

A. EK.
WATER CLOSET.

APPLICATION FILED FEB. 21, 1903.

NO MODEL.

3 SHEETS—SHEET 1.

Fig. 1.

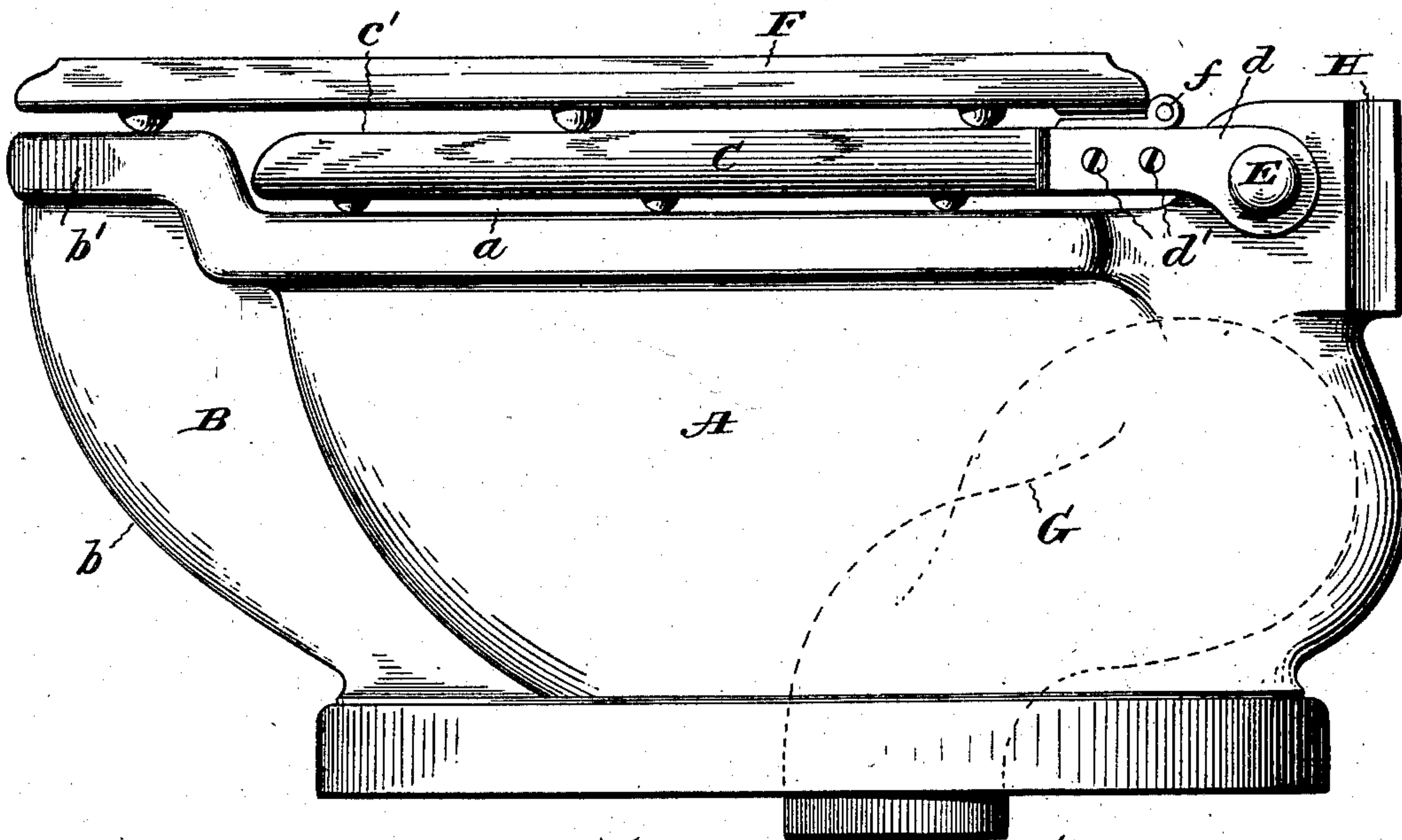
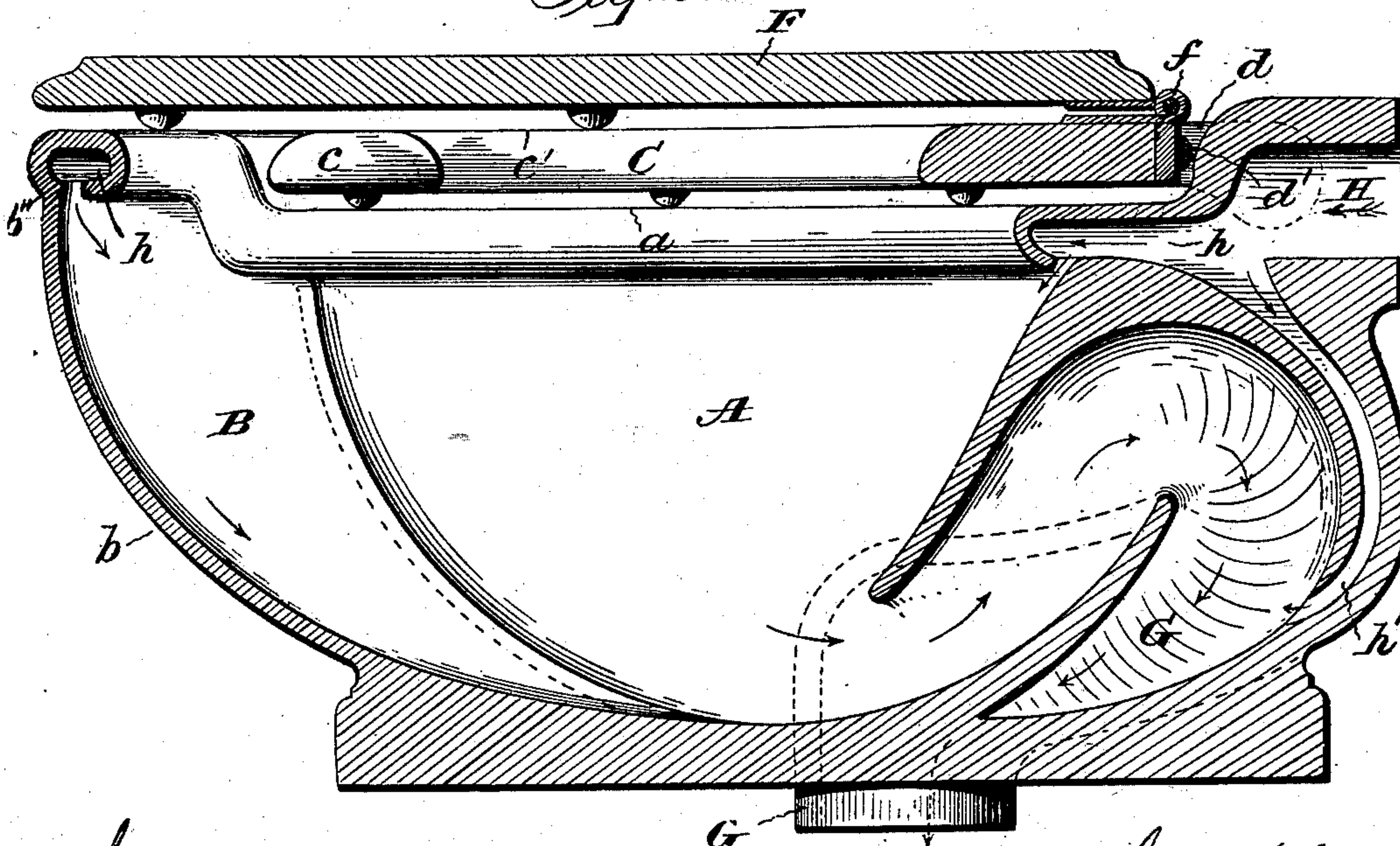


