Jan. 23, 1945. W. STEIN ET AL 2,367,809

SPOUT

Filed Dec. 3, 1942

Fig. 1

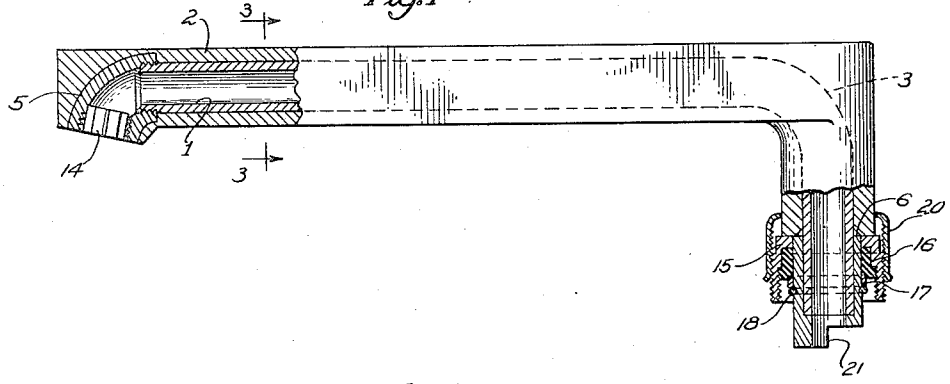


Fig. 2

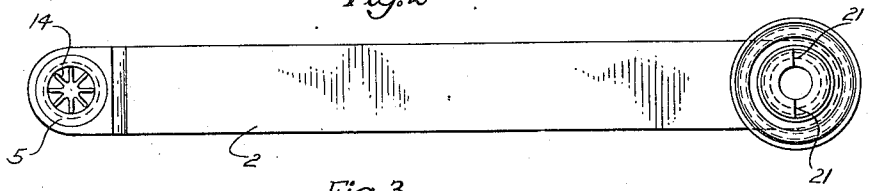


Fig. 3

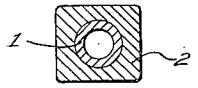


Fig. 4

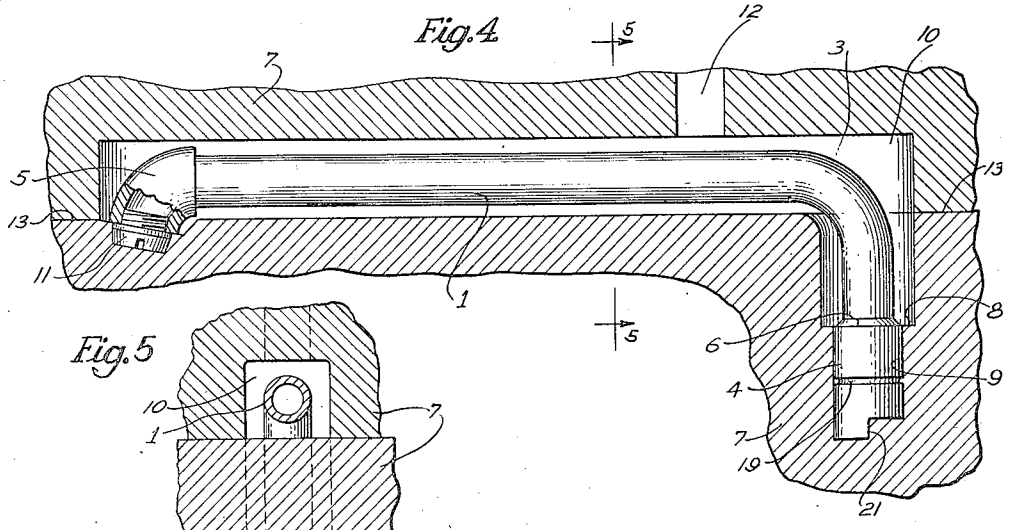


Fig. 5

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SPOUT

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Application December 3, 1942, Serial No. 467,748

1 Claim. (Cl. 137—111)

This invention is concerned with the structure of a spout unit of the type employed in connection with sinks, bath tubs and lavatories, and one object of the invention is to provide a spout including a suitably heavy metallic core serving as the conduit for the water together with an ornamental plastic covering in which the core is encased. Another object of the invention is to provide a combination of metallic core and plastic covering which can be conveniently and practically molded; and a further object is to provide supplemental means for use in connection with the spout to prevent the plastic material from entering the cavity of the core during the molding process.

Other objects and advantages will appear from the following description taken in connection with the drawing in which:

Fig. 1 is a side elevation of a spout structure embodying this invention with portions shown in section taken substantially at an axial plane of the conduit or passage therein.

Fig. 2 is a bottom plan view of the spout unit.

Fig. 3 is a transverse section taken as indicated at line 3—3 on Fig. 1.

