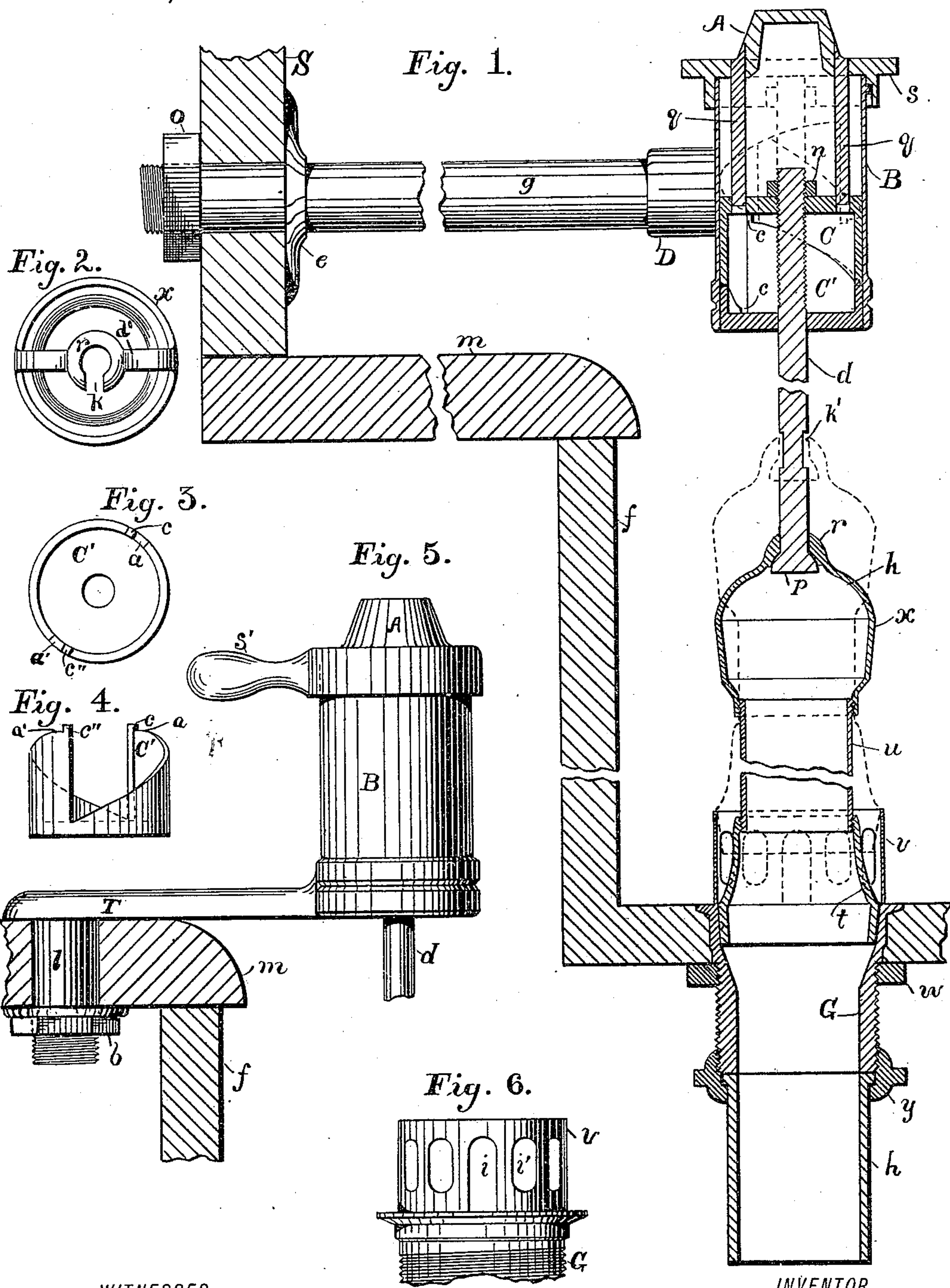


H. F. STOWELL.  
OVERFLOW AND WASTE PIPE.

No. 448,842.

Patented Mar. 24, 1891.