Fig. 2.



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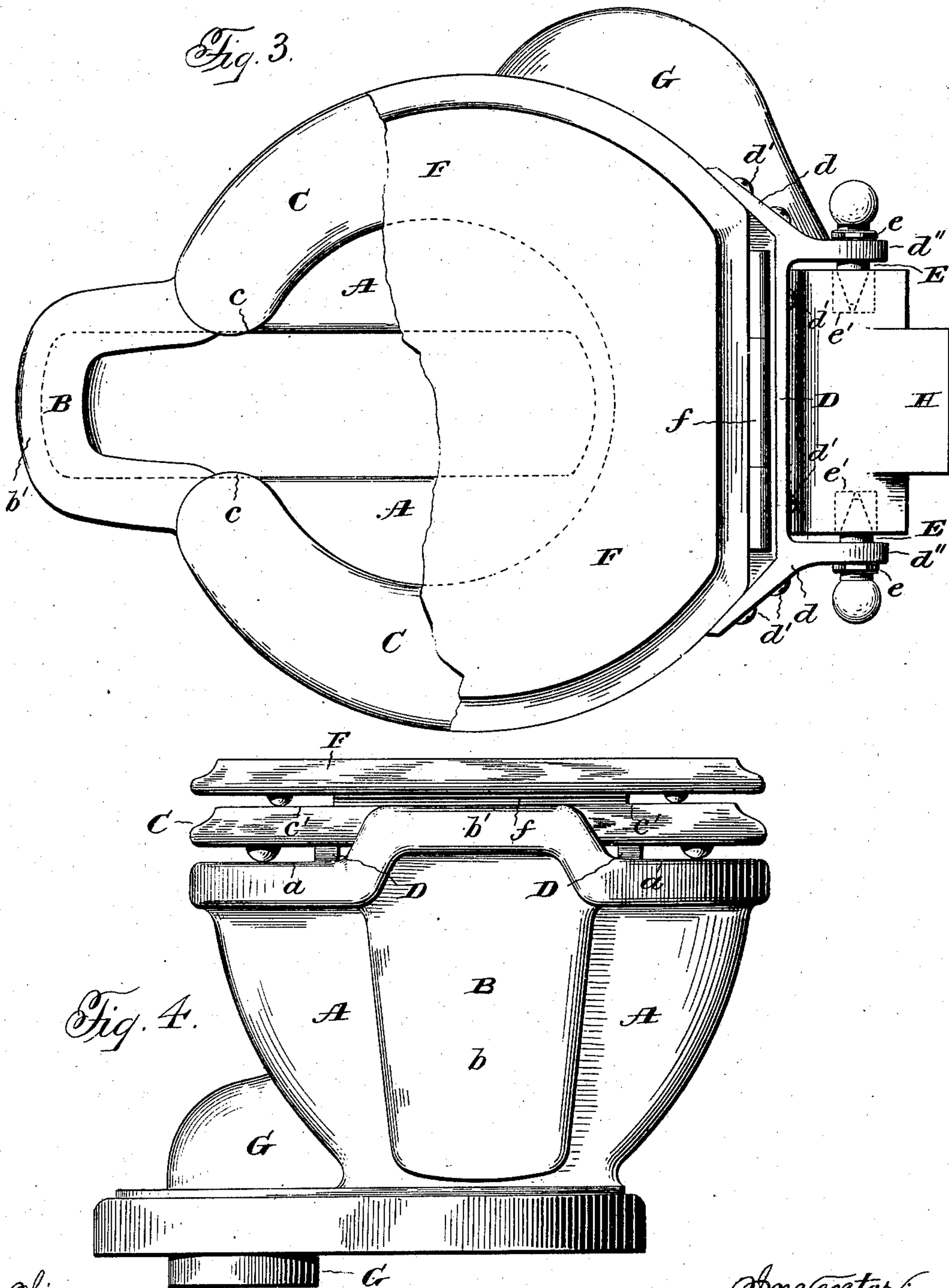
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

