H. D. GRINNELL.

INCANDESCENT LAMP BASE REMOVER.

APPLICATION FILED JAN. 2, 1919.

1,319,028. Patented Oct. 14, 1919.

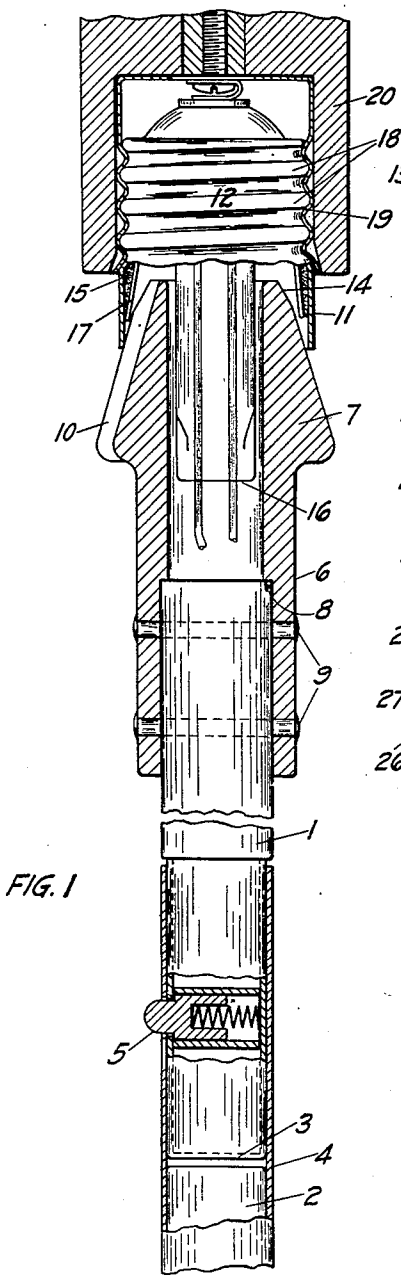


FIG. 1

FIG. 2

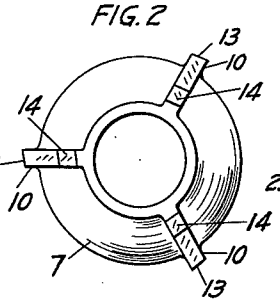


FIG. 3

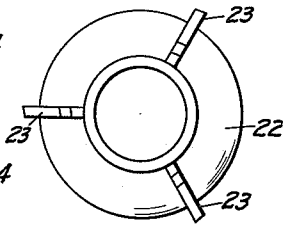


FIG. 4.

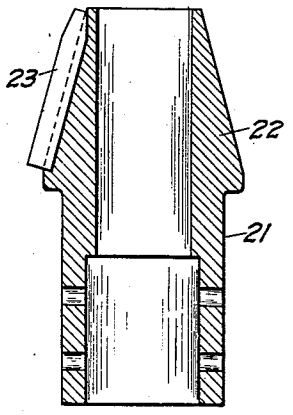


FIG. 6

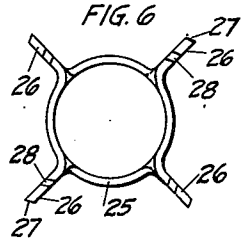
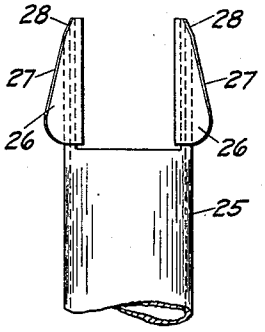


FIG. 5



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INCANDESCENT-LAMP-BASE REMOVER.

1,319,028. Specification of Letters Patent. Patented Oct. 14, 1919.

Application filed January 2, 1919. Serial No. 269,300.

To all whom it may concern:

Be it known that I, HAROLD D. GRINNELL, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Incandescent-Lamp-Base Removers, of which the following is a specification.

This invention relates to apparatus for removing the metallic base of broken incandescent lamps placed in elevated positions beyond the reach of the operator. Although constituting a distinct and independent invention, it is designed to supplement apparatus heretofore used in removing and replacing incandescent lamps in which the bulb or globe remains intact and provides the necessary medium for the engagement of holding or clamping members. That class of apparatus is sufficiently illustrated and represented by U. S. Patent No. 1,288,873, issued to Harold D. Grinnell, Dec. 24, 1918. Its use is largely restricted, however, to unbroken globes. The present invention is intended to provide a convenient and simple form of implement adapted to unseat the base of lamps placed beyond the reach of the operator and when the globe has become so mutilated that the usual class of gripping instruments adapted to grasp the globe are inadequate under these conditions.

Referring to the accompanying drawings, illustrating a preferred form of embodiment of my invention, Figure 1 is a longitudinal vertical section of the assembled device operatively engaging an incandescent lamp base of the screw type; Fig. 2, a top view of the reamer or clutch portion; Fig. 3, a similar view of a modification disclosing removable reamer blades; Fig. 4, a longitudinal vertical section of the modification shown in Fig. 3; Fig. 5, a side elevation of a further modification of the reamer portion, the lower end being cut away; and Fig. 6, a top view of the same.

