

E. E. ROBINSON.
PLUMBER'S PLUG.
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1,292,069.

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Fig. 1.

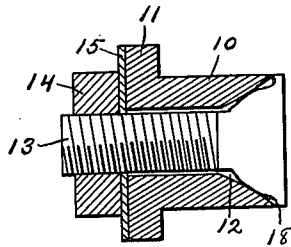


Fig. 2.

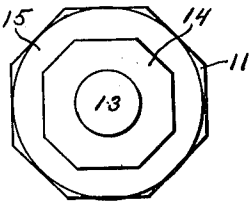


Fig. 3.

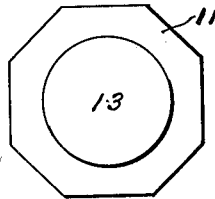
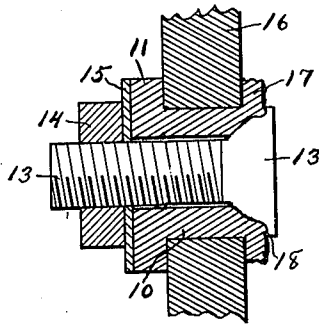


Fig. 4.



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PLUMBER'S PLUG.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EARL E. ROBINSON, a citizen of the United States, residing in Des Moines, county of Polk, and State of Iowa, have invented a new and useful Improvement in Plumbers' Plugs, of which the following is a specification.

The object of this invention is to provide an improved construction for a plug for stopping holes in boilers, pipes and the like.

A further object of this invention is to provide improved means for stopping holes in metallic walls by mashing or upsetting the end of a sleeve of soft metal through the use of screw devices.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claim and illustrated by the accompanying drawing, in which—

Figure 1 is a central longitudinal section of one of my improved plugs ready for insertion in a hole. Figs. 2 and 3 are opposite end elevations of the same. Fig. 4 is a central longitudinal section illustrating one of the plugs in position in a wall.

In the construction of the device as shown the numeral 10 designates a sleeve which is formed at one end with an integral flange or head 11, said flange or head being formed angular in elevation to facilitate holding the same by means of a wrench or similar tool. The sleeve 10 and flange 11 are formed of some soft metal such as lead or suitable composition. At its opposite, or inner, end, the sleeve 10 is formed with a conical depression 12 communicating with its bore, whereby the said end portion has tapering walls which are very thin at the extreme end portion. A bolt 13 is provided and is adapted to be mounted loosely in and extend through the sleeve 10. The bolt 13 is formed with a countersunk head fitted in a general way to the conical depression of the inner end of the sleeve 10, and said head preferably is of the same diameter as the inner end of the said sleeve, and is plane and smooth on its top. A nut 14 is adapted to be screwed on the end of the bolt 13, and a washer 15 preferably is mounted between said nut and the outer face of the flange or head 11.

In practical use the sleeve 10 is mounted through a hole in the wall such as 16 of a boiler, pipe, or other metallic object, it being

desired to stop or plug such hole. A wrench or similar tool is employed to tighten the nut 14 on the screw 13, said members being formed of hard metal such as steel. The strain thus applied between the nut 14 and head of the bolt has the effect of mashing, upsetting, flattening and riveting the thinned inner end of the soft sleeve 10, to form a bur or head such as 17 (Fig. 4) on its inner end, against the inner face of the wall 16. In this manner the sleeve 10, with its flange 14 on the outside and bur or head 17 on the inside of the wall, forms an effective plug for the hole in which it is mounted, the flange and bur being brought into close and intimate contact with the respective faces of said wall and effectually sealing the hole. The head of the bolt is also forced into intimate contact with the burred end of the sleeve, and the nut and bolt serve to hold the softer metal in place to the desired end. If desired the head of the bolt 13 may be formed with a peripheral rib or tooth 18 on its inner face to assist in gripping the end of the sleeve 10. During the operation of tightening the nut 14 and mashing the sleeve 10, the flange 11 may be engaged and held by another wrench.

The devices may be made in different sizes to fit different holes, the chief difference being in the diameter of the sleeve, and in its length to fit walls of different thickness. The sleeve should fit quite snugly within the hole which it is desired to stop, and if necessary the hole may be reamed out to take the desired size of plug, or such as is available.

This device affords a simple and convenient form of plug, which may be employed by a person not particularly skilled in such matters, and without needing many or expensive tools to do the work.

I claim as my invention—

A hole stopper composed of a sleeve having an integral outwardly extending flange at one end adapted to engage the outer face of the part having a hole to be stopped, said sleeve having its interior at its opposite end flared outwardly to form a gradually outwardly thinning wall, said flare being formed so as to extend in part within the hole, a bolt in the sleeve having a conical head and being formed so as to extend in part within the hole and being receivable in said flared end of the sleeve, a nut on the bolt bearing

against said flange, a convex part on the inner wall of the hole and also against the
conical head of the bolt between the ends of inner face of the part having the hole, and
said conical head to positively engage the a circular rib on the outer end of the conical head of the bolt spaced from said con-
inner face of said thinned wall of said sleeve vex part. 10
5 at a point substantially central of the length
of said thinned wall to crowd the outer end
of said thinned wall outwardly against the

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