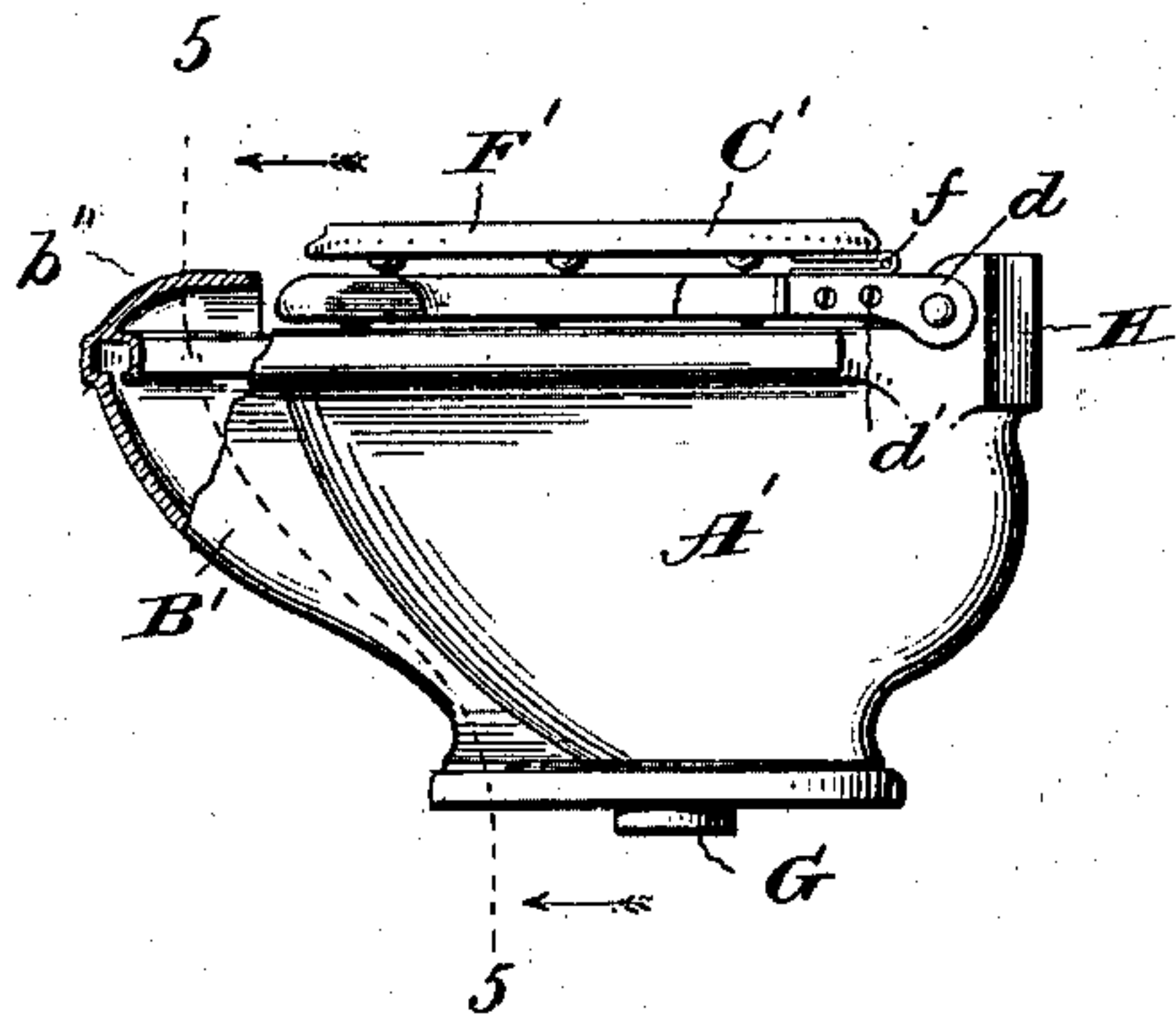


Fig. 6.

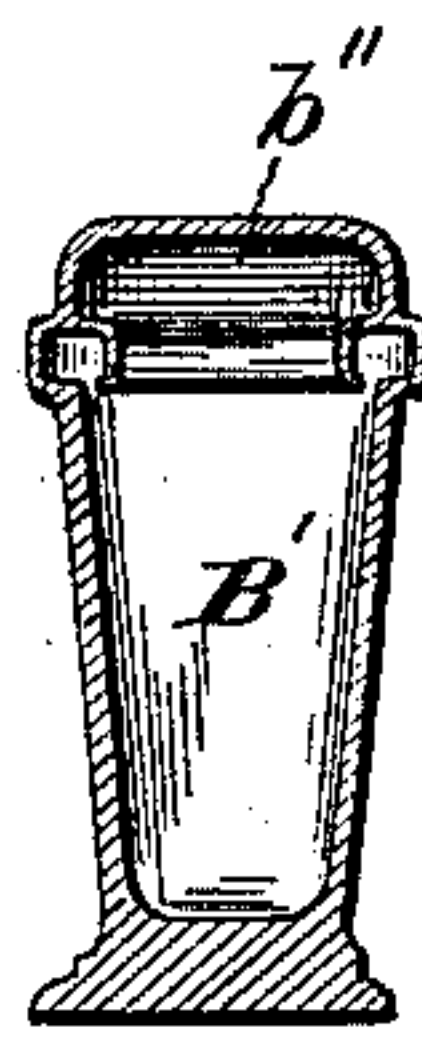


Fig. 7.

