

No. 624,199.

Patented May 2, 1899.

T. FERGUSON.

APPARATUS FOR DRAWING OFF AERATED LIQUIDS FROM BOTTLES, &c.

(Application filed Nov. 23, 1897.)

(No Model.)

2 Sheets—Sheet 1.

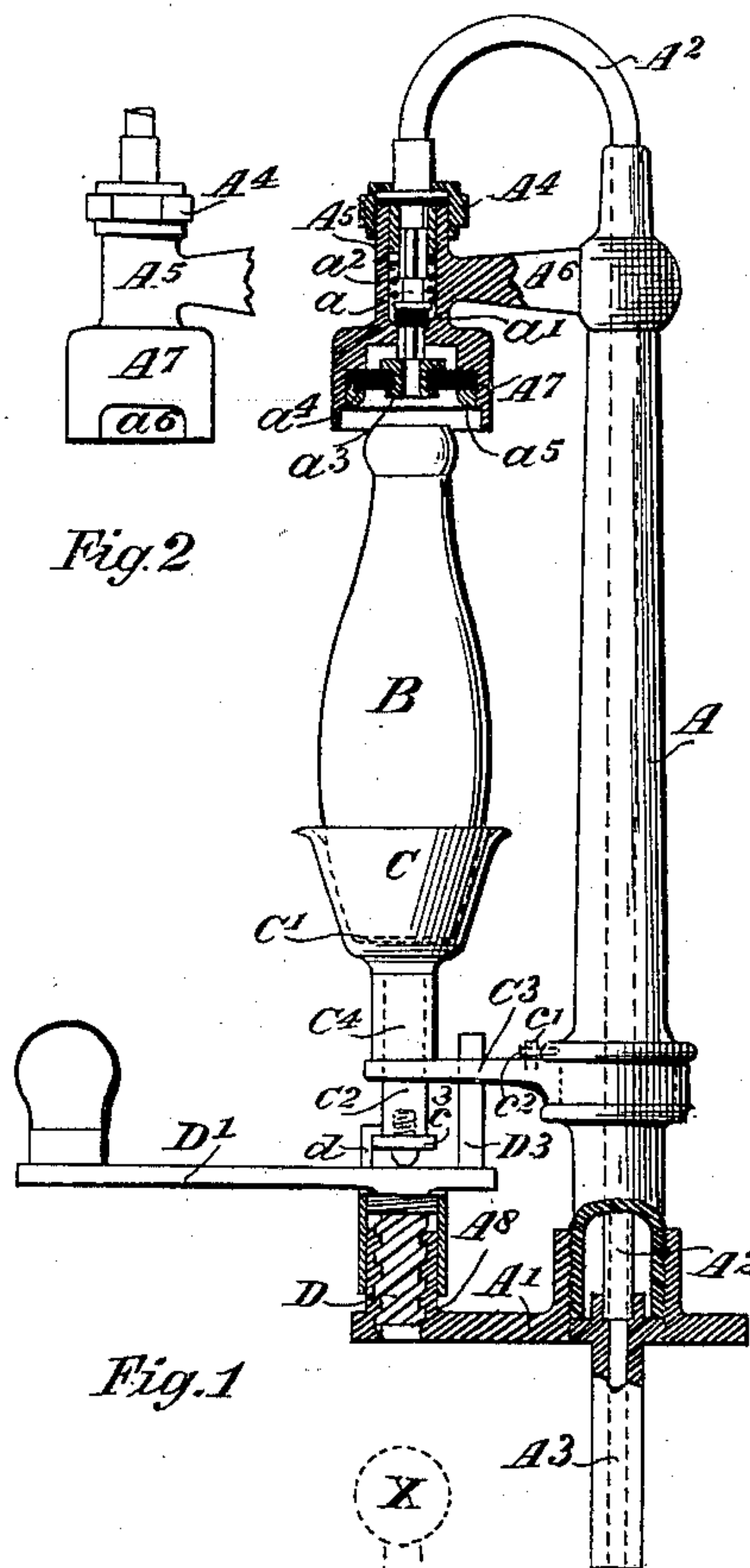


Fig. 1

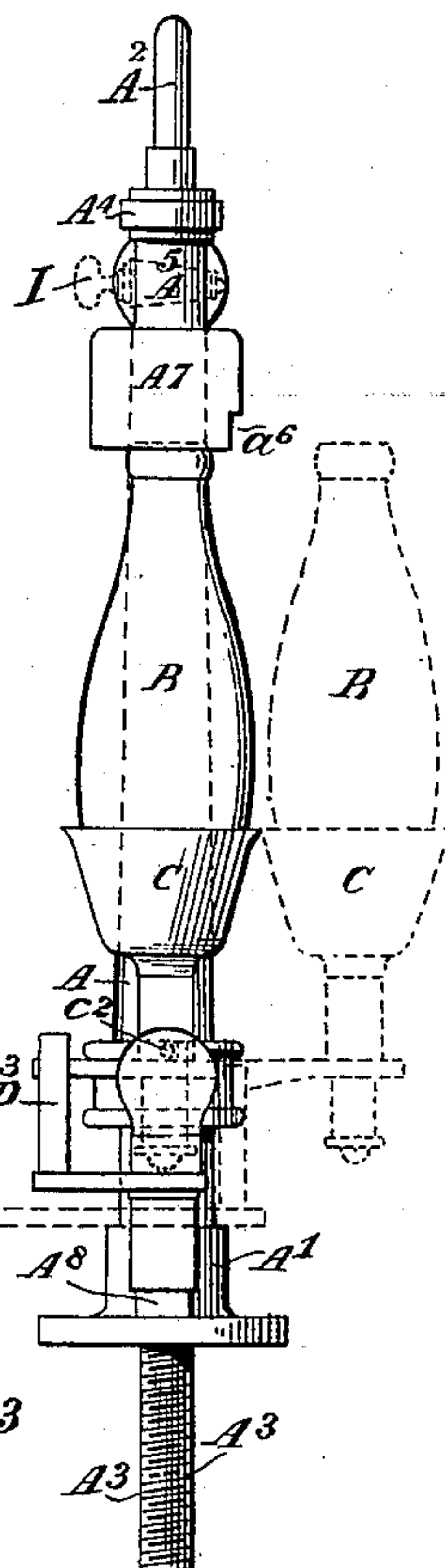


Fig. 3

