

United States Patent

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[54] EXCHANGEABLE GREASE GUN TIP

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141/383-385

[56] References Cited

UNITED STATES PATENTS

3,554,324 1/1971 Watley et al.184/105 C

1,655,213	1/1928	Zerk.....	184/105 B
2,259,977	10/1941	Kelly.....	184/105 B
3,180,533	4/1965	Sundholm.....	184/105 B X

FOREIGN PATENTS OR APPLICATIONS

434,140	8/1935	Great Britain	184/105 C
571,181	12/1957	Italy	184/105 C

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[57]

ABSTRACT

An interchangeable grease gun tip swingably engaged to a clamping jaw socket and provided with a nut on its rear end for engagement with the front end of a grease gun mouthpiece and aligning the tip.

6 Claims, 3 Drawing Figures

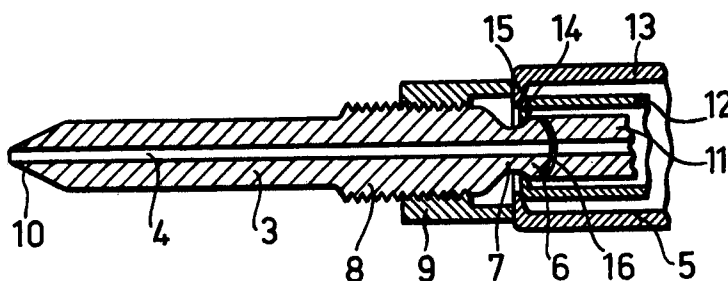


FIG.1

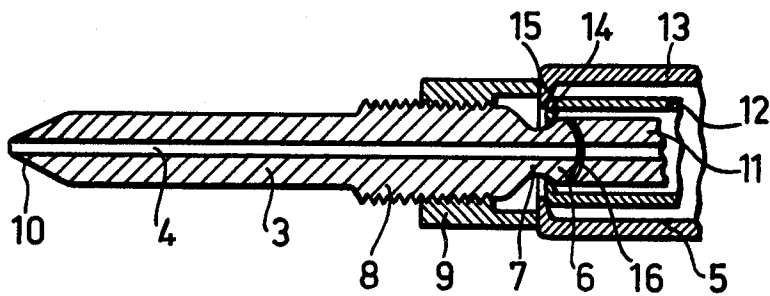


FIG.2

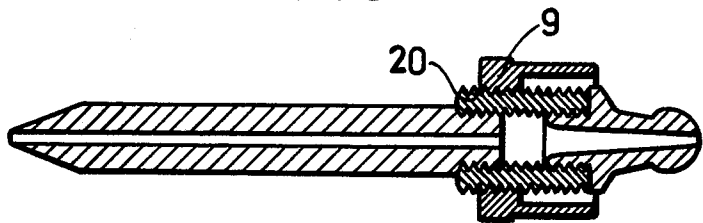
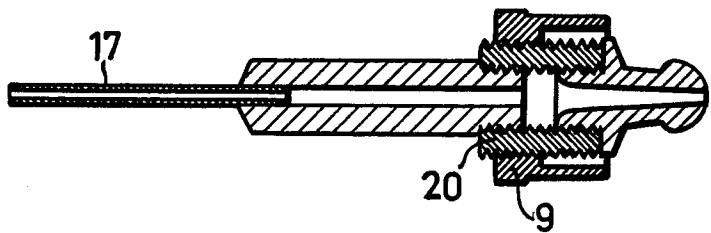


FIG.3



EXCHANGEABLE GREASE GUN TIP

The invention relates to an interchangeable grease gun tip.

It is known to provide a grease gun mouthpiece with a removable tip, having a nipple-like end which engages into a clamping jaw socket, standing under spring pressure, of the grease gun mouthpiece and is retained by this latter. Such a mounting of the tip does indeed allow rapid interchange, but brings an important disadvantage with it, namely that the tip can be aligned axially either not at all, or only with the aid of complicated means which are expensive. Such means are therefore often dispensed with, more especially if frequent interchanging of tips occurs. This has, however, the disadvantage that the tip is more or less freely pivotable about the nipple, so that, when greasing points which are difficult of access, one often has to align the tip several times before the intended location is exactly encountered. The exertion of axial pressure is practically impossible since the tip immediately pivots out of axial alignment. Furthermore, in such a position the sealing surface of the nipple becomes ineffective, so that grease gushes forth between the clamping jaws and thus constantly clogs the mouthpiece.

The main object of the innovation is to obviate these disadvantages.

To this end, the invention provides an interchangeable grease gun tip with a nipple which can be introduced into a clamping jaw socket of a grease gun mouthpiece and around which the tip is limitedly swingable, characterized in that following on a tapered neck of the nipple, towards the outlet end of the tip, is an external screw threaded part, on which a nut 9 is mounted in such a way that, in its position nearest the inlet end of the tip, it butts with its corresponding end face flush against the front face of the mouthpiece and by this means aligns the tip axially and prevents pivoting of the tip, whilst, in a position nearer the outlet end of the tip, it permits pivoting and thereby removal of the tip from the mouthpiece.

