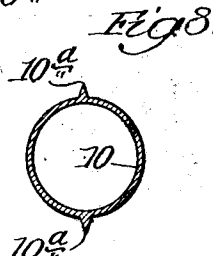
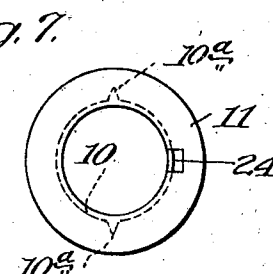
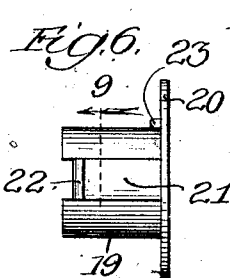
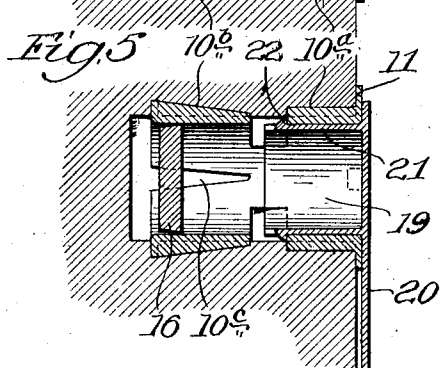
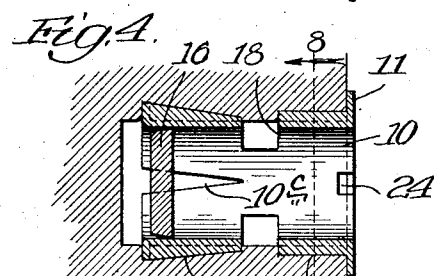
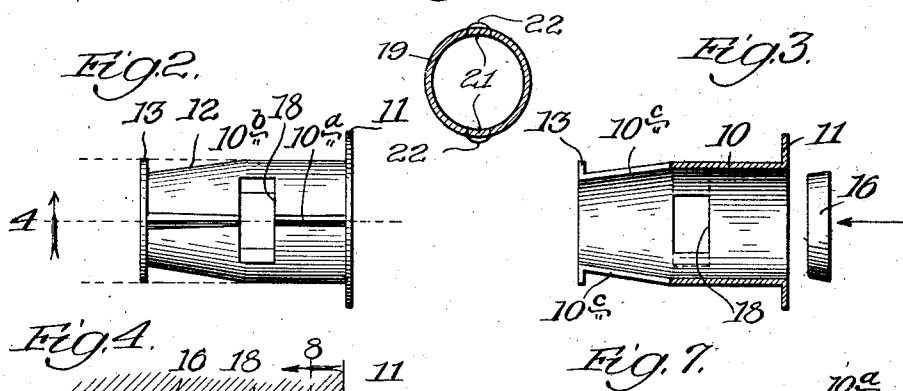
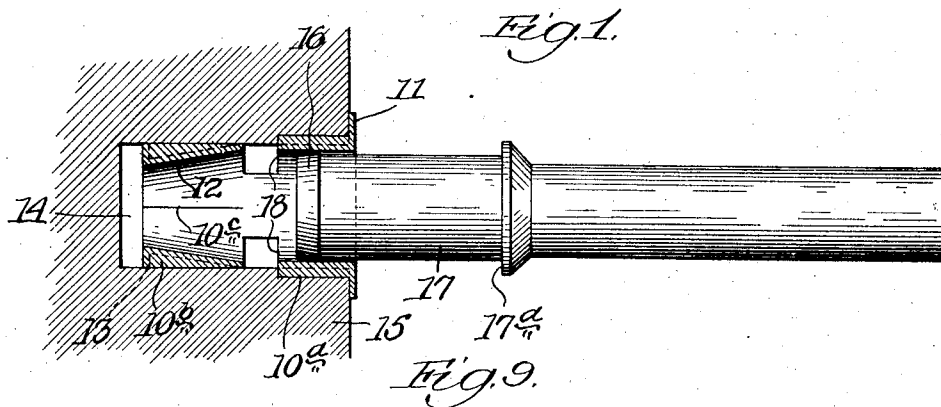


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J. A. DEDOUCH
EXPANSIBLE FASTENING
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UNITED STATES PATENT OFFICE.

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EXPANSIBLE FASTENING.

Application filed December 19, 1925. Serial No. 76,465.

This invention relates to expansible fastenings and is particularly adapted to be used for securing metal plates and the like on wooden blocks or on tombstones or other flat surfaces.

The invention is fully described in the following specification and shown in the accompanying drawings, in which:

Figure 1 is an enlarged longitudinal section through the device showing it inserted in an opening preparatory to securing it in an opening;

Fig. 2 is a side elevation of the device before it is inserted;

Fig. 3 is a longitudinal sectional view of the same taken at right angles to that shown in Fig. 1;

Fig. 4 is a longitudinal section on the line 4 of Fig. 2 showing the device secured within an opening;

Fig. 5 is a similar view showing a member secured thereto;

Fig. 6 is a top plan view of said member before insertion in the fastening device;

Fig. 7 is a front elevation of the device as shown in Fig. 4;

Fig. 8 is a transverse section of the device on the line 8 of Fig. 4; and

Fig. 9 is a partial section on line 9 of Fig. 6.