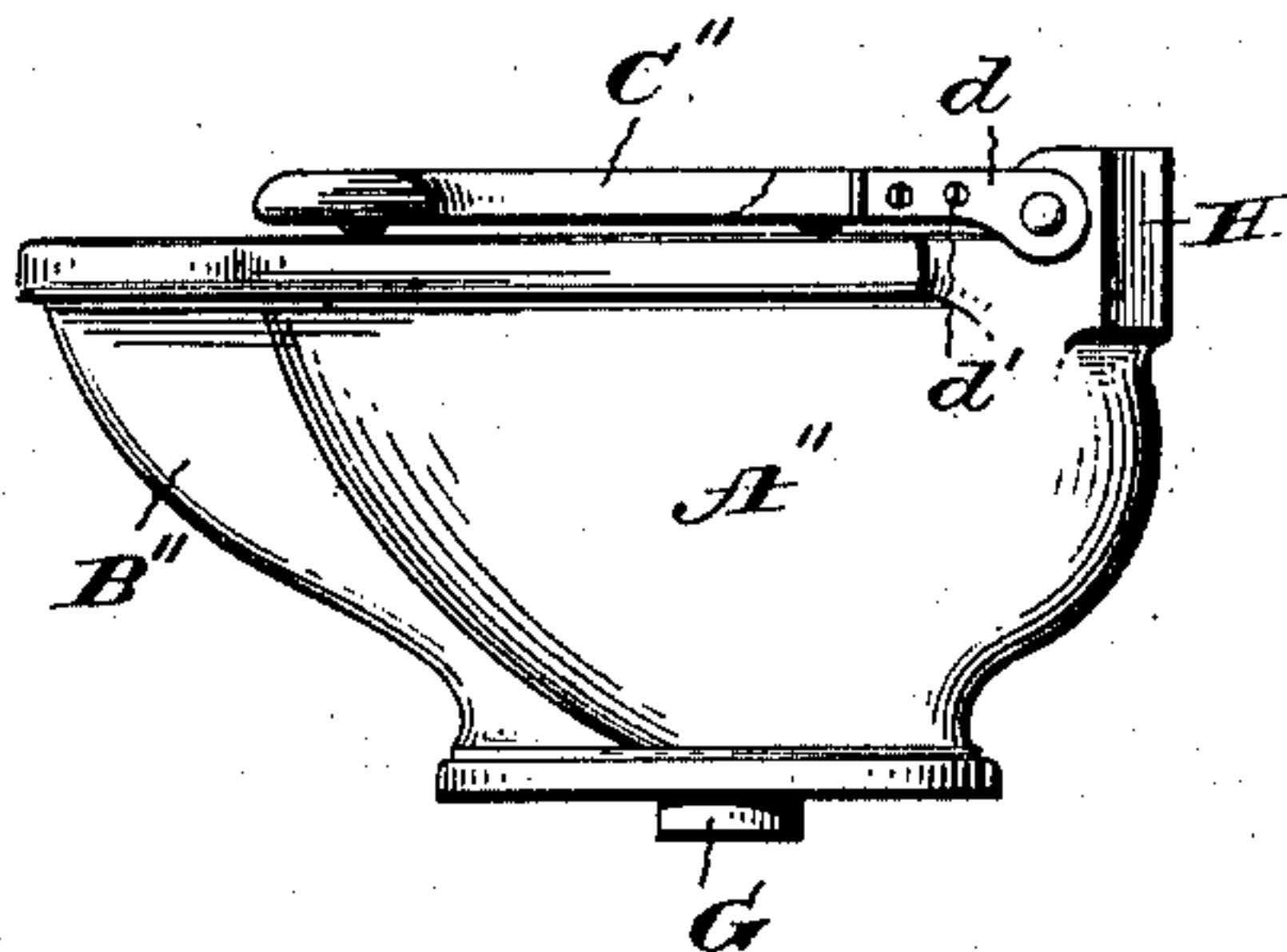
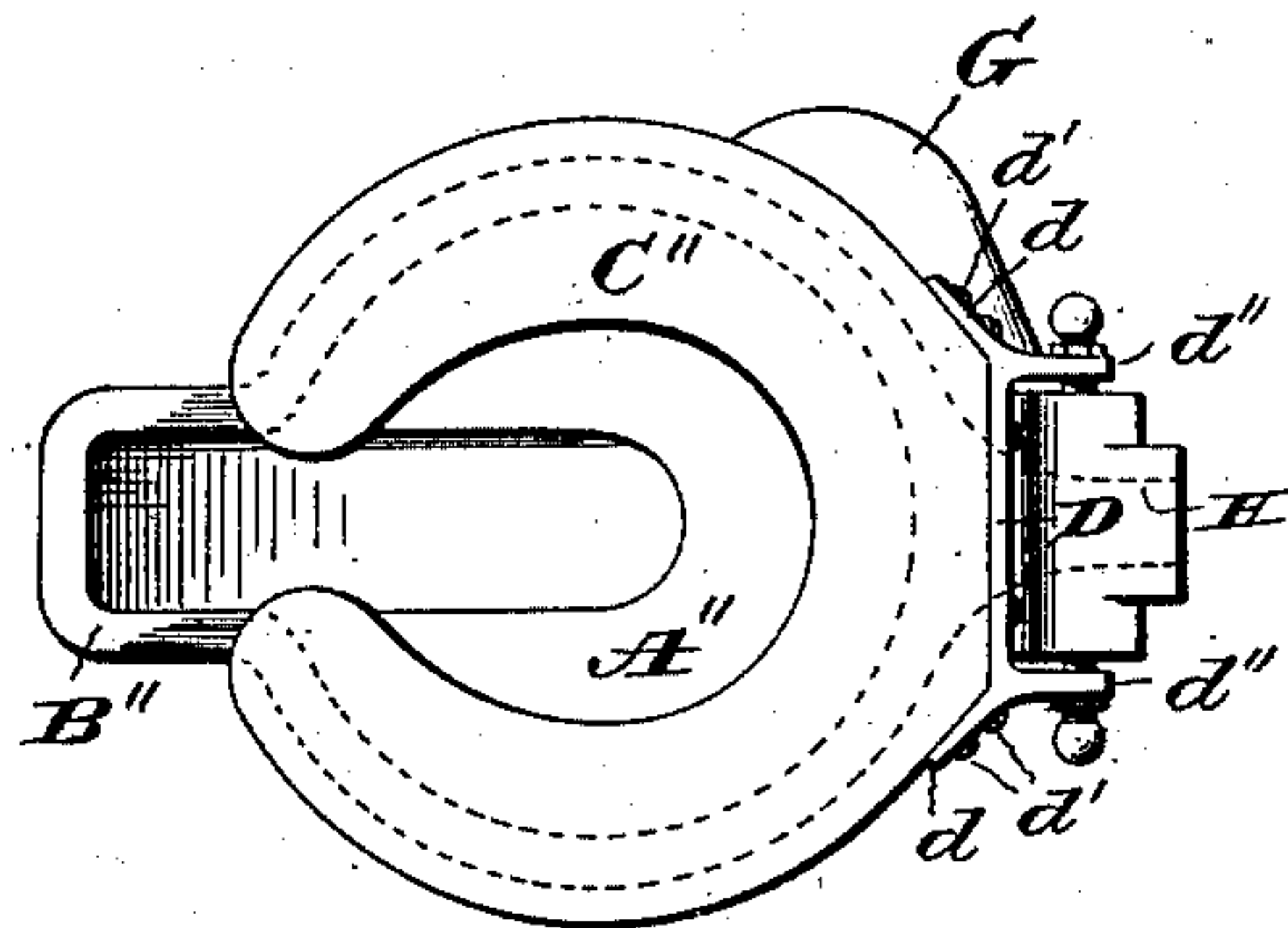


