June 15, 1954

G. W. FULLER

2,681,254

PLURAL SPRAY SHOWER HEAD

Filed Oct. 29, 1951

Fig. 1.

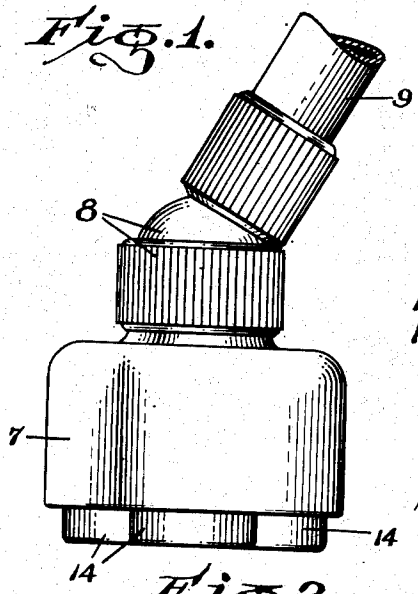


Fig. 3.

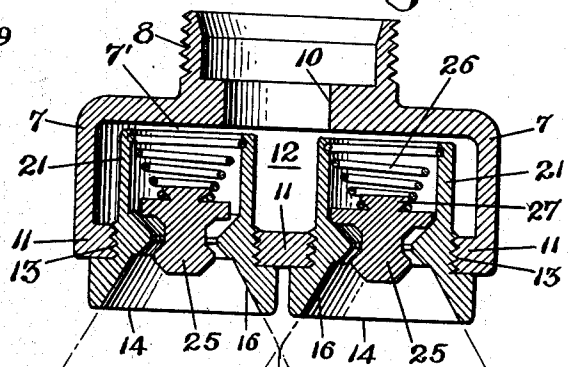


Fig. 2.

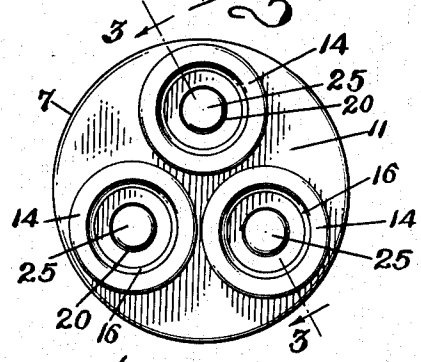


Fig. 4.

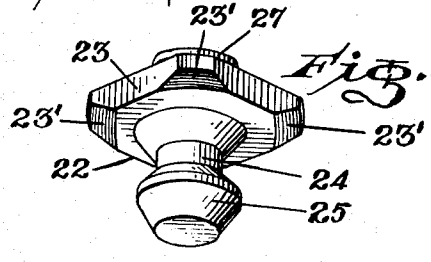


Fig. 5.

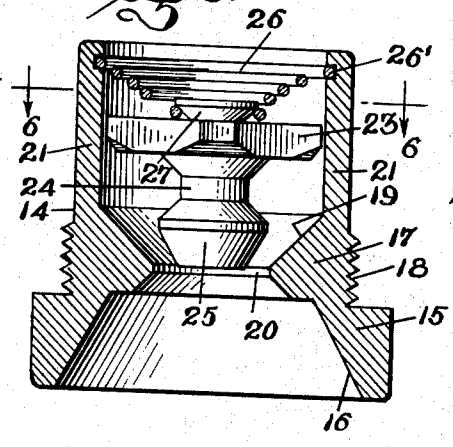
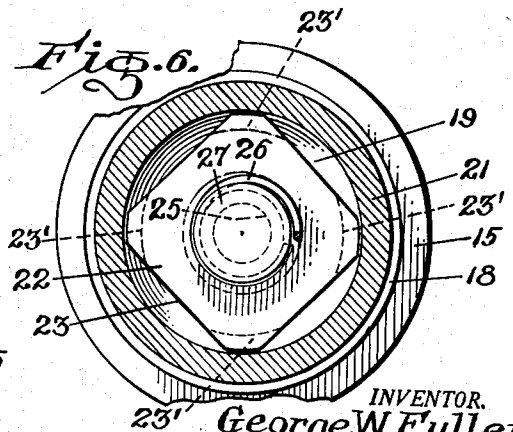


Fig. 6.



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PLURAL SPRAY SHOWER HEAD

George W. Fuller, Downey, Calif.

Application October 29, 1951, Serial No. 253,602

2 Claims. (Cl. 299—121)

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This invention relates to plural spray shower heads, and more particularly to a plural spray shower head in which different spray nozzles, in the nature of inserts, are connected with said head in such a way that the sprays discharged therefrom overlap each other as they leave the head and the spray nozzles in such a way as to produce a more effective shower.

Among the salient objects of the invention are: to provide a shower head of the character referred to which can be connected with the usual water supply pipe or arm, with a ball joint for adjustment, whereby it is easy to adjust to any desired angle; to provide a shower head or body with a chamber therein into which water from said supply pipe is discharged and from which it overflows into the different spray nozzles inserted therein, with provision for trapping any solid particles which might be carried into said shower head; to provide a spray nozzle which can be inserted into a shower head and which is self-contained and which has as a part thereof a yieldingly held spray plug which can be easily pressed inwardly by the finger for the purpose of freeing any particles which might lodge in the discharge passageway or discharge outlet; to provide an insert spray nozzle having a cylindrical inner portion which extends up into the shower head and over into which the water flows from the chamber of the shower head, the end of said cylindrical portion being contiguous to the top of the shower head chamber, whereby to form a restricted inflow for water and thus also form a trap for preventing particles from flowing into the spray nozzle; to provide in combination with such a spray nozzle a conical-like outlet therefrom, forming a restricted discharge opening therefrom with a spray plug having a body portion to seat in said spray nozzle and leave passageways for water therearound, and which also has a head portion positioned in the discharge opening from said spray nozzle to cause a jet-like discharge therefrom.