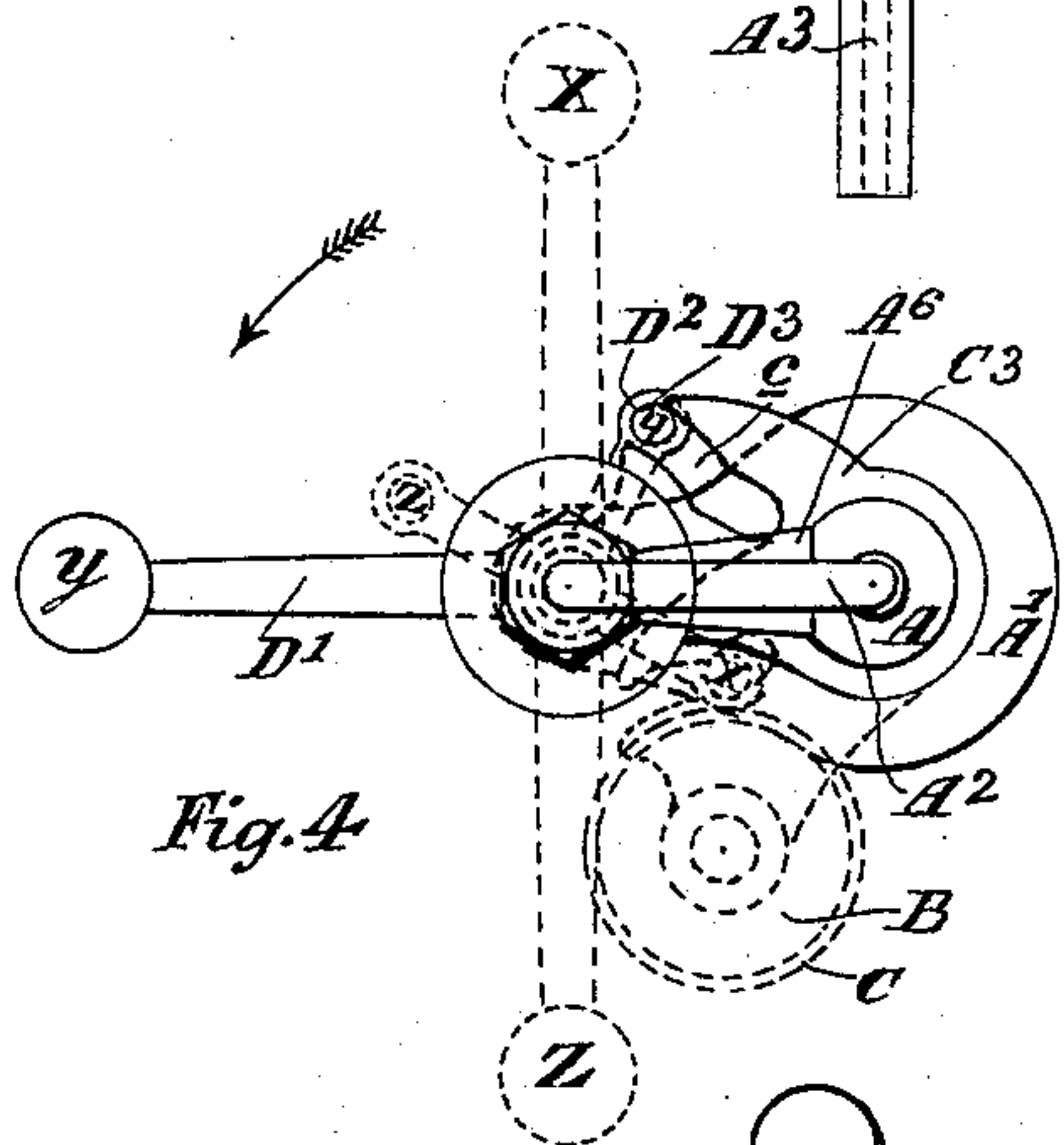


Fig. 4

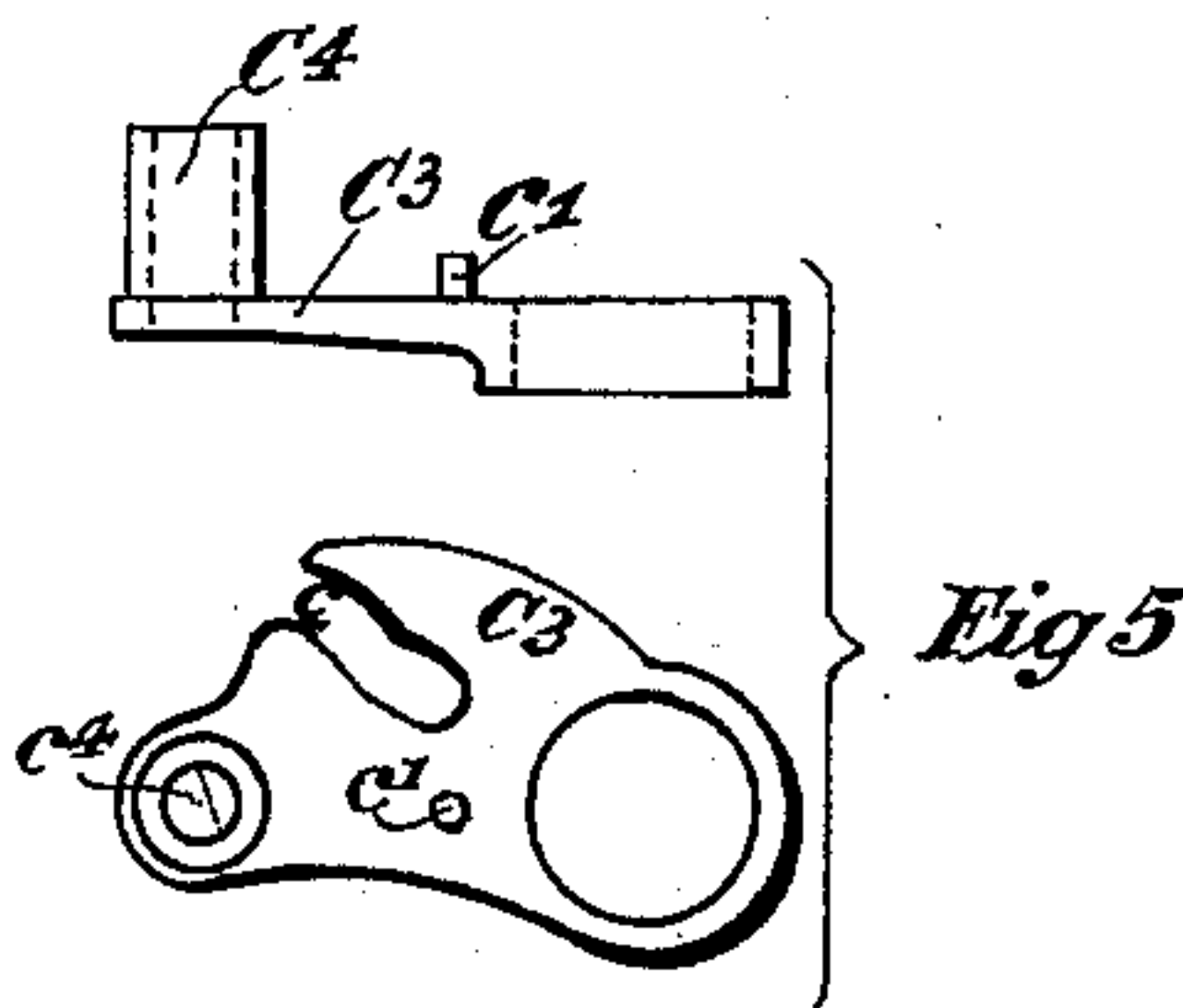


Fig. 5

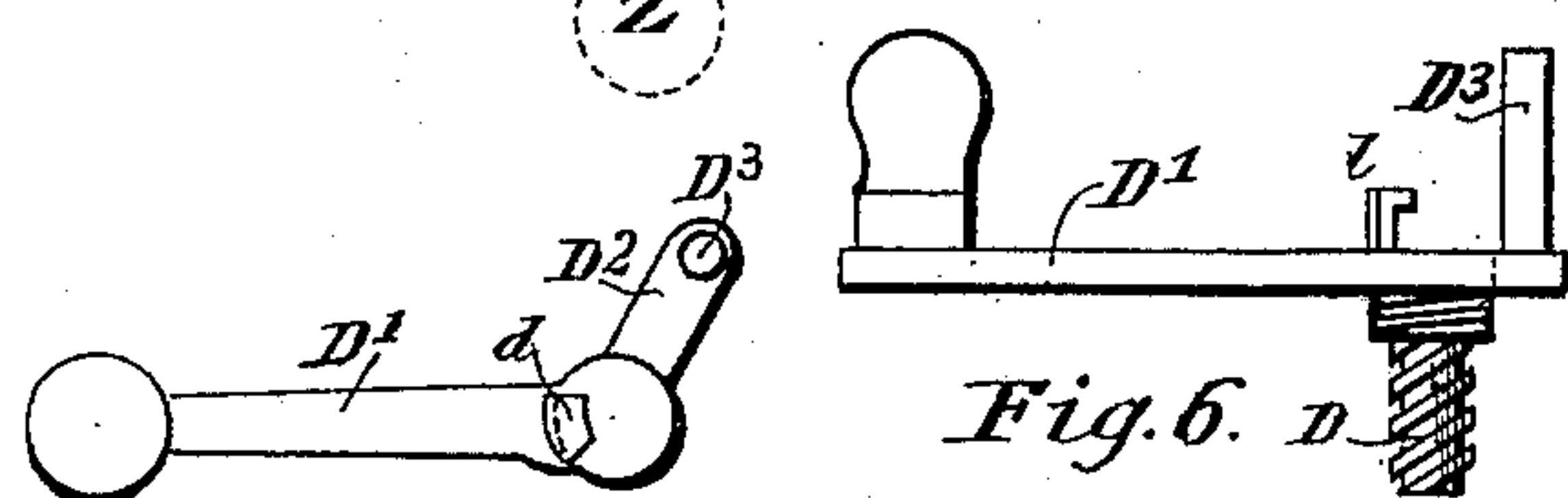