WITNESSES:  
Arch. M. Catlin.  
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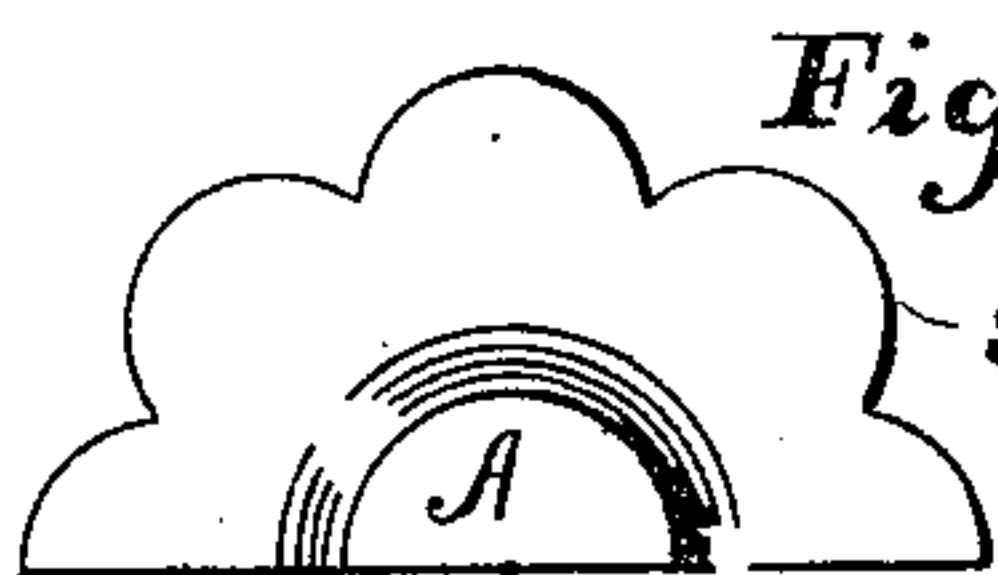
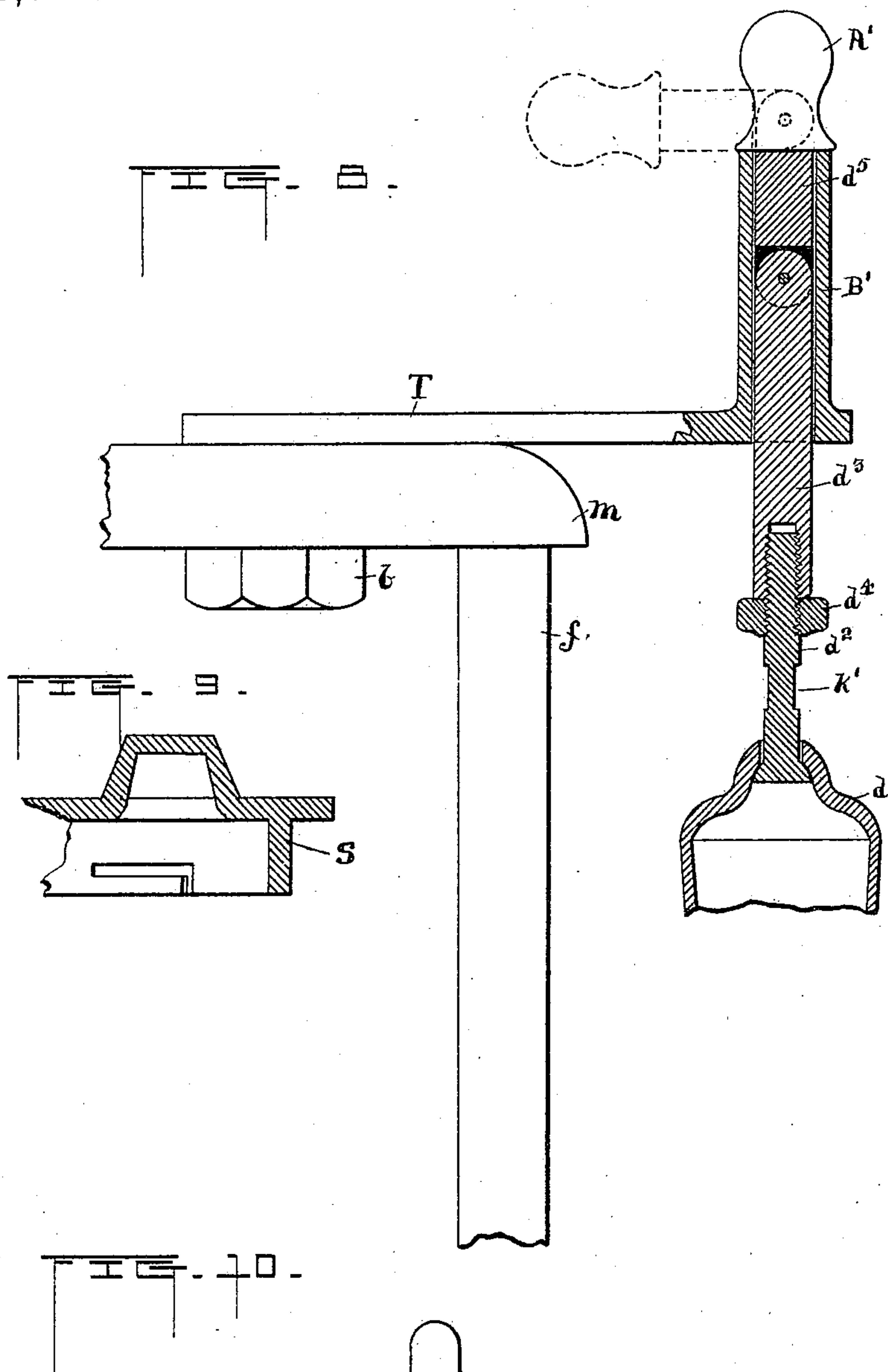


