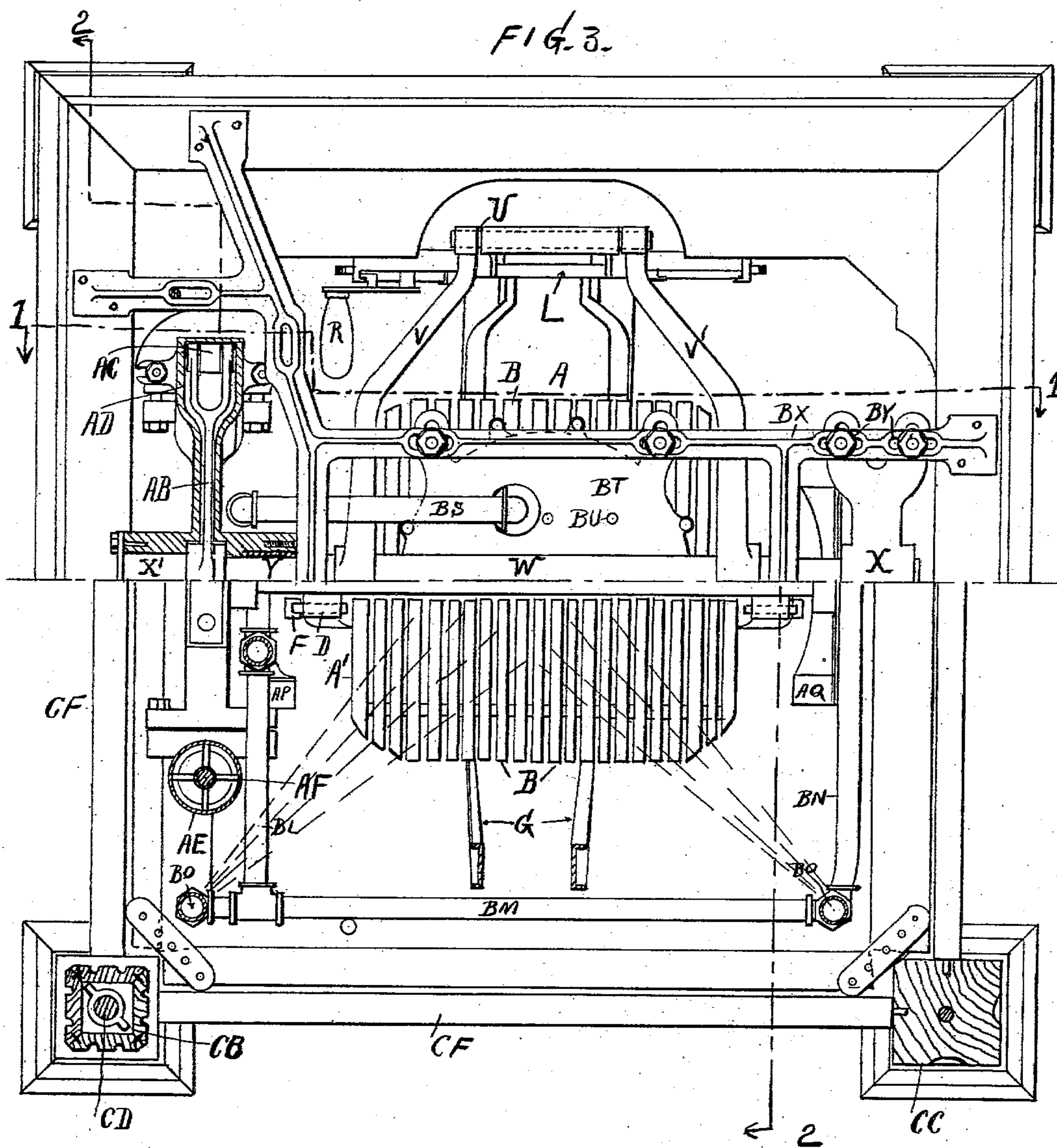
PATENTED NOV. 10, 1903.

J. J. BUTCHER.
SHOWER BATH.

APPLICATION FILED SEPT. 5, 1901.

NO MODEL.

4 SHEETS—SHEET 3.



WITNESSES:

G. W. Wright
Walter Abbe

INVENTOR

JOSEPH J. BUTCHER

BY

Hawson & Hawson
HIS ATTORNEYS.

No. 743,616.