Fig. 8.



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UNITED STATES PATENT OFFICE.

ARVID EK, OF PORTLAND, MAINE.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 742,014, dated October 20, 1903.

Application filed February 21, 1903. Serial No. 144,447. (No model.)

To all whom it may concern:

Be it known that I, ARVID EK, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Water-Closets, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in water-closets, and has for its primary object the provision of a practical construction of low-down bowl in the use of which a person will when seated thereon be compelled to assume a crouching position, the natural requisite for ease and comfort when producing an evacuation of the intestines, which position will cause the bent legs of the user to approach the abdomen, and by pressure thereby created clearance of the bowels is appreciably facilitated.

With these ends particularly in view the invention embraces certain novel details in the construction and arrangement of the several parts of the bowl, its seat, and the covers therefor, as will be apparent from the detailed description hereinafter when read in connection with the accompanying drawings, forming part hereof, and wherein certain embodiments of the invention are shown for the purpose of enabling a clear understanding of the invention. Such disclosures being made simply for the purpose stated, however, it is therefore to be understood that the invention is not to be restricted to the specific elements illustrated except in so far as any such elements are included in the appended claims, because minor structural changes and alterations may obviously be made without departing from the spirit of the invention.

In the drawings, Figure 1 is a side elevation of the preferable embodiment of the invention. Fig. 2 is a vertical sectional view therethrough. Fig. 3 is a top plan view. Fig. 4 is a front elevation. Fig. 5 is a side elevation of a slightly-modified construction, parts being shown in section. Fig. 6 is a sectional view on the line 5 5 of Fig. 5 looking in the direction of the arrows; and Figs. 7 and 8 are a side elevation and a plan, respectively, parts of each being shown in section, of another slightly-modified construction.

Referring more specifically to the drawings,

in each series of figures of which like reference characters refer to corresponding parts in the several views, and at present more particularly to the first four figures, A designates a bowl proper, formed of any ordinary or desired material, preferably porcelain, said bowl being of a height about half or less than half that of the modern standard-size bowl. By reason of this low-down characteristic of the bowl and the position of the user necessitated thereby it is essential that the bowl be provided with a forwardly-projecting extension arranged to receive the urine and direct the same into the body A for discharge therefrom. Such an extension is represented at B and comprises a centrally-arranged relatively narrow integral portion having front and side walls merging into the wall of the body A, the front wall *b* thereof inclining downwardly and inwardly to approximately the bottom of said body, said front wall of the extension and the base of the bowl proper forming a continuous gradually-curved bottom for the bowl, the lowermost portion of which approximates the floor-level. This extension projects upwardly, as at *b'*, slightly beyond the upper surface *a* of the bowl, and arranged to fit between the same and the rear portion of the bowl is a seat C, which may be of any desired configuration, that shown being cut away at *c* to afford a continuous unobstructed passage in line with the extension. The seat is hingedly secured to the bowl A through the medium of the following instrumentalities: D is a bracket abutting the rear edge of the seat and provided with the outwardly-inclined projections or arms *d*, embracing the side edges thereof, said bracket being secured to the seat by screws *d'*. Oppositely-disposed ears *d''* are carried by the bracket D, and in these ears fit stub-pintles E, which have a threaded engagement therewith and are locked against movement relative to said ears by nuts *e*. The inner ends of the pintles loosely engage metallic inserts or bearings *e'*, angular in outline and fixed against rotation in similarly-shaped recesses in the sides of the bowl, said ends of the pintles and the hollow interior of the inserts or bearings being correspondingly tapered to provide enlarged frictional engaging surfaces. It will be seen that by this construc-

tion an adjustment of the stub-pintles will effect sufficient frictional contact between the pintles and their bearings to retain the seat in elevated position and to prevent falling of the same when being closed, which falling ordinarily creates objectionable noise and is liable to injure the bowl.

The upper surface *c* of the seat *C* when closed lies flush with the upper edge of the forward extension *B*, the extension in this instance being open at its top, so that a single cover *F*, hinged at *f* to the seat *C*, may be utilized for closing both the opening in the seat and the opening in the extension.

