

W. GRIKSCHT.
DRAIN PLUG.
APPLICATION FILED OCT. 27, 1919.

1,423,418.

Patented July 18, 1922.

Fig. 1.

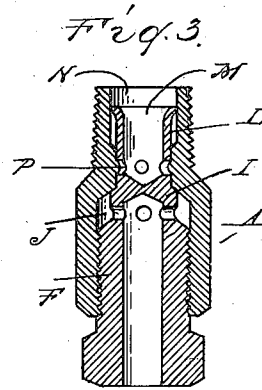
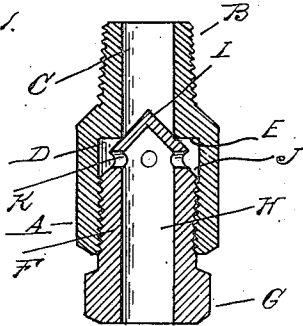


Fig. 2.

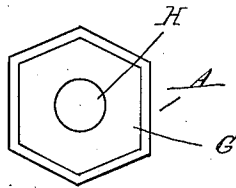


Fig. 5.

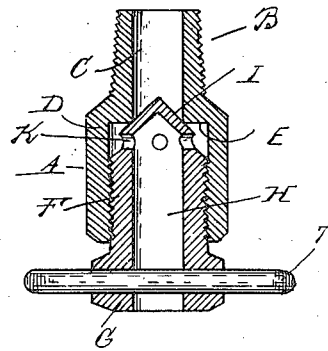
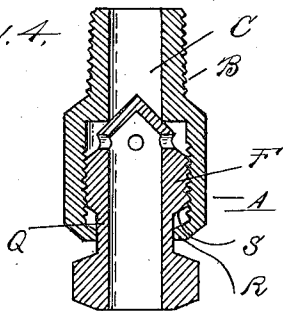


Fig. 4.



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DRAIN PLUG.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM GRIKSCHT, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Drain Plugs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to drain plugs such as are used on fuel oil tanks, radiators, etc., and it is the object of the invention to obtain a construction which permits of draining the container without detaching the plug. To this end the invention consists in the construction as hereinafter set forth.

In the drawings:

Figure 1 is a longitudinal section through one form of plug;

Figure 2 is a bottom plan view of the same;

Figures 3, 4 and 5 are similar views showing modified constructions.

Drain plugs are usually preferred to drain-cocks for use in many places where it is only occasionally necessary to drain the container and where it is desired to prevent tampering or accidental opening. This is for the reason that a plug requires a wrench for loosening or disengaging the same, whereas a drain-cock provided with a handle can be opened without the use of any tool. Also there are many places where a plug may be inserted, but where a drain cock would be inaccessible. It is inconvenient to draw off a portion of the contents of the receptacle by removing the drain plug, inasmuch as it is very difficult to re-engage the plug while the liquid is flowing out. With the present invention the plug is of a construction permitting drainage without necessity of disengagement, so that any desired portion of the contents can be drawn off without difficulty.

As shown in Figures 1 and 2, A is the body of the plug which is preferably machined from the hexagonal, or other polygonal stock, and is provided with a threaded nipple B for engagement with the aperture of the container. This member also has a straight bore C extending axially there-through with a counterbored portion D forming a shoulder E. The portion D is threaded to receive a correspondingly threaded member F, also preferably formed

from polygonal stock, leaving the head portion G. The member F is axially bored at H, but this bore is terminating so as to leave an imperforate inner end portion I, preferably of conical form and adapted to seat upon the shoulder E. The portion of the member F adjacent to the end I is reduced in diameter to leave an annular clearance space J surrounding the same, and one or more lateral apertures K through the walls of the member F establish communication between the bore H and said annular clearance space J.