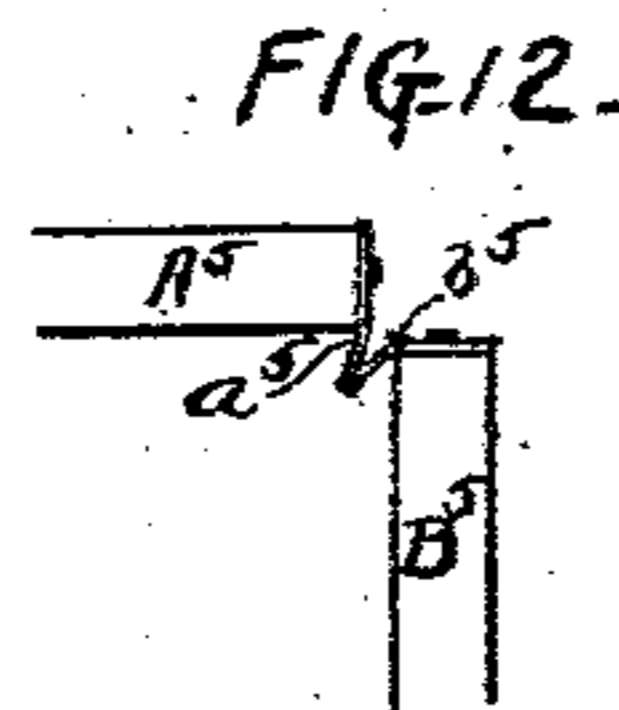
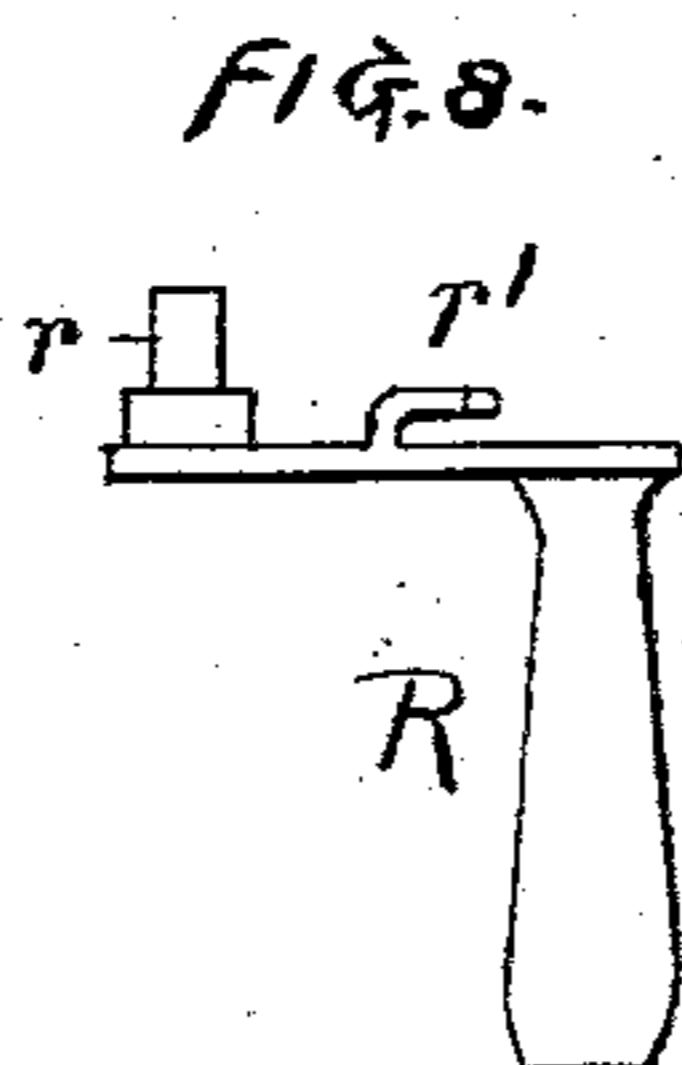