Fig. 6

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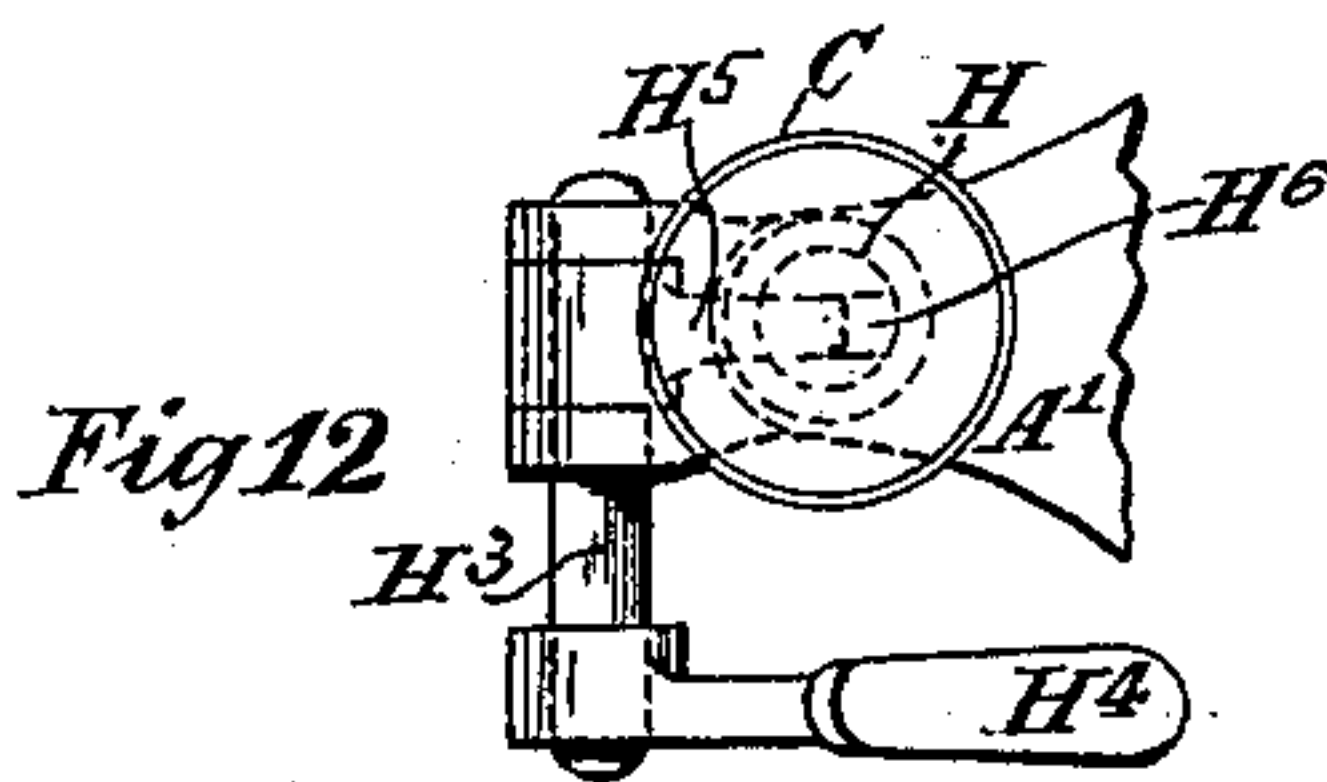
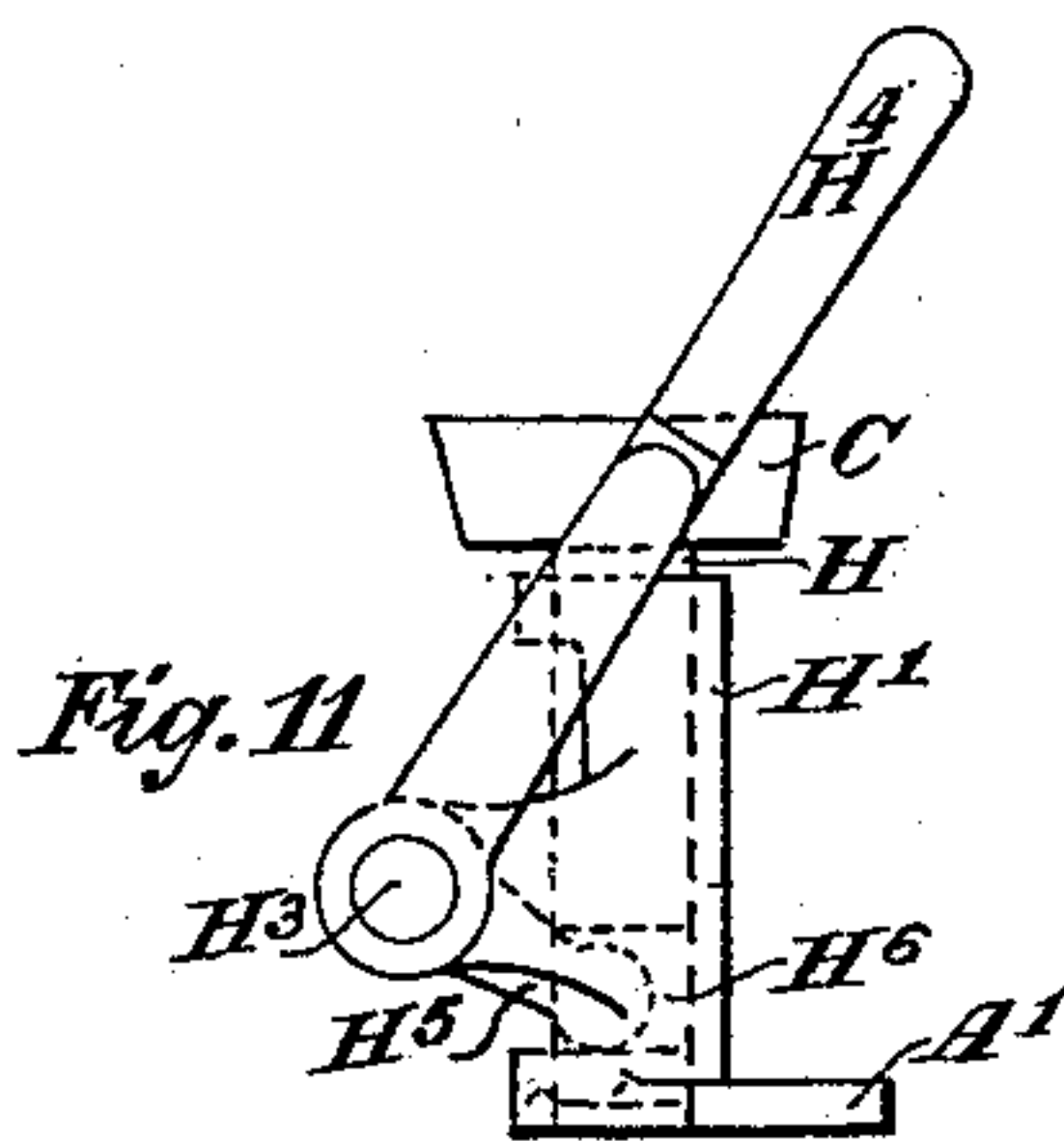