The device comprises a reamer or clutch portion and a handle portion. The handle portion is formed preferably of a number of detachably connected sections 1, 2, etc., fitted end to end, the opposing ends being incased in tubing of non-corrosive metal forming male and female members 3, 4, and held together preferably by a spring-actuated press-button 5 seated transversely in the inner member for projection through a suitable registering opening provided in the wall of the outer member. The number of sections employed is accordingly determined by the length of handle required for a given task.

The reamer or clutch portion is mounted on the extreme outer section 1 of the handle portion, and consists of a tubular structure having a shank 6 and a head or clutch 7, preferably, but not necessarily, formed integral. The shank is adapted to receive at its inner end the outer extremity of the handle section 1, which fits into it a suitable distance to insure strength and rigidity of union, a corresponding length of the bore of the shank having the same diameter as the handle stock while the remainder of the bore is somewhat reduced, forming a seat 8 at the inner end of the larger bore adapted to prevent upward displacement of the handle. Relative axial or rotary movement of the clutch portion and the handle portion is prevented by pins 9, 9, extending transversely through both parts.

The walls of the clutch portion are preferably thickened at the outer end to provide a head 7 of conical formation as a suitable support for a series of gripping or clutch members 10, 10, etc., preferably in the form of integral ridges extending vertically from the base to the apex of the head and arranged at equi-distant intervals on its circumference, the number of such ridges being sufficient to provide an even contact and firm engagement with an annular seating object, such as the outer edge of the skirt or flange 11 on the base 12 of an incandescent lamp of any approved type and into which the clutch 7 is projected for purposes of removal. To this end each of the gripping members 10, 10, etc., is slightly beveled cross-wise to provide an effective cutting edge 13 extending substantially throughout its length, while the angle of its inclination at the upper extremity is increased to provide a suitable reaming face 14 for effectively removing a portion of the insulation filling 15 normally inclosing the filament tube 16 within the base 12, as illustrated in Fig. 1, before the base can be removed. In operation, the clutch portion is employed to break away any remnants of the glass bulb 17 extending beyond

the base before reaming out the insulation filling 15.

The form of lamp base herein shown is of the screw type, having exterior threads 18 adapted to engage corresponding threads provided by the metallic lining 19 of a porcelain socket 20. It should be pointed out that while I prefer to employ a solid conical head at the outer end of the clutch portion as a suitable form of support for the gripping and reaming elements, as illustrated in Figs. 1 and 2 of the preferred type, and in Figs. 3 and 4 of a modification, of my invention, I do not intend to limit the scope of the invention thereby, as I am aware that other suitable forms of support or open structures may be advantageously adapted to the purpose.

In the modification of the clutch portion shown in Figs. 3 and 4, I provide a shank 21 having a conical head 22 fitted with separate gripping members or blades 23, 23, etc., of tempered steel cast in the head and susceptible of removal and replacement, but otherwise similar in general formation and function to the type of integral ridges 10, 10, etc., previously described.

In the further modification of the clutch portion shown in Figs. 5 and 6, I provide an integral tubular structure having a shank 25 and a head comprising a series of blades 26, 26 etc., formed out of the body of the shank and bent into suitable angular position, the outline of each blade being similar to the formation of the preferred type, and suitably ground to provide cutting and drilling edges 27, 28, etc.

The operation of my device will be sufficiently understood from the foregoing description.

I claim:

1. A lamp-base remover for adaptation to incandescent lamps having a base required to be rotated for removal, and comprising a handle; and a tubular clutch-member mounted on one end of the handle and having a plurality of straight edge-members arranged convergently to each other for engaging the rim of the lamp base.

2. A lamp-base remover for adaptation to incandescent lamps having a hollow base of the screw type, and comprising a handle; and a clutch member mounted on one end of the handle and adapted for projection at its outer end into the lamp base, and having a series of inclined edge-members for engaging the rim of the lamp base, said edge-members having a substantially straight line cutting edge, a portion of the length of said cutting edge being arranged at an angle to the remaining portion.

3. A lamp-base remover for adaptation to incandescent lamps having a base required to be rotated for removal, and including a handle; a tubular member secured to the handle and comprising a shank and a head; and a plurality of straight edge-members carried on said head and arranged convergently to each other for engaging the rim of the lamp base.

4. A lamp-base remover for adaptation to an incandescent lamp having a hollow base of the screw type and a filament support extending centrally out of the base, and comprising a handle; a tubular member mounted on one end of the handle and having a bore at its outer end to receive said filament support; and a series of inclined blades carried on the outer end of the tubular member and arranged circumferentially thereon in the direction of its length for engaging the rim of the lamp base.

5. A lamp-base remover comprising a handle; and a tubular extension member carried on one end of the handle and having a head of conical formation, said head having a series of edge-members arranged at equi-distant intervals on its circumference and extending in the direction of the length of the head, each of said edge-members having a milling face provided on its forward extremity arranged at an angle to the direction of its length for engaging the rim of the lamp base.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HAROLD D. GRINNELL.

Witnesses:
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MICHAEL L. EISNER.