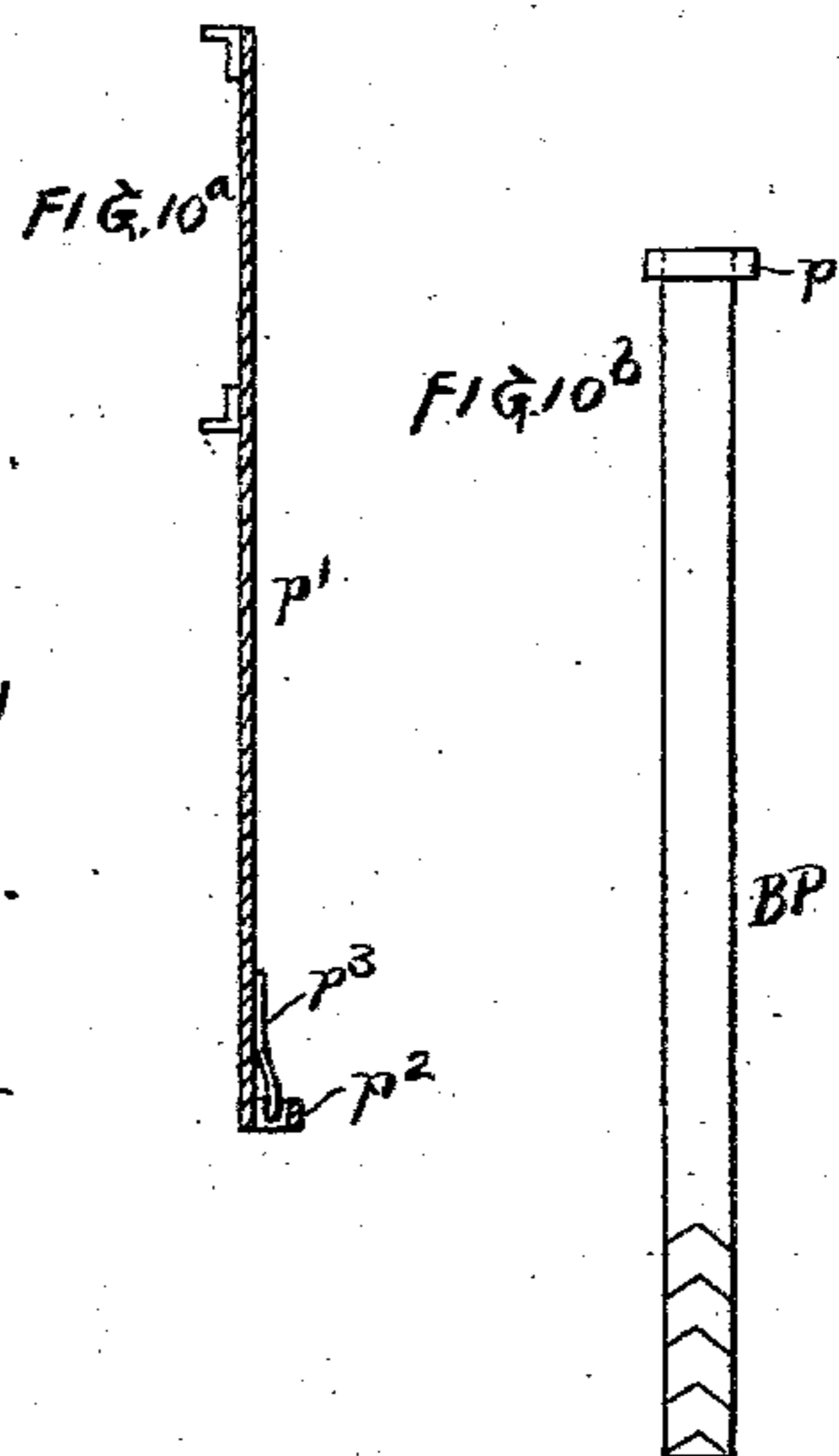
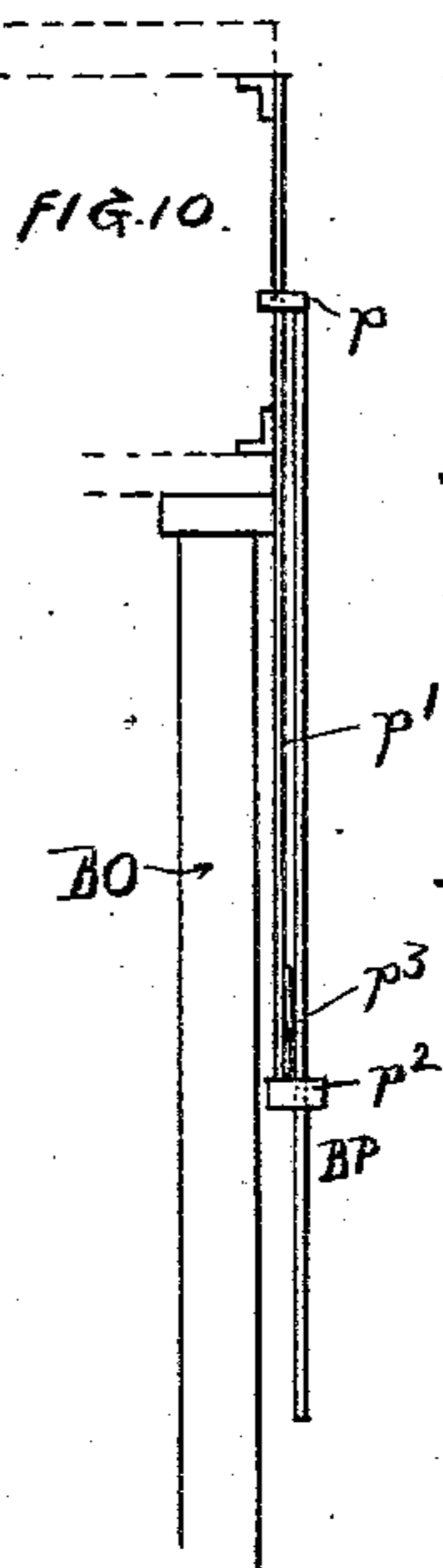