Fig. 7. Henry F. Stowell  
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2 Sheets—Sheet 2.

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# UNITED STATES PATENT OFFICE.

HENRY F. STOWELL, OF ROCHESTER, NEW YORK.

## OVERFLOW AND WASTE PIPE.

SPECIFICATION forming part of Letters Patent No. 448,842, dated March 24, 1891.

Application filed October 15, 1890. Serial No. 368,174. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY F. STOWELL, a resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Overflow and Waste Pipes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

The invention relates to the overflow and waste pipes of wash-bowls, sinks, bath-tubs, and the like, and to strainers for the same, and to means for raising and lowering the overflow-pipe, which is adapted to serve as a plug to the waste-pipe.

Heretofore waste-pipes have been provided with strainers which were not removable, and they have also been combined with overflow-pipes that served as plugs, and in some cases the strainer has been formed as a continuation of the overflow-pipe, being fitted within the waste-pipe. These prior constructions are objectionable, for the reason that they obstruct the waste-pipe and furnish lodgment for organic matter which decomposes and develops dangerous bacteria in large numbers, being the fertile source of diphtheria, fevers, and other diseases. So fruitful a source of evil are these deposits that it is highly important to provide overflow and waste pipes and strainers that are not adapted to lodge such matter and that can also be readily cleaned.

By the present improvement both the pipes and the strainer are always easily accessible for cleansing, and these parts are so constructed as to furnish no shelves, nooks, shoulders, or other lodging-places for grease or other filth which readily accumulates upon every projection in a waste-pipe.

The invention consists in the construction hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a broken section of my improved device applied to a wash-bowl. Fig. 2 is a plan of a ring and bail. Fig. 3 is a plan, and Fig. 4 a side elevation, of a cam-ring. Fig. 5 is a side elevation, partly in section, of a modification.

Fig. 6 is a side elevation of the strainer and waste-pipe, the latter being in part broken away. Fig. 7 is a plan of half a cap or knob for manipulating the overflow-pipe and plug. Fig. 8 is a partial section of a modification of the lifting device. Fig. 9 is a sectional plan of a detail. Fig. 10 is a partial plan of the slab and basin.

The letter *f* indicates a wash-basin, and *m* a slab. *S* denotes the back of the wash-stand, and *g* a bracket secured therein by a nut *o*.

*e* denotes an ornamental sleeve or washer. The outer extremity of the bracket is in the present instance formed with an enlargement or head *D*. To this is secured a cylinder *B*, in any suitable manner, in which is fixed a cup-shaped device or cam *C'*, closing the bottom of the tube and having its cylindrical part provided with inclines, as shown in Figs. 1 and 4. *C* indicates a similar device in an inverted position and having similar inclines resting and movable upon the inclines of cup *C'*.

*A* denotes a cap loosely fitting the cylinder *B* and preferably provided with a scalloped rim *s*. This cap is connected with the device *C* by rods or pins *q*, fixed to *A*, but passing loosely through holes in the top of cup *C*.

It will be understood from the above that when the cap *A* is suitably turned the inclined planes of cam *C* will ride up those on *C'*, as indicated in Fig. 1.

*c c''* are stops on each cam to prevent too great rotation, and *a a'* are horizontal faces which provide that the part *C* may rest when raised to its highest point or until its stops *c c''* engage those on *C'*.