In the construction shown in Figs. 5 and 6, *A'* designates the bowl proper; *B'*, the forward extension; *C'*, the seat; *b''*, the upwardly-projecting portion of said forward extension, and *F'* is the cover. The distinguishing features of the present form as compared with that previously considered are the shortening of the cover to overlie simply the seat *C'* and not the extension, said extension in turn being formed with an integral hood or covering. (Best seen in Fig. 6.)

Considering now the construction shown in the last two figures of the drawings, *A''* is the bowl proper, *B''* the forward extension thereof, and *C''* the seat. It will be noted that in this form the upper edge of the forward extension is flush with the corresponding surface of the bowl, dispensing with the upwardly-projecting portion *b''* or *b'* of the two other forms. In this embodiment also the seat *C* overlies only the upper edge of the bowl proper *A''* in rear of the forward extension *B''*, thereby leaving the top of the extension open, as in Figs. 1 to 4.

A feature common to all of the forms which have been in turn above described is the manner of emptying the bowl of its contents, and this feature may be here defined.

G is an outlet-passage of the gooseneck variety leading from a point near the bottom and at the rear of the bowl located centrally thereof and extending upwardly to near the upper edge of the bowl, whence it curves laterally and inclines downwardly at one side of the bowl and terminates approximately centrally thereof in a substantially vertically-arranged portion or down-leg for coupling to a waste-pipe. The down-leg just mentioned of the discharge-passage is disposed laterally of the base of the bowl to present no obstruction therebeneath, such arrangement obviating any elevation of the bowl above the floor-line, which would be necessitated by said down-leg were the same carried beneath said bowl. This arrangement enables the employment of a siphon-discharge for a low-down closet, and the bending of the gooseneck in a lateral direction avoids any undue contracting or extremely abrupt bending of the parts.

H is a flushing-inlet, from which leads the flushing-rim *h*, surrounding the bowl and

forward extension thereof, and the injector jetting-passage *h'*.

A closet constructed in conformity with the present invention may be made as low as nine inches—possibly lower—while at the same time embracing purely hygienic principles, and such a closet will be found beneficial not only to regularly-constituted persons, but particularly helpful to those subject to constipation.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of said bowl proper, in combination with a seat hinged to the bowl and arranged to overlie only that portion of the bowl in rear of the upwardly-projecting portion of its forward extension.

2. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of said bowl proper, in combination with a seat hinged to the bowl and arranged to overlie only that portion of the bowl in rear of the upwardly-projecting portion of its forward extension, and covering instrumentalities for both the seat and said forward extension.

3. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, in combination with a seat hinged to the bowl and arranged to overlie only that portion of the bowl in rear of its forward extension, and covering instrumentalities for both the seat and said forward extension.

4. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, and a discharge-passage leading from said bowl, said forward extension projecting upwardly beyond the upper surface of the bowl proper.

5. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, and a discharge-passage leading from said bowl, said forward extension projecting upwardly beyond the upper surface of the bowl proper, in combination with a cover for the forward extension.

6. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of the bowl proper, and a dis-

charge-passage leading from the rear portion of the bowl in an upward direction and thence laterally and downwardly alongside the bowl.

7. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of the bowl proper, and a discharge-passage leading from the rear portion of the bowl in an upward direction and thence laterally and downwardly alongside the bowl, the exit end of said passage terminating in an approximately vertical plane.

8. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of the bowl proper, and a flushing-inlet communicating with a flushing-rim surrounding the upper edges of both the bowl proper and its forward extension, and a discharge-passage leading from the rear portion of the bowl in an upward direction and thence laterally and downwardly alongside the bowl, said discharge-passage communicating with an injector jetting-passage.

9. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said forward extension projecting upwardly beyond the upper surface of the bowl proper, and a flushing-inlet communicating with a flushing-rim surrounding the upper edge of both the bowl proper and its forward extension, and a discharge-passage leading from the rear portion of the bowl in an upward direction and thence laterally and downwardly alongside the bowl, said discharge-passage communicating with an injector jetting-passage, and the exit end of the discharge-passage terminating in an approximately vertical plane.

10. A low-down closet-bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, and a discharge-passage leading from said bowl, said forward extension projecting upwardly above the upper surface of the bowl proper, and a flushing-rim surrounding the upper edges of both the bowl proper and its forward extension.

11. A closet-bowl having a forwardly-extending covered portion projecting upwardly beyond the plane of the upper surface of the bowl, in combination with a seat arranged to overlie only that portion of the bowl in rear of said extending portion.

12. A closet-bowl having a forwardly-extending covered portion projecting upwardly beyond the plane of the upper surface of the bowl, and a discharge-passage leading from the bowl.

13. A closet-bowl having a forwardly-extending portion projecting upwardly beyond

the plane of the upper surface of the bowl, in combination with a seat arranged to overlie only that portion of the bowl in rear of said extending portion.

