United States Patent [19]

Moen

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[54] **GRIP DEVICE**

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[52] **U.S. Cl.** **128/354,** 279/51

[51] **Int. Cl.** **A61b 17/30**

[58] **Field of Search** 279/51; 128/354

[56] **References Cited**

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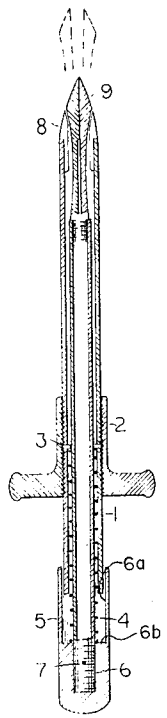
[57] **ABSTRACT**

A hand and spring operated tubular pocket size device used to grip and hold small things.

1 Claim, 2 Drawing Figures



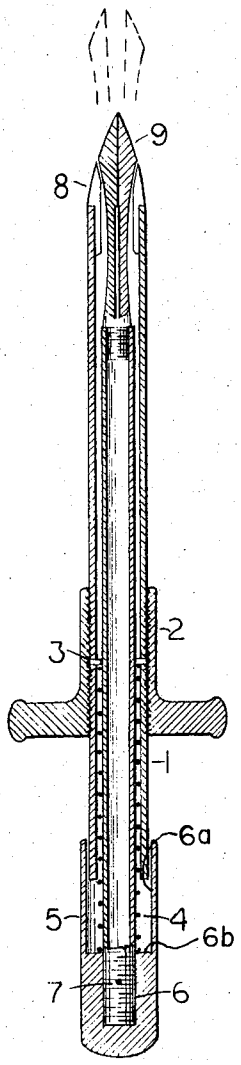


FIG. 2

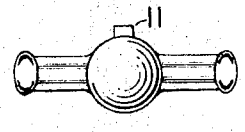


FIG. 1

GRIP DEVICE

This invention relates to a device used for injecting thin also flexible needles into a live body or limbs. As long as five inch needles also extracted.

Reference will now be made to the accompanying drawing, in which:

FIGS. 1 and 2 are top plan and longitudinal sectional views, respectively, of the grip device of the present invention.

Referring to the drawing, the grip device includes a tubular body 1 upon which is externally threaded a sleeve 2 having radially outwardly extending handle portions 2*a*. Extending radially within the sleeve is a latch or washer 3 which serves as a seat for supporting the forward end of a coil spring 4. Mounted concentrically about the rear end of the body 1 is a cap or second handle member 5 which contains a threaded bore 6 and a counterbore 6*a* which defines a transverse wall 6*b* against which is seated the rear end of the coil spring 4. Tubular push rod 7 is threadably connected at its rear end with bore 6 of cap 5 and extends longitudinally through the coil spring 4. Threadably connected with the forward end of the push rod 7 are spring jaws 9 which are normally biased radially apart. When the push rod is retracted within the tubular body by coil spring 4 to the illustrated retracted position, radially inwardly directed cam surfaces on the guide means 8 cause the spring jaws to be radially inwardly compressed into tight engagement with the object to be gripped (for example, a needle, not shown). The spring jaws may be slightly knurled or cross rifled. A pocket clip 11 is secured to the sleeve 2.

In operation, when pressure is applied to the push rod 7 via cap 5, the spring jaws are displaced to the extended position, shown in phantom, for gripping and holding small items. Up to a five inch needle may be supported by the spring jaws. The needle may be injected a little at a time as the cap 6 is displaced forwardly of the tubular body 1.

I claim:

1. A grip device for gripping articles such as needles or the like, comprising

a. a tubular body member (1) having forward and rear ends;

b. a push rod (7) arranged in concentrically spaced relation within said body member for axial displacement between extended and retracted positions relative thereto, the rear end of said push rod projecting rearwardly beyond the rear end of said body member when said push rod is in the retracted position;

c. article gripping means (9) connected with the forward end of said push rod, said article gripping means including a plurality of radially outwardly biased spring jaws that are in a radially expanded condition when said push rod is in the extended condition, thereby to receive an article to be gripped;

d. cam means (8) connected with the forward end of said body member for radially contracting said spring jaws into gripping engagement with the article when the push rod is in the retracted position;

e. a cap (5) containing a threaded bore (6) and a counterbore (6*a*) that defines a transverse wall (6*b*), the rear end of said push rod being threadably connected with said threaded bore, said push rod having such a length and said cap being so dimensioned that when said push rod is in the retracted position, the rear end of said body member extends into said counterbore and terminates in spaced relation a predetermined distance from said transverse wall; and

f. spring means biasing said push rod toward the retracted position relative to said body member, said spring means including a coil spring (4) arranged concentrically about said push rod, the rear end of said spring being seated against said transverse wall and the forward end of said spring being seated against a spring seat defined on said body member, whereby said predetermined distance between said counterbore transverse wall and the rear end of said body member controls the extent of axial displacement of said push rod in the extended direction.

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