With the construction just described the polygonal portion of the member A will serve as a wrench hold for engaging and disengaging said member, and in the same manner the polygonal head portion G of the member F forms a wrench hold, but one of slightly smaller diameter than that of the member A. Thus the portion G will not interfere with the engagement of the wrench, or other tool, with the portion A, but will permit of independent turning of the member F. Therefore, whenever it is desired to drain or partly drain the container instead of loosening the main member A, the member F is turned through its polygonal head G so as to withdraw the portion I from the seat E, thereby permitting the liquid to flow through the passage C, annular passage J, apertures K and bore H discharging from the lower end of the plug.

With the constructions shown in Figures 3 and 4, the operation is the same, but provision is made for preventing complete disengagement of the member F. In Figure 3 this means comprises an inwardly-extending portion L of the member F which has the bore M extending from its outer end but terminating short of the imperforate portion I'. The outer end of the member L engages a counterbore N and is flanged outward so as to engage a shoulder at the inner end of said counterbore before the member F is disengaged from the member A. There are also provided one or more lateral apertures P through the member L establishing communication between the bore M and the annular chamber J when the member F is withdrawn from its seat.

In Figure 4 instead of the inward extension L, the member F is provided with a neck portion Q which is reduced in diameter and the member A has at its outer end a flange R

turned inward into the groove surrounding the neck portion Q and adapted to engage a shoulder S at the inner end thereof. With either of the constructions shown in Figures 3 and 4 the member F may be operated to withdraw the same from its seat, but complete disengagement from the member A is prevented.

In Figure 5 I have shown a construction which may be used as a drain-cock being provided with an operating handle. This construction is substantially the same as shown in Figure 1 with the addition of a handle T which is inserted through a transverse bore in the head member G. This handle is of a diameter less than the bore H and therefore will not materially restrict the flow of the liquid therethrough.

What I claim as my invention is:

1. A drain plug comprising two members, one having an axial passage therethrough with an externally threaded nipple at one end thereof and a counterbore at the opposite end internally threaded, forming an annular shoulder or valve seat at the inner end of said counterbore, the other member having a portion externally threaded to engage said threaded counterbore, being provided with an imperforate portion at its inner end for engaging said valve seat and having an axial passage from its outer end to said imperforate portion with right-angled ports communicating with said counterbore, and a flange at the outer end of said first-mentioned member engaging a groove in said second-mentioned member for limiting adjustment thereof and preventing disengagement and flattened surfaces upon the exterior of each of said members providing means for the adjustment of each.

2. A drain plug comprising two members, one having an axial passage therethrough with an externally threaded nipple at one end thereof and a counterbore at the opposite end internally threaded, forming an annular shoulder or valve seat at the inner end of said counterbore, the other member hav-

ing a portion externally threaded to engage said threaded counterbore, being provided with an imperforate portion at its inner end for engaging said valve seat and having an axial passage from its outer end to said imperforate portion with a right angled port communicating with said counterbore, a bent over end portion on one of said members adapted to engage the other member for limiting adjustment thereof and preventing disengagement and hexagonal surfaces upon each of said members for adjusting them.

3. A drain plug comprising two members, one having an axial passage therethrough with an externally threaded nipple at one end thereof and a counterbore at the opposite end internally threaded, forming an annular shoulder or valve seat at the inner end of said counterbore, the other member having a portion externally threaded to engage said threaded counterbore, being provided with an imperforate portion at its inner end for engaging said valve seat and having an axial passage from its outer end to said imperforate portion with a right angled port communicating with said counterbore and hexagonal surfaces upon each of said members for adjusting them.

4. A drain plug comprising two members, one having an axial passage therethrough with an externally threaded nipple at one end thereof and a counterbore at the opposite end internally threaded, forming an annular shoulder or valve seat at the inner end of said counterbore, the other member having a portion externally threaded to engage said threaded counterbore, being provided with an imperforate portion at its inner end for engaging said valve seat and having an axial passage from its outer end to said imperforate portion with a right angled port communicating with said counterbore, and shouldered surfaces upon each of said members for adjusting them.

In testimony whereof I affix my signature.

WILLIAM GRIKSCHIT.