The embodiment illustrated comprises a fastening device having a tubular body 10 and a flange 11 at one end while the opposite end is tapered at 12 and terminated preferably in a flange 13, the diameter of which is substantially equal to the diameter of the body 10.

This device is intended primarily to be inserted in holes bored in wooden articles, but it will also be apparent that it may be used in stone and the like.

In Fig. 1, the device is shown inserted in an opening 14 in a block of wood or the like 15, the opening 14 being slightly deeper than the device so that the flange 11 rests against the face of the block. A slightly tapered disk 16 is inserted into the device, the smaller end of the disk entering first and a flat circular tool 17 is inserted behind this disk. By striking the outer end of the tool 17 with a hammer the disk 16 is driven into the tapered portion 12 thereby causing the same to spread and forcing the flanged portion 13 outwardly, spreading the body portion which is slitted at 10^c, into the body of wood or stone surrounding the hole 14 until

it assumes the position shown in Fig. 4. This flange then grips the interior wall of the hole so that the fastening device cannot readily be removed as long as the tapered disk 16 remains in place. If desired the shoulder 17^a may be placed upon the tool 17 to limit the depth to which the disk 16 will be driven.

To prevent rotation of the device 10 within the opening 14, I have provided longitudinal fins 10^a and 10^b which cut into the walls of the opening 14.

It will be seen from the foregoing that a very ready means is thus provided for attaching my device to the block 15, the means for securing said device to the tubular member 10 not having been described however. As one form of such a fastening, I have provided openings 18 which are preferably placed on opposite sides of the tubular member 10. A tubular member 19 secured to a flange or plate 20, has spring fingers 21 terminating in tapered ledges 22 as shown in Figs. 5 and 6, these ledges being preferably so positioned as to snap into the openings 18 when the plate 20 is substantially in contact with the flange 11. To prevent rotation of the tubular member 19 within the tubular device 10, I have provided a lug 23 on the side of the tubular member 19 which is adapted to engage in a recess 24 in the tubular member 10.

Thus it will be seen that after the tubular device 10 is set in the face of wood or stone as shown in Fig. 4, a metal plaque, medalion or the like (not shown) may be secured to the flange 20 of the tubular member 19 and the whole firmly secured to the fastening device by inserting the tubular member 19 into the latter until the shoulders 22 of the spring fingers 21 snap into engagement with the edges of the openings 18. After this the tubular member 19 cannot be removed without damage to itself or to the fastening device 10 and it also serves to prevent the disk 16 from being displaced.

If it is desired to make the member 19 removable, it is necessary only to omit the lug 23 and to round the ends of the shoulders 22 as shown in Fig. 9, so that on turning the member 19 the shoulders 22 will be depressed by the edges of the openings 18, thereby permitting these shoulders to pass under the body of the member 10 when the tubular member 19 can be withdrawn.

While I have shown and described but a single embodiment of this invention, it is to be understood that it is capable of many modifications. Changes therefore in the construction and arrangement may be made which do not depart from the spirit and scope of the invention as disclosed in the appended claims.

I claim:

10 1. In a device of the class described, a hollow slitted member adapted to be inserted into a hole, a metal disk adapted to be driven therein to expand said hollow member into contact with the walls of said hole, said disk being tapered to permit its entrance and having a sharp outer edge adapted to engage the inner surface of said hollow member to prevent the withdrawal of said disk and means on the outer face of said hollow member for gripping the walls of said hole whereby said device may be secured in a shallow hole.

25 2. In a device of the class described, a hollow slitted member adapted to be inserted into a hole, a metal disk adapted to be driven therein to expand said hollow member into contact with the walls of said hole, means on the outer face of said hollow member for gripping the walls of said hole, and an annular rib on the outer face of said hollow member for gripping the walls of said hole.

30 3. In a device of the class described, a hollow slitted member adapted to be inserted into a hole, a metal disk adapted to be

driven therein to expand said hollow member into contact with the walls of said hole, means on the outer face of said hollow member for gripping the walls of said hole, an opening in the side of said hollow member, and a second member insertable into said hollow member and having means for engaging said opening to prevent withdrawal of said second member.

4. In a device of the class described, a hollow slitted member adapted to be inserted into a hole, a metal disk adapted to be driven therein to expand said hollow member into contact with the walls of said hole, means on the outer face of said hollow member for gripping the walls of said hole, an opening in the side of said hollow member, a second member insertable into said hollow member and having means for engaging said opening to prevent withdrawal of said second member, and means for preventing rotation of the second member in the first mentioned member.

5. In a device of the class described, a hollow slitted member adapted to be inserted into a hole, a metal disk adapted to be driven therein to expand said hollow member into contact with the walls of said hole, means on the outer face of said hollow member for gripping the walls of said hole, a ledge within said hollow member, and a second member having means adapted to engage said ledge to secure said members together.

JOSEPH A. DEDOUCH.