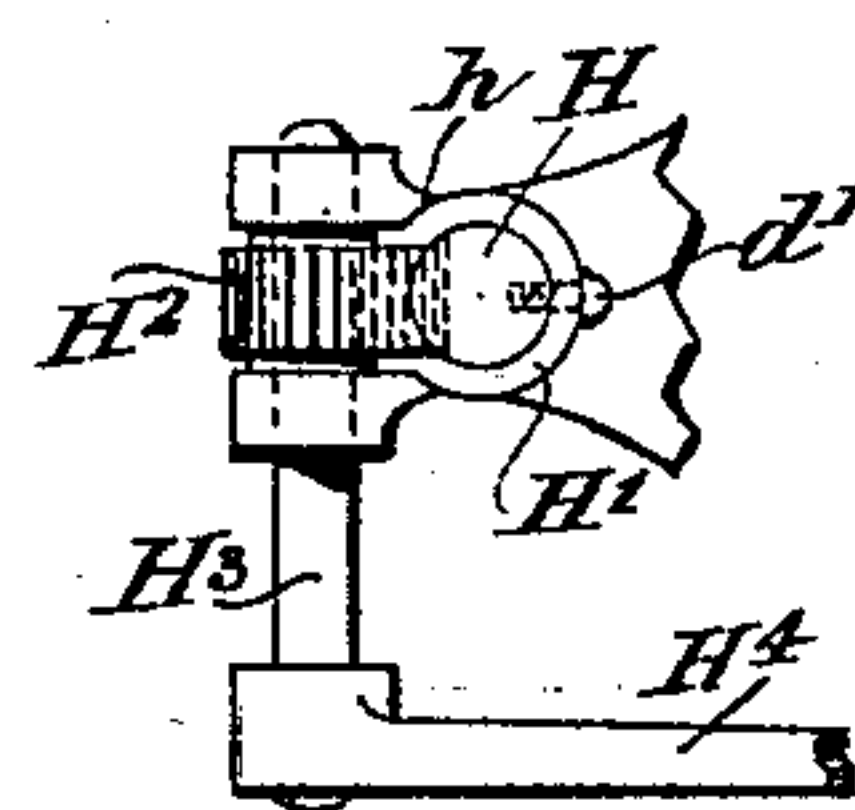
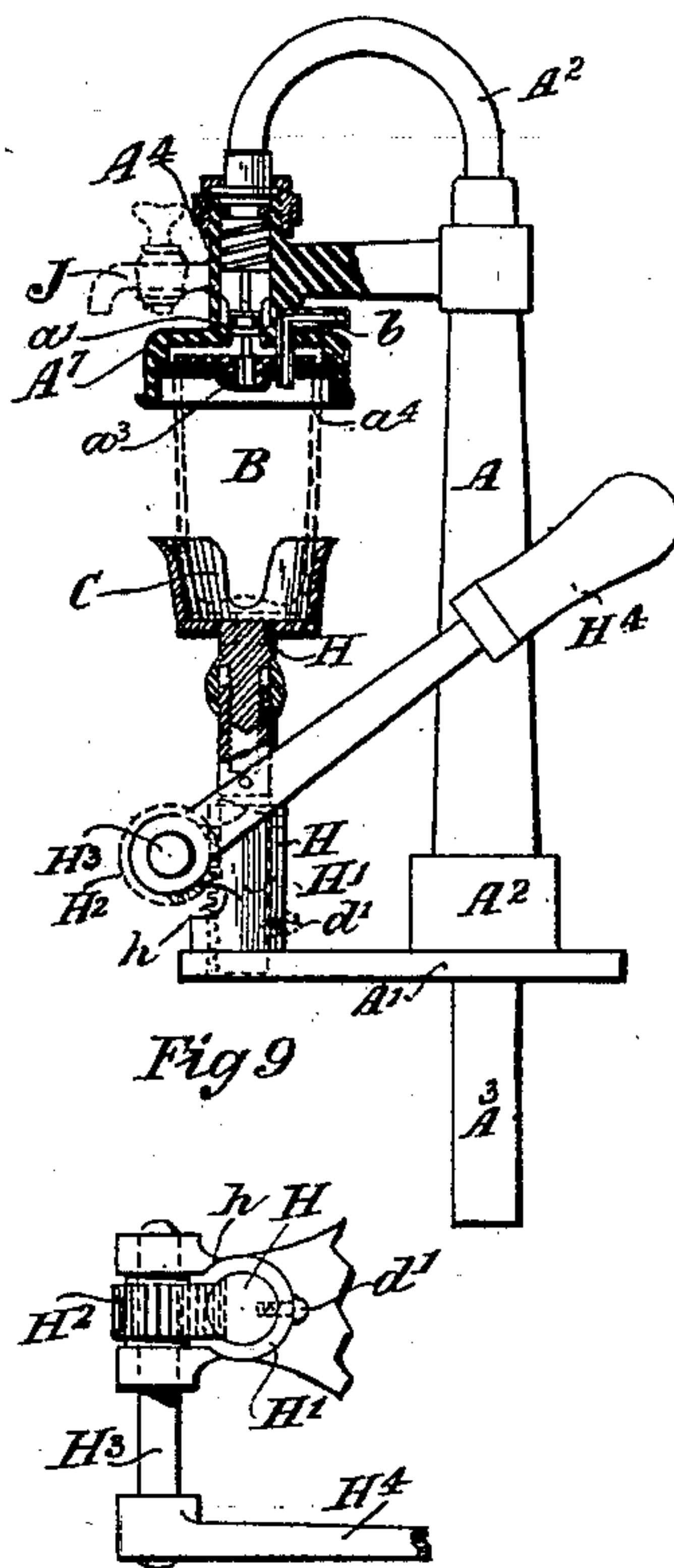
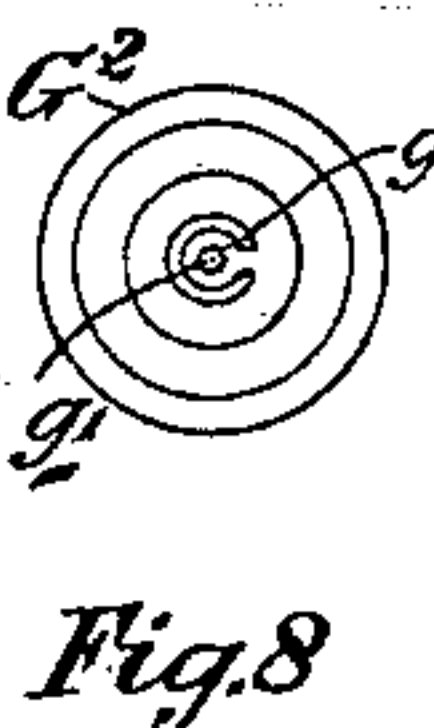