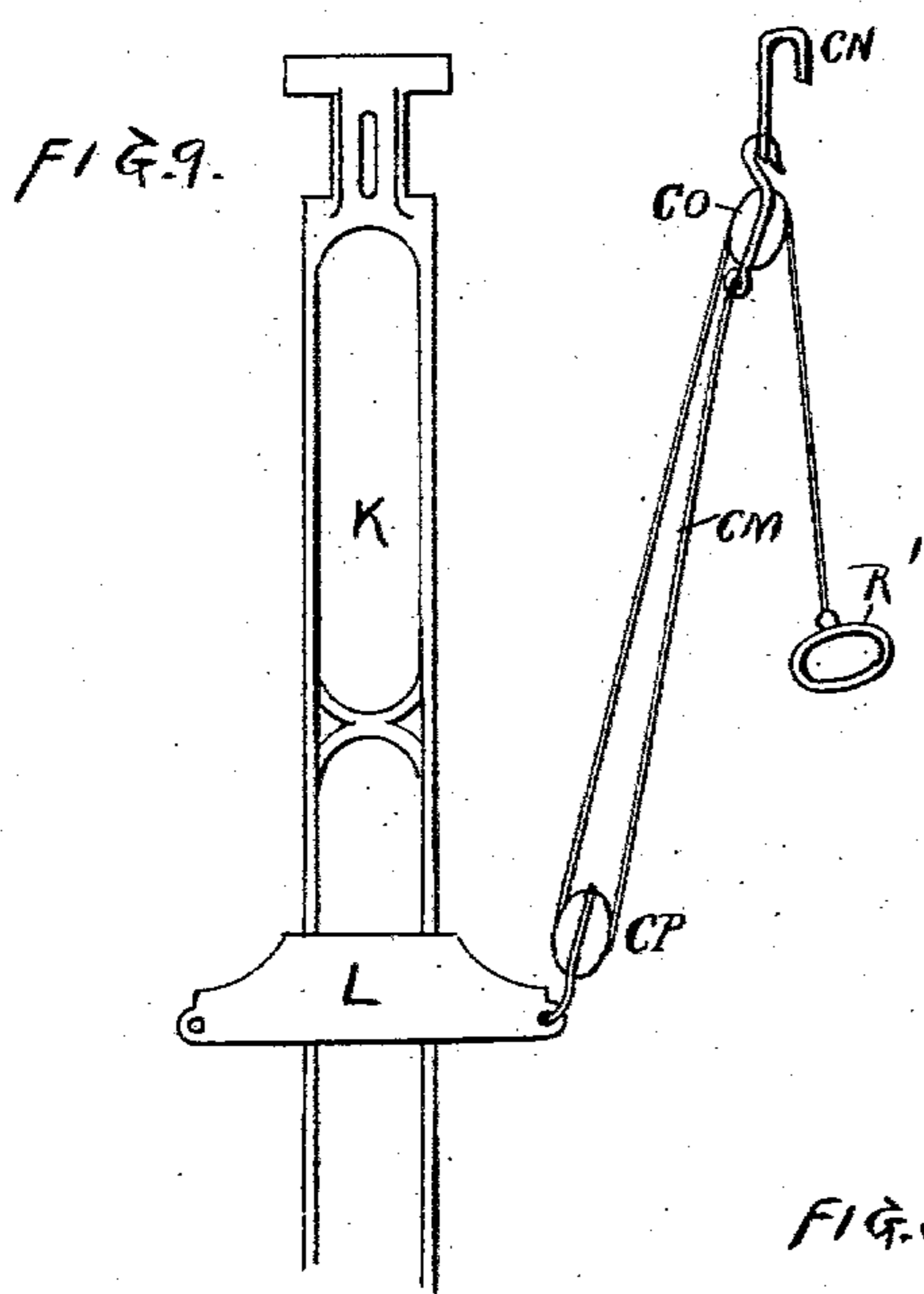
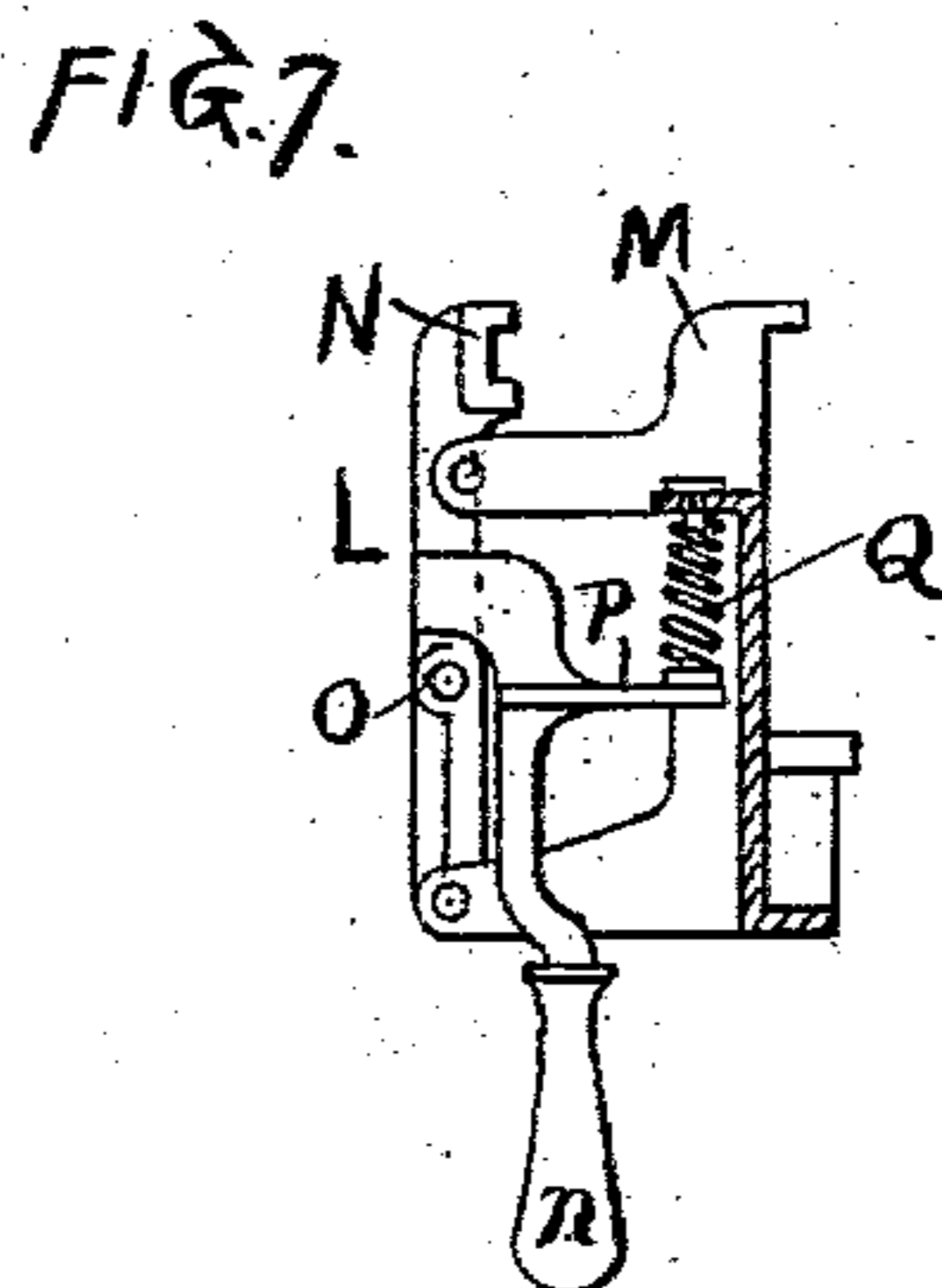