Further characteristics and advantages of the invention emerge from the following description and the accompanying drawings, in which:

FIG. 1 is a diametrical longitudinal section through a tip in accordance with the invention, connected to a grease gun nozzle;

FIG. 2 is a similar section through a modified embodiment of the tip; and

FIG. 3 is a similar section through a further modified embodiment of the tip.

Reference 3 in the drawings designates a tip, which has a central axial grease duct 4, and a rearward end 6 in the shape of a nipple engaging into a mouthpiece 5 of a grease gun (not shown completely). Clamping jaws 14, under spring pressure, are applied to the tapering neck 7 of the nipple. Following on this latter, towards the front end of the tip, is a thickened section, which is surrounded by an external screwthread 8. The nipple 6 is applied at its sealing surface 16 against a packing 11 which consists of plastics material or rubber and is also penetrated by an axial grease duct, and is surrounded by the clamping jaws, which end rearwardly in a small tube 12.

The axial mobility of the clamping jaws is inhibited forwardly by an annular seat 15 on the mouthpiece outer jacket 13. This annular seat forms, externally, a ring-shaped front face, against which a nut 9, screwed onto the external screwthread 8 of the tip, can be brought into abutment. This nut 9 preferably has a cylindrical outer surface which is at least partially made to afford a good grip by patterning, whilst its rearward part is provided with an inner offset running round.

The tip preferably tapers conically to the outlet end 10, as is shown in FIGS. 1 and 2. It is, however, also possible to form the outlet end of the tip by pressing a steel tube 17 into the grease duct 4. Also the tip does not need to be straight, but can be curved or angular if desired.

From a manufacturing point of view it can be advantageous to manufacture the nipple and tip as separate parts, if necessary

from different material or qualities of material. Their facing ends are in such circumstances preferably provided with an external thread and are each screwed into a thickened section designed as a hollow cylindrical part 20 having an internal and an external thread, as is shown in FIGS. 2 and 3. In this connection, their facing ends can be placed at a distance as far as possible from each other.

Use of the tip of the invention is simple. The nipple is forced into the clamping jaw socket of the mouthpiece, in which connection the forwardly turned front face of the nut serves as a pressure working surface (surface of attack). The nipple can be pressed in both in the axial direction and in a canted position. Then the nut is brought into abutment against the outer face of the annular seat, by which means in the closing phase of this screwing motion, exact axial alignment of the tip is effected. The nut can also be securely tightened, for withdrawal of the nipple in the axial direction is not possible. For the purpose of removal of the tip from the mouthpiece, one loosens the nut once more, cants the tip and removes the nipple in lever fashion from its socket, which can be done rapidly and easily.

A tip designed in this manner and mounted in the mouthpiece of a grease gun is immovable by stresses of any kind, more especially in the radial direction. Although the specific embodiment shown and described represents a preferred embodiment, modifications within the framework of the inventive idea are possible.

I claim:

1. In a grease gun having a mouthpiece with a generally-flat shoulder formed on the outlet end thereof, spring-loaded clamping jaws within said mouthpiece and a removable tip comprising an elongated body having a central axial grease duct therethrough and a nipple with a tapered neck on the inlet end thereof fitting into said clamping jaws and clamped therein; the improvement comprising, an externally-threaded portion formed on said tip adjacent said tapered neck of said nipple and an internally-threaded nut means, mounted on said threaded portion of said tip, having a generally-flat shoulder on the end thereof adjacent said inlet end of said tip and an internal diameter sufficiently large to extend at least partially over said neck of said nipple and contact said shoulder of said nut with said shoulder of said mouthpiece to apply sufficient pressure against said mouthpiece to axially align said tip with said mouthpiece and prevent withdrawal of said nipple from said clamping jaws when said tip is in operative position on said grease gun and said nut is screwed toward said mouthpiece.

2. A grease gun tip in accordance with claim 1 wherein the externally threaded portion of the elongated body is a thickened section and the portion of the nut adjacent the shoulder thereof has an inner step extending over the internal circumference of said nut.

3. A grease gun tip in accordance with claim 1 wherein the main portion of the elongated body is externally threaded at its inlet end and is a separate part from the nipple with the tapered neck, the tapered neck has an externally threaded extension on the opposite end with respect to the nipple and the externally threaded portion of said elongated body is formed by an externally and internally threaded connector having dimensions such that the elongated body portion and the nipple portion may be threaded into said connector.

4. A grease gun tip in accordance with claim 3 wherein the elongated body portion and the nipple portion are manufactured of two different materials.

5. A grease gun tip in accordance with claim 3 wherein the elongated body portion and the nipple portion are manufactured of materials of two different qualities.

6. A grease gun tip in accordance with claim 1 wherein the outlet end of the elongated body portion has a steel tube pressed into the grease duct of said tip.

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