Other objects and advantages of the invention will appear from the following more detailed description thereof, taken with the accompanying sheet of drawings, in which:

Figure 1 is a side elevation of a shower head embodying my invention;

Figure 2 is a bottom plan view thereof;

Figure 3 is a vertical sectional view, taken on the line 3—3, of Fig. 2;

Figure 4 is a perspective view of a spray plug;

Figure 5 is an enlarged vertical sectional view of one of the insert spray nozzles; and

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Figure 6 is a horizontal sectional view, taken on line 6—6, on Fig. 5.

Referring in detail to the drawings, the invention as here illustrated, includes a shower head or body 7, having provision, as at 8, for a ball joint with the usual water supply arm or pipe 9, with a central inlet 10 into the chamber in said head or body 7, as seen in Fig. 3.

Said shower head or body has a bottom, as 11, forming a chamber 12 in said head. In the present showing of the invention, three separate spray nozzles are shown inserted therein. For this purpose three threaded openings therethrough, designated 13, 13, are provided, and into these threaded openings separate spray nozzles are screwed as shown, each of said spray nozzles being designated as a whole 14, as seen in the bottom plan view in Fig. 2.

Said insert nozzle members, one of which is shown in section in Fig. 5, have skirt portions, as 15, with the flaring discharge outlets at 16, above which is the restricted formation 17, externally threaded, as at 18, to screw into one of the threaded openings 13, said restricted formation providing a conical-like floor, as at 19, with the restricted outlet 20, said insert having the cyindrical portion 21, which extends up into the chamber 12 in the shower head or body 7, as seen in Fig. 3, leaving a restricted space, as 7' between the upper end of said cylindrical portion and the ceiling of said head chamber. This restricted space forms a trap for any solid particles which might be carried into the shower head.

Operable in said insert spray nozzle 14 is a spray plug 22, of substantially the form shown in the drawing, with the square base portion 23, having the corners cut and tapered, as at 23', and with a neck portion 24, and the conical head 25, which projects through the restricted opening or outlet 20, as seen in Fig. 3, forming an angular discharge passageway out of the cylindrical portion of spray nozzle. This discharge strikes the flaring discharge mouth 16, of lesser angle, and results in an efficient shower.

A coiled spring 26 keeps such spray nozzle in its down position, with its base resting on the conical floor 19, at its corners, as indicated, whereby water flows past said spray plug through the spaces, 23', left by the straight sides of the base 23, as will be understood from the horizontal sectional view in Fig. 6. Said coiled spring 26 is of conical form, as shown, with its large end seated in an annular groove 26' in the top of the cylindrical portion of the insert, and its small end, anchored to the top of the spray plug 22, sub-

stantially as shown, around a small lug portion 27.

If any hard particle should lodge in this angular discharge passageway, at 19 and 20, Fig. 5, between the spray plug and the wall of the insert, it is only necessary to press the finger against the end of said spray plug to enlarge the outlet opening and the particle will be discharged. It will be understood that said spray plug 25 can be pushed into the cylindrical member 21, as shown in Fig. 5, and that when released, it will be returned to the position indicated in Fig. 3.

Thus I have provided a most efficient shower head or body into which can be inserted a plurality of spray nozzles, so positioned that the sprays discharged therefrom will overlap each other in a most effective manner to produce a most efficient shower.

I have also produced a self-contained spray nozzle, which can be used as an insert into most any kind of a shower head having a water-receiving chamber therein, or it can be used as a single nozzle.

I have also provided a most simple means for releasing any hard particle which may become lodged in the discharge outlets, by simply pressing the spray plug inwardly and then allowing it to be returned to its normal position by the coiled spring 26 operating thereon.

I do not, therefore, limit the invention to the details of construction and arrangement shown for explanatory purposes, except as I may be limited by the hereto appended claims, forming a part of this specification.

I claim:

1. The combination with a shower head having means for connecting it with a source of water supply and having a chamber therein to receive water from said source of supply, the ceiling of said chamber being flat, the bottom of said head being parallel therewith and having a plurality of threaded openings therethrough, of a plurality of insertable cylindrical spray nozzles to be inserted in said openings, the upper ends of said cylindrical spray nozzles being positioned adjacent the ceilings of said chambers to form restricted openings as a trap for particles, means in said spray nozzles for giving form to the sprays discharged therefrom, said nozzles being positioned relative to each other to cause an overlapping of the sprays discharged therefrom, whereby to greatly increase the efficiency of the shower from said head.

2. A shower head with means for connecting it adjustably to a source of water supply, said head having a chamber therein with floor and ceiling, said floor having a plurality of threaded openings therethrough, and a plurality of separate unitary spray nozzles adapted to be screwed into said threaded openings, each having a cylindrical portion with its upper end adjacent the ceiling of said chamber to form a restricted opening into said spray nozzle, and means in said spray nozzles for giving conical form to the sprays discharged therefrom, said sprays being discharged in overlapping relationship, whereby to increase the efficiency of the shower from said shower head.

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