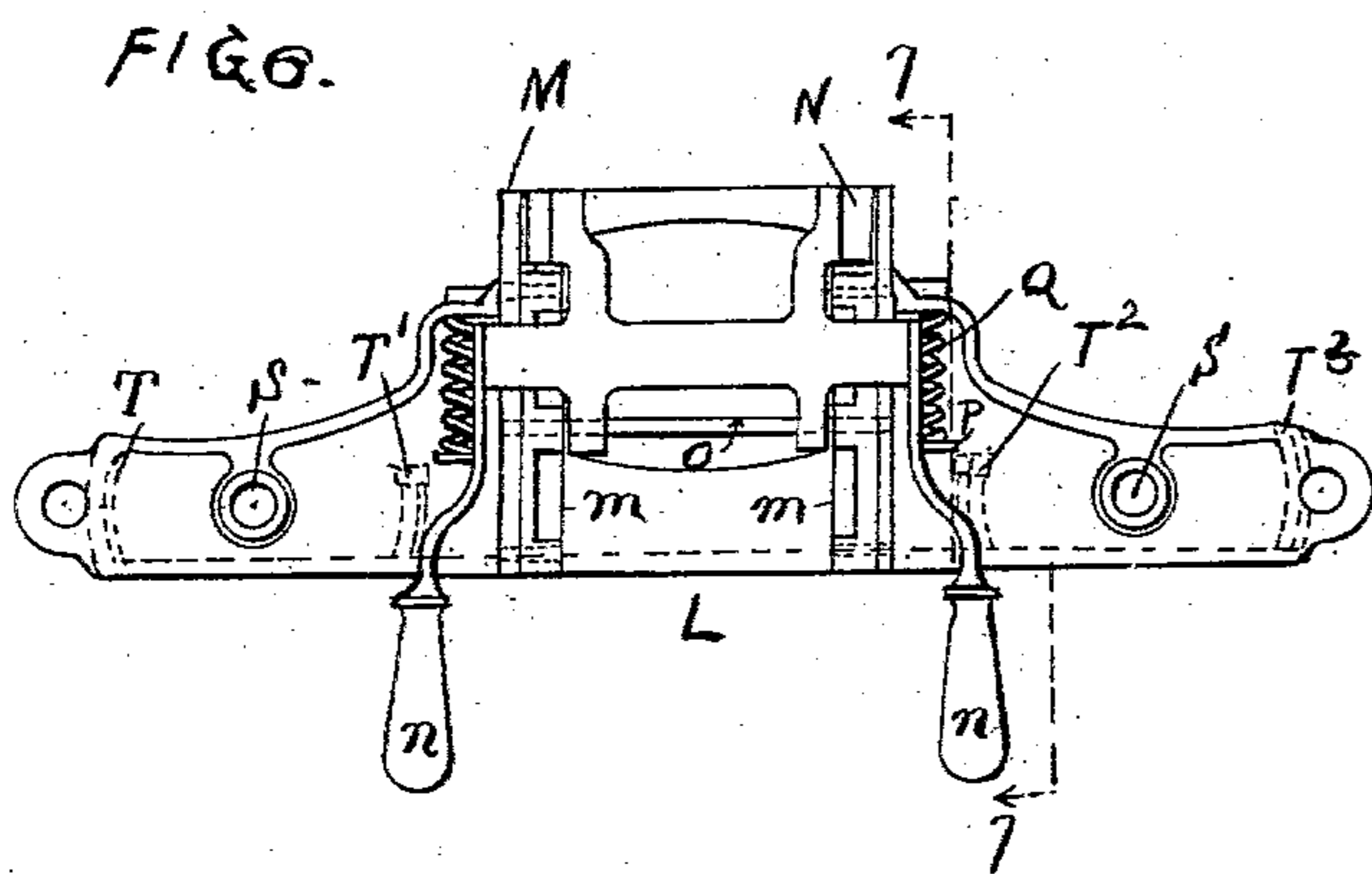
PATENTED NOV. 10, 1903.

