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J. ROSENBERG

ILLUMINATING BRACE

Filed July 31 1925

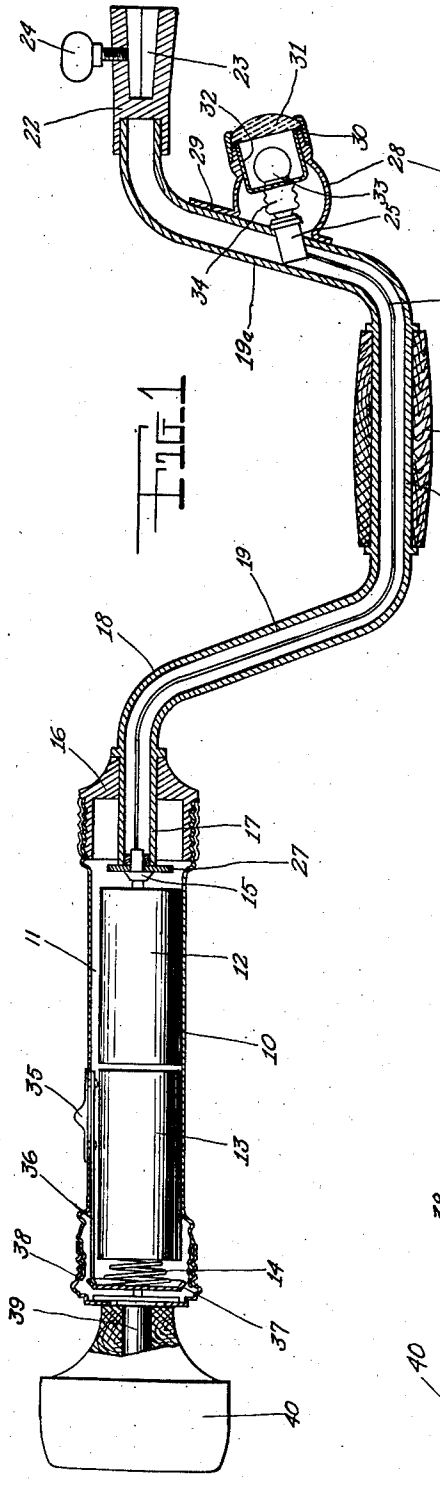


FIG. 1

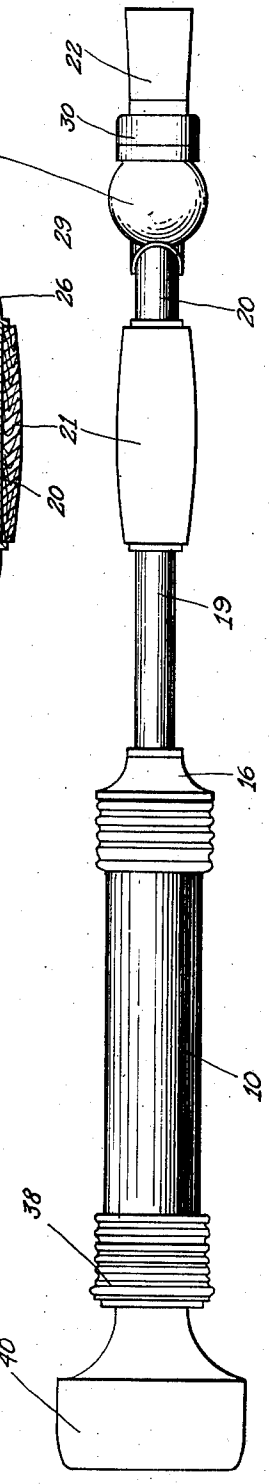


FIG. 2

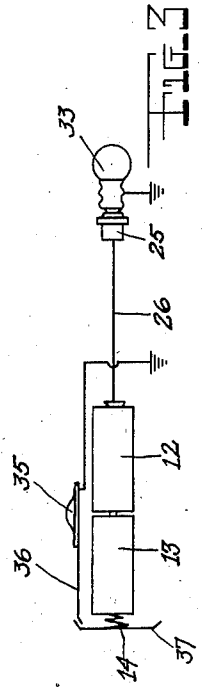


FIG. 3

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ILLUMINATING BRACE.

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The main object of this invention is to provide a boring brace having means thereon for illuminating the area in front of the drill or boring tool.

Another object is to provide a boring brace having means thereon for illuminating the area around the tip of the drill or boring tool, which illuminating means may be selectively used, accordingly as the time is night or day, or under similar conditions.

Still another object is to provide a rim tool for affixing or removing automobile tires in the darkness.

The above and other objects will become apparent in the description below, in which characters of reference refer to like-named parts in the drawing.

Referring briefly to the drawing, Figure 1 is a longitudinal sectional elevational view thru the boring brace, showing the construction thereof in its entirety.

Figure 2 is an external top plan view of Figure 1.

Figure 3 is a wiring diagram of the illuminating means used with the boring brace.