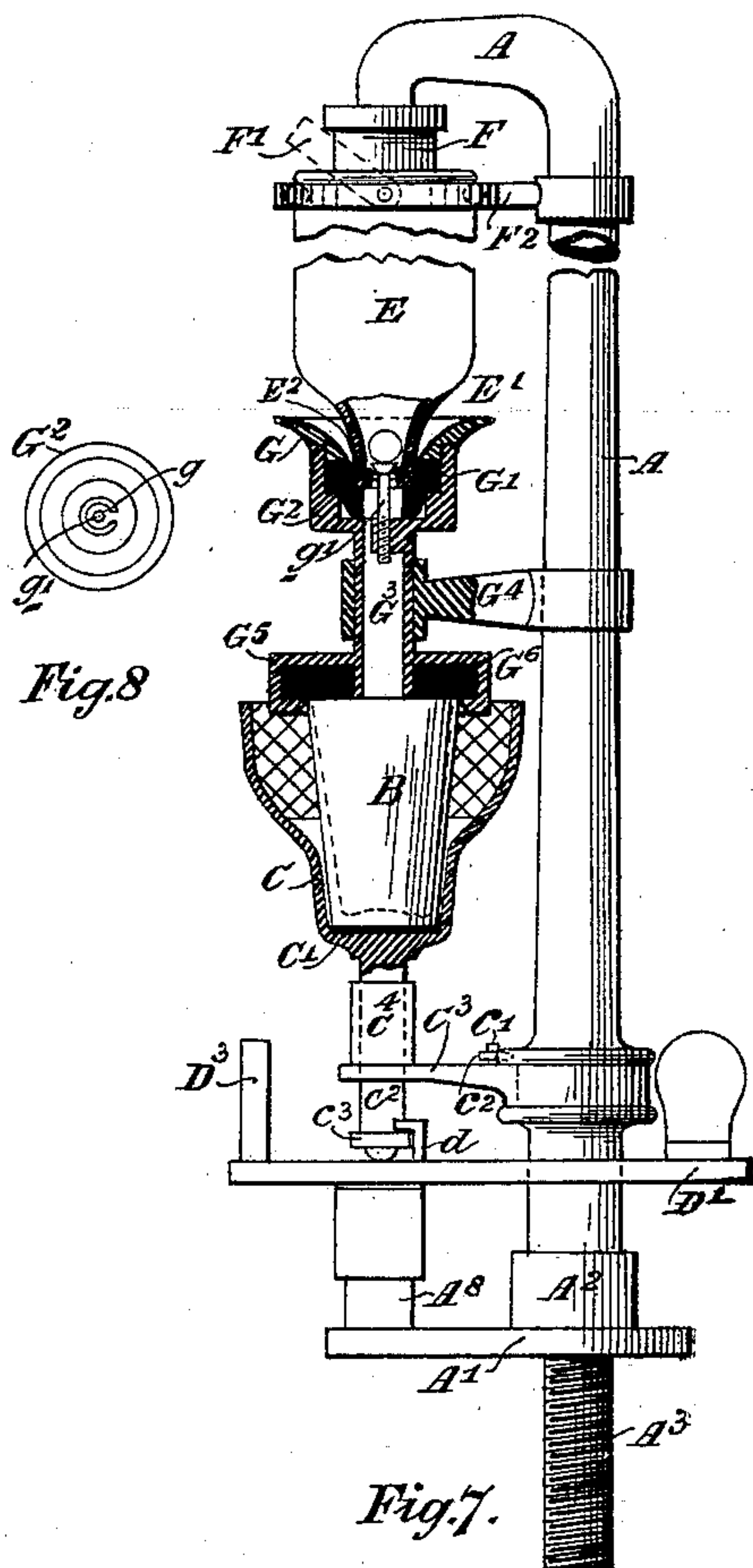
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APPARATUS FOR DRAWING OFF AERATED LIQUIDS FROM BOTTLES, &c.