The device thus described is adapted to raise and lower an overflow-pipe by means of a rod *d*. The overflow-pipe indicated by *u* is provided with a downward extension or plug fitted to a seat in the waste-pipe *G*.

*x* is an extension of the overflow-pipe at its top, provided with a bail *d'*, having a slotted ring-socket *r*, adapted to receive the rounded foot *p* of the rod *d*. This rod or bar has a portion *k'*, notched or made of reduced diameter not greater than the width of the slot *k* in the socket *r*, whereby it can be passed laterally through the slot. The overflow-pipe and



its bail being then dropped, the rounded foot  $p$  is received in the socket, and a connection similar to a ball-and-socket joint is thereby provided.

5 The rod  $d$  extends up through the bottoms of both of the cams or cups  $C$   $C'$ , as shown, and above the latter it receives a nut  $n$ , being screw-threaded at its upper end for this purpose.

10 It will be obvious that by the before-described operation of turning the cap  $A$  and cam  $C$  the latter will be raised, also the rod  $d$  and the overflow-pipe. A reverse movement lowers the overflow-pipe and seats the plug at its end in the mouth of the waste-pipe. The length or vertical height of the parts  $C$   $C'$  is such that the extreme upward movement of cup  $C$  will not raise the plug  $t$  out of the strainer. This prevents large ob-  
20 jects being carried in the waste-pipe; and, also, the above-described notch  $k'$  is located on the bar above the foot  $p$  a distance about equal to the largest distance which the bar can move to obviate more completely the  
25 danger of detaching the bar from the bail that exists in those constructions which employ a simple hook connection.

The strainer  $v$  is a continuation upward of the waste-pipe, and has a diameter about equal  
30 to the upper end or flared mouth of the waste-pipe. It is provided with apertures  $i$  and  $i'$  for the passage of water, the openings  $i'$  extending to the top of the waste-pipe to permit the escape, when the overflow-pipe is  
35 raised, of all the water in the basin. The strainer is of comparatively large size and surrounds the overflow-pipe. It affords no projections or shoulders within the waste-pipe for dirt deposits, nor does it obstruct the  
40 escape of waste-water, and it is always accessible for cleaning purposes, as are also both the overflow and wastepipes. The latter can be readily cleansed by a brush or other device, which can be thrust into the pipe  $h$ , se-  
45 cured to pipe  $G$  by coupling  $y$ , as far as the usual trap. (Not shown.) In prior constructions, in which the strainer was attached to the bottom of the overflow-pipe, it was necessarily made smaller to fit said pipe, and it  
50 was by its location adapted to arrest and hold deposits, thereby interfering at times with the proper seating of the plug formed on the same pipe above the strainer. By the present improvement this is remedied, and the  
55 choking or partial filling of the waste-pipe and the lodging of dirt is avoided by making the strainer an upward extension of the overflow-pipe.

Another evil incident to overflow-pipes having a plug portion near its bottom and a strainer below is that grease, threads, hair, and other matters are very liable to lodge in the strainer and also between it and the waste-pipe and prevent the proper seating of  
65 the plug, which objection is entirely obviated by the construction herein set forth.

In Fig. 5 is shown a modification of means

for supporting the cylinder which holds the elevating devices.  $T$  indicates an arm to which the cylinder is secured and provided  
70 with a stud or pin  $l$ , fitting a suitable opening in the slab and provided with a screw-threaded end adapted to receive a fastening-nut  $b$ .  $S'$  denotes a handle for manipulating the cap  $A$ .

75 In Fig. 8 is represented a modified device for raising the overflow-pipe. The elevating-bar  $d^2$  is tapped into the rod  $d^3$ , that works in the cylinder  $B'$ , and can be screwed up or down to regulate the height of the bail  $d'$  and of the  
80 overflow-pipe.  $d^4$  is a jam-nut screwed onto the elevating-bar  $d^2$ , which also serves as a stop for rod  $d^3$  and determines its highest position.  $A'$  is a handle on rod  $d^5$ , which is jointed to rod  $d^3$  a distance below the handle equal to  
85 that which it is desired to raise the overflow-pipe. To effect this operation, the jointed rod is pulled up through the tube  $B'$ , after which by turning down the handle, as indicated in dotted lines, the rod  $d^3$  and the overflow-pipe  
90 are all locked in elevated position. These parts and the strainer are so proportioned that the foot of the overflow shall not be raised entirely above the strainer. This handle has a diameter greater than the in-  
95 ternal diameter of tube  $B'$ , whereby it constitutes a stop to limit the descent of the jointed rods. The weight of the handle is also sufficient to cause the section  $d^5$  to act as a stop when the rod  $d^3$  is raised to its highest  
100 position, and the said section is turned to a horizontal position, as indicated in dotted lines in Fig. 8.