Referring in detail to the drawing, the numeral 10 indicates a hollow cylinder which forms the upper part of the brace and a chamber 11 contained in the cylinder is adapted to serve as storage room for a pair of dry cells 12 and 13 which are placed with their opposing poles end to end, as illustrated in Figure 1. These dry cells 12 and 13 are retained in place in the cylinder 10 by a coil spring 14 which urges said dry cells downwardly so that the pole of the lower dry cell lies in contact with a terminal stud 15 which is located at the bottom of the chamber 11. This cylinder is permanently mounted on a collar 16 in which one end 17 of a tubular crank 18 is secured. The crank is U-shaped in outline and is hollow thruout its length, and at the position connecting the arms 19 and 19ª of the crank and indicated by the numeral 20, a handle sleeve 21 is rotatably mounted. Extending downwardly from the arm 19ª of the crank, a head member 22 is secured to the end of the crank and extends downwardly parallel to the cylinder 10 and coaxial therewith and has a tapering square socket 23 therein in which the end of a bit is secured by tightening down the thumb screw 24 which threadably engages the head 22. Intermediate the length of the arm 19ª and extending angularly downward therefrom, a terminal member 25 is secured in said arm and connected to this terminal 25, is one end of a current carrying wire 26 which is insulated from the crank 18 and passes thru portions 20 and 19 of the crank and has its opposite end connected to the terminal stud 15 which is also insulated from the crank 18 by a flange 27. The projecting portion of this terminal element 25 is contained within a spherical housing 28 which is rigidly mounted and integral with a semicircular saddle 29 and has threads thereon at an opening above the spherical portion which are engaged by a threaded ring 30 which serves to retain the glass lens 31 in place. Beneath this glass lens within the housing 28, a reflector hood 32 is secured, and in this reflector hood, a filament lamp 33 is threadably mounted, the threaded shell socket 34 of the filament lamp being adapted to thread into an opening in the reflector hood and also serve as a terminal.

Slidably mounted on the cylinder 10 is a carriage 35 which is provided with downwardly extending pins to which one of the ends of a resilient metallic finger 36 is secured. This metallic finger extends upwardly toward the upper open end of the cylinder 10 and is bent at its upper end so it may be readily urged into contact with the surface of a dished element 37 on which the spiral spring 14 is mounted. This dished element is mounted on a cap 38 which threadably engages the upper open end of the cylinder 10 and closes the latter and has rotatably mounted thereon a stud 39 on which a breast support 40 is fixed.

This boring brace is provided with means which are adapted to illuminate the field around the tip of the boring bit when the latter is being used in darkness. The housing 28 being mounted angularly, which angle extends toward the axis of the head 22 at a position beneath the same, causes the bulb 33 when energized to illuminate the field around the lower end of the bit. When the circuit is open, the carriage 35 is in a position so that the resilient finger 36 does not contact with the dished element 37. In order to close the circuit, this carriage 35 is urged toward the upper end of the cylinder 10 until the resilient finger contacts with the edge of the dished element 37. By accomplishing

this movement, the circuit is closed thruout the entire tool and courses in this manner. The current flows from the series arranged dry cells 13 and 12 thru the terminal stud 15 and thence thru the wire 26 into one of the terminals of the filament lamp 33. The current then flows thru the filament lamp, thru the socket 34, and thence is grounded thru the reflector hood, the housing 28, the entire crank member 18, and thence thru the cylinder 10 to the resilient finger 36, and into dry cell 13 thru the dished element 37 and spiral spring 14, thus completing the circuit, which provides an illuminating field below the tip or end of the boring brace.

The head 22 of the brace is adapted to interchangeably receive a bit or a rim tool accordingly as desired by simply slipping the square shank of the rim tool or bit into the socket 23 of the head 22. Said brace is primarily desired to receive a rim tool in said head which is used to remove or mount tires in place on the wheels of automobiles or the like.

I claim:—

1. A device of the class described comprising a crank, a bit head at one end of said crank, a cylinder mounted at the opposite end of said crank, said crank having a pair of off-set arms connected by an intermediate member, a housing on the lower arm, a saddle integral with said housing partly encircling said arm, said housing being mounted angularly on one of said arms, said angle extending toward the axis of the bit head, a lens covering said housing a reflector hood in said housing, a filament lamp mounted in said reflector hood, and means mounted in said cylinder for illuminating the filament lamp.

2. A device of the class described comprising a crank, a bit head at one end of said crank, a cylinder mounted at the opposite end of said crank, said crank having a pair of off-set arms connected by an intermediate member, a housing on the lower arm, said housing being mounted angularly on one of said arms, said angle extending toward the axis of the bit head, a lens covering said housing, a reflector hood in said housing, a filament lamp mounted in said reflector hood, dry cells arranged in series in said cylinder, a terminal mounted on one end of said crank and insulated therefrom, a terminal element mounted in one of said crank arms and housing and insulated from the crank arm, a wire connecting both terminal members, said wire being adapted to pass current from the cells thru one of the terminals of the filament lamp, the opposite terminal of said lamp being in grounded circuit thru said crank arm, and a switch adapted to open and close the circuit thru the filament lamps and dry cells.

3. A device of the class described comprising a crank, a bit head at one end of said crank, a cylinder mounted on the opposite end of said crank, said crank having a pair of off-set arms connected by an intermediate member, a saddle secured to the lower arm, a hemi-spherical housing forming part of said saddle, said housing having an opening therein, a lens covering said opening, a filament lamp in said housing, a reflector being mounted angularly in said housing, a cap securing said lens in place, dry cells in said cylinder, a terminal mounted in one of said crank arms, said terminal being mounted angularly and insulated from the crank arm, and a wire connecting the dry cells and terminal.

In testimony whereof I affix my signature.

JULIUS ROSENBERG.