J. J. BUTCHER.
SHOWER BATH.

APPLICATION FILED SEPT. 5, 1901.

NO MODEL.

4 SHEETS—SHEET 4.



WITNESSES:

Matter Abbe
P. W. Wright.

INVENTOR

JOSEPH J. BUTCHER

BY

Hawson & Hawson

HIS ATTORNEYS

UNITED STATES PATENT OFFICE.

JOSEPH J. BUTCHER, OF THOMPSONVILLE, CONNECTICUT.

SHOWER-BATH.

SPECIFICATION forming part of Letters Patent No. 743,616, dated November 10, 1903.

Application filed September 5, 1901. Serial No. 74,455. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. BUTCHER, a subject of the King of Great Britain and Ireland and Emperor of India, residing at Thompsonville, in the county of Hartford, State of Connecticut, have invented an Improved Shower-Bath, of which the following is a specification.

My invention relates to a shower-bath in which exercise is obtained during the act of bathing, so that the heat caused by muscular effort tends to counteract the cooling action of the water, as it does in swimming.

The principal parts of the apparatus comprise an inclosing frame or casing, a rocking beam over the bather's head, with a rocking lever and connecting-rods to work a pair of pumps below, while a pair of operating-treadles are suspended by hangers from the overhead rocking beam and are worked by the bather standing thereon with his feet. The pumps thus operated draw water from a collecting-tray beneath the feet of the bather and force it either into the rose of a shower-bath above the bather's head or into pipes which throw horizontal jets of water upon his body in the form commonly known as the "needle-bath." In the present specification I use the term "shower-bath" in a sufficiently general sense to include so-called "needle-bath" appliances.

In the accompanying drawings, Figure 1 is a vertical section on the line 1 1, Fig. 3. Fig. 2 is a vertical section on the line 2 2, Fig. 3. Fig. 3 is a sectional plan, drawn to a larger scale, on the line 3 3, Fig. 2. Figs. 4 and 5 are enlarged sectional views of details detached. Fig. 6 is a side view of the cross-head. Fig. 7 is a transverse section of the same on the line 7 7, Fig. 6. Fig. 8 is a detached view of one of the handles for the cross-head. Fig. 9 is a view of a modification. Figs. 10, 10^a, and 10^b are views of a detail, showing the cut-off for the needle-spray; and Fig. 11 is a sectional view of the needle-bath strainer drawn to a larger scale. Fig. 12 is a detail of the Venetian splash-boards.

A A' are the two treadles upon which the bather is to stand. Each treadle consists of spaced wooden slats B B, mounted upon a

light metal frame C and spaced apart, so as to allow the water to drain through freely. These slats are preferably curved, so as to give good hold to the feet. Pivotaly connected to the front and back of each frame C at D D are two guide-shoes E, Figs. 1, 2, 4, and 5, which travel freely in upright front and back guides F, mounted in the frame. When the treadles are raised far enough to carry the shoes E out of the slots, the shoes can be readily detached from the treadles for cleaning purposes and instantly replaced.

The treadles are carried by the lower ends of hangers K G, which are suspended from the opposite ends of the overhead rocking beam V; but the treadles are made detachable in the following manner: As shown more fully in Figs. 4 and 5, the frame C has internal ledges H formed on it, while the inwardly-curved ends of the legs G have projections I to hook over the ledge H on one side of the frame, while on the other side latches J, pivoted to the legs G and which may be acted on by springs J', lock the treadle to the legs, but permitting the detachment of the treadle on pressing back the latches J.

The legs G G are bolted or otherwise attached to the lower ends of the double rack part K of each hanger. On this rack part is a cross-head L, adapted to be adjusted thereon vertically and secured in any position to which it may be adjusted. As shown more clearly in Figs. 6 and 7, this cross-head is formed with projections M to bear against the sides of the racks K, while the flanges m, attached to the projections M, embrace the racks, riding on the top of their toothed faces.

N is a spring-latch having teeth, as shown at its upper part, engaging with the teeth of each rack K. This latch N has handles n at its lower part below the cross-head. This latch N swings upon the pin O and has projections P, upon which the spiral springs Q press. These springs keep the teeth on the latch N engaged with the teeth of the racks; but they can be instantly disengaged by pulling the handles n, when the cross-head L may be raised or lowered, so as to be fixed in any desired position.

R is a handle, Fig. 8, having a pin r, which may be inserted into either of the holes S in

the cross-head. A segmental projection r' upon this handle may be engaged with any of the clutches T and T', &c., all formed upon the cross-head L. Thus the handle, which
 5 gives a handhold to the bather in exercising, may be readily shifted to any one of the four positions to suit the convenience of the bather, while it may be raised or lowered by adjustment of the cross-head on the rack.