As shown in Fig. 8, the notched part  $k'$  is nearer the joint than above described, and  
105 variation in this respect and also in regard to other details may be made without departure from the main invention, provided the principles of construction and operation are not substantially changed. In said Fig. 9 the bar  
110  $d^2$  is represented as fitting the socket  $r$  loosely. This prevents the binding of the parts and provides for sufficient lateral motion in the overflow-pipe and plug to permit the latter to be always squarely seated. It  
115 also facilitates the separation of the elevating-bar and the overflow-pipe by permitting the latter and its socketed bail to be independently and easily raised sufficiently high to allow the bail to be moved sidewise from  
120 the bar  $d^2$  at the notched part  $k'$ . It is an important feature that these parts can be separated readily and in an obvious manner, because ignorant servants will otherwise fail to properly cleanse the pipes, as happens in  
125 some prior devices, wherein the removal of the overflow-pipe is more difficult.

The present improvement both obviates the danger of accidental disconnection, such as occurs where a simple hook is employed, and  
130 at the same time it provides a very obvious and easily-operated mode of separation.

The cylinder  $B'$ , as shown in Fig. 9, is provided with a horizontal arm  $T$ , having a stud



or pin *l* secured to the slab *m*. The bracket-arm need not rest on the slab, however, nor be connected to the bottom of either cylinder B or B', but can be attached above the bottom of the cylinder, as in Fig. 1, and, if desired, the pin *l* can be suitably lengthened for the purpose.

To prevent the cap A (see Fig. 1) from being pulled off the cylinder by inadvertence, it may be connected with it by means of L-shaped slots in one made to receive pins fast on the other. A<sup>2</sup> A<sup>2</sup> indicate pins, and A<sup>3</sup> A<sup>3</sup> (see Figs. 1 and 9) denote slots, for this purpose. This or like means for preventing the accidental displacement of the cap vertically may also be employed, if desired, with the form shown in Fig. 5.

Preferably the basin is provided with a recess for the overflow-pipe, as indicated by dotted lines in Fig. 10, and the covering-slab *m* is similarly recessed, the bracket T being made long enough to extend to the slab.

In Fig. 10 the bracket and devices pendent therefrom are broken away to show the mouth of the waste-pipe. The construction permits the introduction of a brush into said pipe in a direct line and facilitates its proper cleansing, it being practicable to push the brush down to the water-seal.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. In combination with a wash-basin or like receptacle, a waste-pipe provided with a strainer secured to its upper end, an overflow-pipe having its bottom fitted to the interior of the waste-pipe below the strainer, said strainer being located above the bottom of the basin and outside the foot of the overflow-pipe, and devices for raising the said overflow, substantially as set forth.

2. In combination with a wash-basin or like receptacle, a waste-pipe provided with a strainer secured to its upper end, an overflow-pipe having its bottom fitted to the interior of the waste-pipe below the strainer, said strainer being located above the bottom of the basin and outside the foot of the overflow-pipe, and devices for raising the said overflow-pipe, said devices being provided with a stop to prevent raising the foot of the overflow above the strainer, substantially as set forth.

3. The combination, with a wash-basin or like receptacle, of a waste-pipe, an overflow-pipe having its lower part fitted to a seat in the waste-pipe, a bail attached to the overflow-pipe and provided at its highest part with a slotted socket forming a part of the bail, a bar having an enlarged and rounded head with a diameter greater than the width of the slot in the socket and having above said head a notched part with a diameter less than that of said slot, said overflow-pipe being movable vertically on the bar and independently thereof, and devices for raising and lowering the bar, substantially as set forth.

4. In combination with a wash-basin or like receptacle, an overflow-pipe, an elevating-rod made in jointed sections and loosely connected to said pipe, a cylindrical tube adapted to receive said rod, and a support for the said tube, the upper rod-section above the tube being enlarged, whereby it forms a stop, substantially as set forth.

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

HENRY F. STOWELL.

Witnesses:

BENJ. R. CATLIN,  
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