(Application filed Nov. 23, 1897.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS FERGUSON, OF HAWKSBURN, VICTORIA.

APPARATUS FOR DRAWING OFF AERATED LIQUIDS FROM BOTTLES, &c.

SPECIFICATION forming part of Letters Patent No. 624,199, dated May 2, 1899.

Application filed November 23, 1897. Serial No. 659,612. (No model.)

To all whom it may concern:

Be it known that I, THOMAS FERGUSON, engineer, a subject of the Queen of Great Britain and Ireland, and a resident of No. 44 Oban street, Hawksburn, in the British Colony of Victoria, have invented a certain new and useful Improved Apparatus for Drawing Off Aerated Liquids from Bottles or from Founts, (for which I have obtained patents in Victoria, No. 12,484, dated September 5, 1895; in New Zealand, No. 7,886, dated September 10, 1895; in Great Britain, No. 19,359, dated October 15, 1895; in New South Wales, No. 6,372, dated February 5, 1896, and in Western Australia, No. 834, dated February 11, 1896,) of which the following is a specification.

This invention relates to an improved apparatus for drawing off aerated liquids from bottles or from founts; and it has been designed, mainly, for use in hotels, coffee-palaces, and other places where numbers of small charges of aerated liquids are drawn off to supply the wants of customers, such as for mixing with spirits or syrups.

The main object of the invention is to allow the aerated liquid to be supplied to the drinking vessel in a state as fully charged as is possible with carbonic-acid gas and in the case of lager-beer without an excess of fob or froth.

The bottles, founts, or reservoirs used with or in conjunction with my apparatus are preferably filled or charged in the usual way at the factory, and in the case of founts their discharge-pipe has simply to be coupled to a branch leading to my apparatus; but in the case of bottles I prefer them in outward form to be similar to the well-known "siphons," but having their necks furnished with a ball stopper or other closing-valve.

In both forms of my apparatus—i. e., whether it be for drawing off the aerated liquid from a bottle or from a fount—a vertical column having a downward return-bend at its top is employed, and when a bottle forms the supply-reservoir the latter is supported neck downward in the apparatus, the top of which is provided with a buffer and clasp to hold the bottle in position, while its neck bears in a bell-mouthed wooden or ebonite cup and valve opener. When the aerated liquid is drawn from a fount, the column is much

shorter and the bend at top carries a valve-box, the valve in which governs the discharge. The lower parts of both forms of my apparatus are provided with lifting and lowering gears, the raising of which causes the aerated liquid to be discharged to a vessel either in the form of a bottle or of a tumbler, although the said vessel may be of any other suitable form.

My invention may also be employed for filling tumblers with lager-beer which is drawn from a fount or reservoir.

My invention will now be described, aided by a reference to the accompanying sheets of drawings, marked from Figures 1 to 12 and throughout which corresponding parts will be marked by similar letters, and in such drawings—

Fig. 1 is a side view, shown at parts in section, of my apparatus when arranged for drawing off aerated liquid from a fount and discharging it to a supply-bottle; Fig. 2, a side view of the valve-box and mouthpiece shown in section in Fig. 1; Fig. 3, a front view of the apparatus shown in Fig. 1 and also showing in dotted lines the position of the supply-bottle and operating-handle when the bottle is not in its filling position; Fig. 4, a plan of the apparatus illustrated in Fig. 1 and also showing in dotted lines the altered positions of the operating-handle and the bottle-holder. Fig. 5 shows side view and plan of the arm which carries the bottle-cup, and Fig. 6 side view and plan of the lifting and lowering operating-handle. Fig. 7 shows a side view, with parts shown in section, of my apparatus when the liquid is drawn from a bottle and arranged to discharge into a tumbler; Fig. 8, a plan of the head-piece G^2 with the bell-mouth nut G and rubber disk G' removed. Fig. 9 shows a side view, partly in section, of a modified form of the apparatus shown in Fig. 1 when used for supplying lager-beer to tumblers; Fig. 10, a plan of the lifting and lowering gear shown in Fig. 9; Fig. 11, a side view, and Fig. 12 a plan, of a modified form of lifting and lowering gear.

In Figs. 1 to 6, A is a hollow vertical metal column screwed at its lower end into a socket on a sole-plate A' , while passing up through center of column is a supply-pipe A^2 , the lower end of which is soldered or otherwise

secured to a branch A^3 , and the latter is coupled to the pipe leading from the fount. The upper part of pipe A^2 is semicircular, its end being secured by a coupling-nut A^4 to a valve-box A^5 , formed at the end of an arm A^6 , which projects from the column A. The lower part of the casting below valve-box A^5 is formed into a socket or mouthpiece A^7 , into which the top of the bottle or receptacle B passes when it is to receive its supply from the fount. a is a valve-spindle provided with a rubber valve a' , said valve being pressed down upon its seat by a coiled spring a^2 . The lower end of the valve-spindle bears upon a metal thimble or eyelet a^3 , secured at center of a rubber disk a^4 , the latter being fastened in the socket A^7 by the screwed ring a^5 . a^6 is a gap at side of socket, through which the head of bottle passes when being swung into or out of said socket A^7 . The bottle or receiving vessel B is seated on a rubber washer C' , set in a cup C, which has a stem C^2 projecting down from it and which stem is supported loosely in a boss C^4 , carried by an arm C^3 , which is supported between collars on the column A in such a manner that the arm C^3 can swivel a distance of about sixty degrees thereon. Again, upon the column foot plate or flange A' and at a position thereon immediately below the center of aforesaid socket A^7 is another boss or sleeve A^8 , the hole in which has a quick-running square thread cut in it to receive a similarly-screwed stem D, projecting down from and forming the center for the operating or hand lever D' and which lever has a short arm D^2 projecting at an obtuse angle from it and carrying a vertical pin D^3 , which is designed to pass into a slot or gap c in the swivel-arm C^3 . The latter has a pin c' on it, which contacts at the end of its stroke with a stop-pin c^2 on the column A. d is a stop-piece which engages the collar c^3 on stem C^2 to prevent said stem leaving its position upon lever D' when pin D^3 is out of slot c . In operating this form of apparatus the bottle or receptacle B is first placed in the cup C, while the swivel-arm C^3 lies at the position indicated by dotted lines in Fig. 4, and when in this position the lever D' and pin D^3 will be in the position marked $x x$, pin D^3 being in the slot c . Then by working the lever D' in the direction indicated by the arrow a distance of about ninety degrees the lever and pin are brought to the position marked $y y$, when the bottle or receptacle will be under the filling-head, and, again, by a further rotation of the lever D' in the same direction the pin D^3 passes from the slot c , and the lever being swung farther around first causes the bottle or receptacle B to be held firmly and air-tight between its rubber cushions a^4 and C' in the upper socket and lower cup, respectively, and upon the bottle-head contacting with the rubber disk a^4 it and the valve a' are lifted, and so aerated liquid is admitted to the bottle as the lever and pin arrive at about the position marked $z z$ in Fig. 4. The re-