14. A closet-bowl having a forwardly-extending portion projecting upwardly beyond the plane of the upper surface of the bowl, and a discharge-passage leading from the bowl.

15. A closet-bowl having a forwardly-extending covered portion projecting upwardly beyond the plane of the upper surface of the bowl, said extending portion being relatively narrow and provided with front and side walls merging into the wall of the bowl proper, in combination with a seat arranged to overlie only that portion of the bowl in rear of said extending portion.

16. A closet-bowl having a forwardly-extending covered portion projecting upwardly beyond the plane of the upper surface of the bowl, said extending portion being relatively narrow and provided with front and side walls merging into the wall of the bowl proper, and a discharge-passage leading from the bowl.

17. A closet-bowl having a forwardly-extending portion projecting upwardly beyond the plane of the upper surface of the bowl, said extending portion being relatively narrow and provided with front and side walls merging into the wall of the bowl, in combination with a seat arranged to overlie only that portion of the bowl in rear of said extending portion.

18. A closet-bowl having a forwardly-extending portion projecting upwardly beyond the plane of the upper surface of the bowl, said extending portion being relatively narrow and provided with front and side walls merging into the wall of the bowl proper, and a discharge-passage leading from the bowl.

19. A closet-bowl having a forwardly-extending portion projecting upwardly beyond the plane of the upper surface of the bowl, and a flushing-rim surrounding the upper edges of both the bowl proper and its forward extension.

20. A closet-bowl having a forwardly-extending portion projecting upwardly beyond the plane of the upper surface of the bowl, said extending portion being relatively narrow and provided with front and side walls merging into the wall of the bowl proper, and a flushing-rim surrounding the upper edges of both the bowl proper and its forward extension.

21. In a low-down closet, a closet-bowl having its bottom approximating the base-line of the closet and provided with a discharge-passage leading therefrom at a point at the rear of the bowl and above the bottom thereof in an upward direction and thence laterally and downwardly at a gradual inclination around approximately one-fourth of the bowl and terminating at one side thereof at a point in-

intermediate the front and rear walls of the bowl, the down-leg of the discharge-passage being disposed laterally of the face of the bowl to present no obstruction therebeneath.

5 22. In a low-down closet, a closet-bowl having a forwardly-extending relatively narrow portion provided with a front and side walls merging into the wall of the bowl proper, the bottom of said bowl approximating the base-
10 line of the closet, and a discharge-passage leading therefrom at a point at the rear of the bowl and above the bottom thereof in an upward direction and thence laterally and
15 downwardly at a gradual inclination around approximately one-fourth of the bowl and terminating at one side thereof at a point intermediate the front and rear walls of the
20 bowl, the down-leg of the discharge-passage being disposed laterally of the base of the bowl to present no obstruction therebeneath.

23. In a closet, a low-down bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said
25 front wall of the extension and the base of the bowl proper forming a continuous, unbroken, gradually-curved bottom for the bowl extending from the front to the rear thereof, the lowermost portion of which is in
30 approximately the same horizontal plane as the base-line of the closet, a hood secured to the forward extension to prevent escape of spray when the closet is flushed or in use, and a discharge-passage leading from said
35 bowl, in combination with a seat arranged to overlie only that portion of the bowl in rear of the side walls of its forward extension.

24. In a closet, a low-down bowl having a forwardly-extending relatively narrow portion provided with front and side walls merging into the wall of the bowl proper, said front
40 wall of the extension and the base of the bowl proper forming a continuous, unbroken, grad-

uallly-curved bottom for the bowl extending from the front to the rear thereof the lower- 45 most portion of which is in approximately the same horizontal plane as the base-line of the closet, a hood secured to the forward extension to prevent the escape of spray when the closet is flushed or in use, and a discharge- 50 passage leading from said bowl.

25. In a closet, a low-down bowl having a forwardly-extending relatively narrow portion provided with an outwardly-curved front wall and side walls merging into the wall of 55 the bowl proper, said curved front wall of the extension and the base of the bowl proper gradually merging to form a continuous, unbroken, similarly-curved bottom for the bowl extending from the front to the rear thereof 60 the lowermost portion of which is in approximately the same horizontal plane as the base-line of the closet, and a discharge-passage leading from said bowl.

26. In a closet, a low-down bowl having a 65 forwardly-extending relatively narrow portion provided with an outwardly-curved front wall and side walls merging into the wall of the bowl proper, said curved front wall of the extension and the base of the bowl proper 70 gradually merging to form a continuous, unbroken, similarly-curved bottom for the bowl extending from the front to the rear thereof the lowermost portion of which is in approximately the same horizontal plane as the base- 75 line of the closet, and a discharge-passage leading from said bowl, in combination with a seat arranged to overlie only that portion of the bowl in rear of the side walls of its forward extension. 80

In testimony whereof I affix my signature in presence of two witnesses.

ARVID EK.

Witnesses:

CHARLES W. MORTON,
NILS EK.