Fig. 4 is a partial sectional view of a mold with the metallic core placed therein preparatory to applying the plastic covering.

Fig. 5 is a transverse section taken as indicated at line 5—5 on Fig. 4.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the invention, and that the same is not limited to the particular forms herein disclosed, except insofar as indicated by the appended claim.

One object of constructing a spout or other plumbing fixture with a molded plastic coating or covering is to reduce the quantity of metal required for the fixture and particularly the nickel or chromium heretofore applied as a plating to give the fixture a pleasing ornamental finish. It has been found difficult to mold a unit of the general character of the spout herein shown so as to avoid the use of metal entirely and furthermore most plastic materials would be injuriously affected by hot water flowing in direct contact with them as would be the case if the water passage were formed directly in the plastic. Therefore the present construction includes a core 1 of iron pipe or the like with a plastic covering 2 molded around it. Experiment has shown that thin walled tubing is likely to collapse under the heavy pressure employed in applying the plastic material in the mold and accordingly the pipe 1 has a wall of substantial thickness. The pipe includes a right angle bend at 3 and an enlarged terminal 4 secured rigidly to the pipe beyond said bend. At the opposite end a short elbow 5 forms a discharge terminal for the pipe 1.

As shown, the terminal 4 provides a shoulder 6 and the mold 7 which is partially shown in section in Figure 4 includes a transverse shoulder 8 aligned with the shoulder 6 and defining the plane at which the plastic covering 2 terminates. The mold includes a cylindrical cavity 9 into which the terminal 4 fits snugly when the metallic core is placed in the mold preparatory to the application of the plastic covering, and while the terminal 4 is open at its lower end, it is of sufficient length to insure that its cylindrical wall in contact with the wall of the cavity 9 will seal the open end against the entrance of any plastic material during the molding process, notwithstanding the fact that such material is injected into the mold cavity 10 under heavy pressure.

At the discharge end of the fitting it has been found that a simple bend in the pipe 1 is impracticable if the metallic lining is to terminate flush with the plastic covering. This makes it difficult to adequately seal the end of the bent tube by merely abutting it against the wall of the mold. To overcome the difficulty the open end of the tube may be threaded and fitted with a temporary plug to close it against entrance of the plastic. To afford sufficient thickness for such threading at the delivery end the pipe 1 is provided with the elbow 5 secured to it and internally threaded as shown in the drawing. A temporary closure plug 11 is then screwed into the opening and the mold 10 is formed with a cavity shaped to accommodate the head of this plug as seen in Figure 4. The cavity of the mold is so designed that the plastic covering shall terminate flush with the outer end of the elbow 5 and the plug 11 effectively prevents any leakage of the plastic into the elbow during the molding process. To preclude premature chilling and consequent uneven contraction of the plastic material during the molding process the mold may be provided with an unusually large sprue through which the plastic material is introduced into the mold. When the plastic material has become properly set and hardened the mold is separated as at the parting plane indicated at 13 and the completed spout is removed. The plug 11 is then unscrewed from the discharge opening of the

elbow 5 and a sheet metal flow-diffusing element of familiar construction may be inserted in its place as shown at 14 in Figures 1 and 2, the internal threads of the elbow 5 serving to grip the yieldingly expansible fitting 14 sufficiently to hold it in place.

In the particular fixture shown for illustration the terminal portion 4 has applied to it a swivel bearing member or gland 15 with a compressible packing ring 16 held in position within the gland 15 by means of a metal ring 17 and a snap ring 18 which fits into the groove 19 in the part 4. The swivel member 15 is internally threaded for connection to the end of a supply pipe and is externally threaded to carry a cover sleeve 20 which may be suitably polished to provide an ornamental appearance at the coupling. The lower end of the terminal 4 may be partially cut away to form stop shoulders 21 adapted to cooperate with a suitable fixed stop to limit the range of swinging movement of the spout which the swivel mounting member 15 permits.

Thus the entire exposed surface of the spout fitting with the exception of the cover sleeve 20 is of unitary plastic material which comes from the mold in perfect final form and with a smooth surface finish presenting a neat and ornamental appearance and satisfactorily dispensing with a metallic plated and polished surface. The use of the plastic covering also affords the possibility of producing a variety of external shapes or contours without substantially altering the internal metallic core formed by the pipe 1 and its terminals.

We claim:

A spout comprising a tubular metallic core and a covering of plastic material molded thereon, said core including a section of pipe and a pipe elbow secured to one end thereof terminating flush with the plastic to provide an outlet and having a terminal portion which projects beyond the plastic covering at the other end to serve for connecting the spout to a metallic conduit, said projecting portion being of greater diameter than the adjacent portion of the core and providing a transverse shoulder at which the plastic covering terminates, a swivel coupling member fitted onto said projecting portion adjacent said shoulder, and an ornamental annular skirt secured to said coupling member and overlapping the plastic covering.

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