verse motion of the hand-lever D' first lowers the bottle sufficiently to allow the valve a' to close and the bottle to clear the gap a^6 , and then the pin D^3 engages the slot c in the swivel-arm and carries it and the charged bottle or receptacle to the position shown by dotted lines in Figs. 3 and 4 clear of the column and filling-head in order that the charged receptacle may be removed.

In Fig. 7 the lifting and lowering gear is identical with that shown in Figs. 1 to 6, and hence needs no further description, while the receptacle B is in the form of a tumbler and the cup C is made deeper and with its upper part perforated or in the form of a guard. This form of apparatus is designed for taking its supply from a bottle, as E, the neck of which is provided with a ball stopper E' and rubber ring E^2 . F is a wood buffer under the upper return-bend of the column A, and against said buffer the upended bottom of bottle bears. F' is a hinged clasp supported by a semicircular bracket F^2 , carried by the column and designed to embrace the bottle. The neck of the bottle passes into a wood or ebonite bell-mouthed nut G, which is screwed down upon a rubber cushion G' , arranged in a socket-piece G^2 . The rubber cushion G' is normally flat, but assumes the shape shown when pressure is put on it during the operation of securing the tumbler B in position and opening the stopper E' . Said socket has a short attached tubular sleeve G^3 arranged centrally below it, the latter being supported by an eye at end of an arm G^4 , carried by the column. The lower end of said sleeve carries an enlarged recessed flange G^5 , and in the latter a disk of rubber or other elastic material G^6 is seated in order to form the cover or surface against which the top edge of the tumbler or other receiving vessel B bears while being charged with aerated liquid. The top end of said tubular sleeve G^3 has a boss g in it, which carries a fixed pin g' , so that when the sleeve is pressed upward by operating the lifting-gear through the medium of handle D' the pin g' forces up the ball or stopper E' in the neck of the bottle E, and so opens it in a similar manner that the forcing upward of the valve in a fount apparatus opens it and allows the supply of aerated liquid to be delivered to the bottle or other receptacle.

Fig. 9 shows the apparatus as arranged for filling tumblers with lager-beer, the column A, filling-head A^5 A^7 , tumbler or receptacle B, valve a' , and rubber disk a^4 being identical with that shown in Fig. 1; but in this instance a very fine vent b is provided to allow an escape from the tumbler while it is being filled, and also in this figure a modified form of lifting and lowering gear is provided, the cup C being secured at the top end of an adjustable circular stem H, arranged to work vertically in the sleeve or boss H' , attached to sole-plate A' . Stem H has a toothed rack h formed on it, and such rack gears with a toothed pinion H^2 , secured on a spindle H^3 , at

the end of which is the operating-handle H^4 . Spindle H^3 is supported, as shown, by lug-bearings projecting from sleeve H' , and d' is a pin secured in stem H and working in a vertical slot in the said sleeve, the purpose of the pin and slot being to prevent the turning of the stem. Figs. 11 and 12 show another form of lifting and lowering gear, and in this form the rack-gears are dispensed with and an arm H^5 is projected from spindle H^3 , such arm working in a slot H^6 in stem H . It is obvious that in both modified lifting and lowering gears by simply working the handle H^4 in the desired direction the cup C is either lifted or lowered, so that the top end of the bottle or receptacle in the apparatus may open or close the supply-valve.

As a modification a plug-cock I (shown by dotted lines in Fig. 3) may be used in place of the valve a' ; but in such case said plug must be opened and closed by hand; also, when desired a draw-off tap J may be provided on chamber A^5 to allow of liquid being drawn off without its having to pass through valve a' . Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination, the column A , having a seat for the bottle at its upper end, the cup C for the tumbler, means for raising and lowering the said cup, the enlarged flange G^5 over the top of the cup C , the tubular sleeve G^3 extending up from the flange G^5 and having a bell-mouth G at its upper end and a pusher-pin, the support for the said sleeve through which it may slide, and the rubber cushions

in the bell-mouth cup and in the flange G^5 , substantially as described.

2. In combination, the supporting-column, the upper seat, the lower support for the receptacle, the swinging arm C^3 carrying the same, the lifting-screw in connection with said lower support, and the lever for operating the screw and for moving the said swinging arm, substantially as described.

3. In combination, the supporting-column, the upper seat, the lower support for the receptacle, the swinging arm C^3 carrying the same, the lifting-screw in connection with said lower support, and the lever for operating the screw and for moving the said swinging arm, said lever having a pin-and-slot connection with the swinging arm by which the screw may be operated after the arm has been moved, substantially as described.

4. In combination, the supporting-column, the upper seat, the lower support for the receptacle, the swinging arm C^3 carrying the same, the lifting-screw in connection with said lower support, and the lever for operating the screw and for moving the said swinging arm, the said swinging arm, being carried by the supporting-column and having a boss for receiving the stem of the lower support, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

THOMAS FERGUSON.

Witnesses:

W. STOKES,
BALLINGTON BODYCOMB.