10 At U the hanger-rack is attached by means of a long pin to the ends of the rocking beam V V', Figs. 1 and 2. The hanger may be simply hooked over this pin U, so as to be readily detached. The rocking beam is preferably formed of two bars V and V', bent, as
 15 shown, laterally, so as to allow of the shower-oath rose being placed between them, and they are curved in a vertical direction, so as to clear the top frame as the ends swing up, thus avoiding excessive height in the apparatus. These bars V and V' are rigidly attached to the shaft W, which rocks in the bearing X and passes through a stuffing-box at Y into the pump-casing and into another
 25 bearing, X', at the other side of this casing, as shown in Fig. 1.

Z is the air-vessel casing of the pump, through the lower part of which the water is first delivered.

30 A B is a beam rigidly attached to the rocking shaft W, and from the ends of this beam the connecting-rods A C depend. These pass through the water-legs A D, which are made wide enough to allow of their swing to the pump-barrels A E, where they carry the valves A F. At the bottoms of the pump-barrels are the suction-valves A G.

A H is a suction water-trap. The water enters through a strainer at A I, Fig. 2, and
 40 passes straight up the central pipe and over the partitions A J and there divides into two streams, which fall down A K and A L to the suction-valves.

A M and A M are two plugs, one over the
 45 passage A K and one over the passage A L. By removing these plugs water may be poured by hand into the legs of the suction-pipe, so as to fill this up and also the pump-barrels to the level of the partitions A J, the
 50 drain-cocks A N being closed. By this means when the pumps have been out of use and the valve-leathers have become dry water may be introduced to them and the pump primed by hand, so that it will start off freely.

55 At A O the trap A H is bolted to the frame A P. A Q is a similar frame. These frames are so formed as to receive the ends of the wooden partition A R, the function of which is to support the channel-guides F and F', &c., before described, and which are screwed to it.

A S is a tray or sink to collect the water which falls from and around the bather. Its sides and bottom are so sloped as to insure a rapid flow of the water to the suction-well
 65 A T, Fig. 1.

A U is the overflow, and at A V is a flanged hole for the filling and emptying of the tray.

A W is a pipe.

A X is a cross-valve to drain the tray and past which the overflow takes place. 70

A Y is a union, which may be piped from either side, as shown at A Z, Fig. 2, so as to supply the tray with hot and cold water. It is obvious that the tray may also be filled by means of a water-can and emptied into a receptacle placed below the cross-valve A X, so as to dispense with permanent water and drain pipe connections where such are not desired or cannot be conveniently furnished. 75

B A, Fig. 2, is a port in the pump-casing Z, through which the water is delivered to the pipe B B and T-fitting shown. 80

B C is a lever safety-valve, the weight B D upon which may be instantly shifted in position to give any desired resistance to pressure of escape. When the shower and needle valves are closed, the water may be delivered through this valve, the resistance of which can be regulated by the weight and the apparatus used as an athletic machine only, or by partially opening one of the valves named the shower or needle may be kept going moderately, the pump forcing the surplus water through B C against a known and adjustable resistance, so as to give the bather
 85 any amount of work which he desires. The connection at the lower end of the pipe B B opens also into a casing B E. (Shown in detail in Fig. 11.) This consists of an outer casing B E, made of smaller internal diameter at B F and B G. The water enters above B F. 90

B H is a central pipe of fine wire-gauze firmly held at top and bottom in diminished parts of the outer casing at B F and B G. 100

B I, Fig. 2, is a valve supplying water to the needle-bath, and all the water passing to this valve has to first pass through the fine-wire-gauze walls of the pipe B H, which thus again effectually strains it. When the shower only is being used, the valve B I is closed and the valve B J, Fig. 2, is opened. All the water then passes straight down the center of B H and in doing so tends to wash off any residue which has collected upon its surface. 105

B K and B K are plugs through which openings the strainer B H may be readily removed for cleaning purposes. 115

The valve B I supplies water through piping B L, B M, and B N to the upright corner pipes, (marked B O). In these are a number of fine-drilled holes of the usual character required for a needle-bath and delivering their jets onto the bather in the direction shown in dotted lines in Fig. 3, so as to cover his person. 120

B P, Fig. 10, are vertically-adjustable curtain-slides or cover-boards, held by suitable frictional means in any position to which they may be adjusted. The object of this arrangement is to allow of the height of each needle-shower being adjusted, so that it will not wet the hair or strike the face of the bather unless desired, the adjustment being further needed to suit the height of the person using the bath. Each cover-slide B P is guided 125 130

vertically, as shown in Fig. 10, by fingers p , embracing the fixed guide p' , which has at its lower end a collar p^2 , through which the slide passes, while a friction-spring p^3 serves to maintain the curtain-slide in its adjusted position. I prefer also to provide the inner face of the lower end of the slide B P with inclined grooves (such as saw-cuts) to carry off the water to its edges, so that the drip will be clear of the needle-jets below.

The valve B J supplies water through piping B R and B S, Figs. 1 and 2, to the shower-bath rose B T. This latter consists of two flat plates firmly bolted together at their edges and with stay-bolts, when required, over the center B U and spaced just sufficiently apart to allow of the flow of the water to the jet-holes B V, through which streams of water descend upon the bather.

B W, Figs. 1 and 2, is the top of the stand to which the various parts are attached.

B X is a frame screwed to the ledge or shelf at the top of the part B W, as shown. The slots B Y receive bolts or screwed rods, by which the bearing X is suspended at a suitable distance below it.

The top B W of the stand is supported upon the four hollow columns C B and C B, &c., the lower ends of which stand upon the posts C C, &c. A long nut C D is let into the top of each post, with keys to prevent it from turning, as shown in Fig. 3. Into this nut the ends of two iron rods are screwed, the lower rod passing through the post and the base C E to a nut which braces post and base firmly together. The upper rod passes through the upper column and the lower shelf of the top B W to a nut which braces these parts together, as shown in Fig. 2, making the complete stand thoroughly secure. The advantage of this arrangement is that the upper rods and columns may be removed after the hangers, piping, and intermediate gear have been taken out, after which the top with the parts it contains and the bottom with the part it contains may be removed and shipped as separate pieces and the whole readily put together again in another place.

The panels C F, together with the posts C C, to which they are firmly attached by the metal corners C G and C H, form the bottom of the stand. The tray or sink A S has lugs or plates, with slot-holes cast in them, C I, attached to its bottom, which rest upon and are bolted to slotted projections cast upon the corners C H.

C J is a splash or drain board made watertight and draining any water that may fall upon it down into A S.

C K represents Venetian splash-boards so arranged as to prevent the water splashed about from escaping and drain it back into the bath. The front venetian can be raised to allow of entry into the bath and the others to allow of attention to fittings. Tape a^5 is attached to the end of each lath in venetian A⁵, as shown in Fig. 12, while tapes b^5 are simi-

larly attached to the ends of the venetian B⁵, so that the overlapping inner edges of the tapes come together and prevent all escape of water at the corners of the bath.

C P, Figs. 4 and 5, is a rubber bumper attached to the bottom of G to prevent it striking hard against A S and injuring its surface.

In place of having the handle R on the cross-head for the bather I may use any convenient system of cords or chains and pulleys, which have the additional advantage of enabling one to reverse the motion of hand and foot to increase the length of hand-stroke. Thus in Fig. 9 I have illustrated a system of cords and pulleys which may be used, the cross-head L being adjusted to a comparatively low position on the hanger K. One end of a rope C M may be secured to a pulley-block C O, suspended by hook C N from the frame, thence passed around a pulley C P on the cross-head L and around the pulley C O. A hand-ring R' on the end of the cord enables the operator to work with a double purchase.

I claim as my invention—

1. A shower-bath having a pump and a rocking beam for operating the pump with hangers suspended from the ends of the rocking beam and handles vertically adjustable upon the said hangers.
2. A shower-bath having a pump and actuating rocking beam with hangers suspended from said rocking beam, a cross-head carried by each hanger and a latch for securing the cross-head upon the hanger at any desired height and a handle to be connected with the cross-head.
3. A shower-bath having a pump, a rocking beam and an operating cross-head therefor with an adjustable handle secured thereto and means whereby the handle may be adjusted in various positions on the cross-head.
4. A shower-bath having a pump, a rocking beam and a hanger from the rocking beam with a cross-head adjustable vertically on the hanger, and cord-and-pulley devices for connection with the cross-head.
5. A shower-bath having a pump, an overhead rocking beam with operating-treadles suspended from the rocking beam and a frame between the treadles having vertical guides for the latter.
6. A shower-bath having an overhead shaft with a rocking beam, a pump adapted to be operated by the rocking beam, hangers detachably suspended from the ends of the rocking beam and treadles on the hangers.
7. A shower-bath having a pump, a rocking beam for operating the same, hangers from the rocking beam and treadles detachably latched to the hangers, as and for the purpose set forth.
8. A shower-bath having a pump and an operating rocking beam for the pump with hangers from the rocking beam carrying treadles and a central partition having vertical guides for the said treadles.
9. A shower-bath having a pump, a rocking

beam and suspended hangers with a treadle consisting of an open metal frame and spaced slots thereon, the hanger having two ends spaced apart to support said frame.

5 10. A shower-bath having a pump and an operating rocking beam with hangers having detachable treadles, the hangers being provided with spring-catches to normally lock the treadles to the hangers.

10 11. A needle-bath, comprising an upright pipe having fine holes on one side, a flat slide-guide supported above the topmost hole, a retaining-collar, a flat slide passing through the collar and a spring adapted to frictionally
15 hold the slide against the guide, substantially as described.

20 12. A needle-bath comprising an upright pipe having fine holes on one side, a flat slide-guide supported above the topmost hole, a retaining-collar, a flat slide passing through the

collar and a spring adapted to frictionally hold the slide against the guide, and inclined grooves on the inner face of the slides, substantially as described.

13. A shower-bath having a pump, connect- 25 ing-rods and pump-beam, all working within the pump-casing, a shaft passing through a stuffing-box in the said casing to operate them, said shaft being above the head of the bather, an outside beam to the shaft and treadles be- 30 low the feet of the bather suspended from the ends of the outside beam, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 35 two subscribing witnesses.

JOSEPH J. BUTCHER.

Witnesses:

FRED O. DUTTON,

GEORGE W. CILLEY.