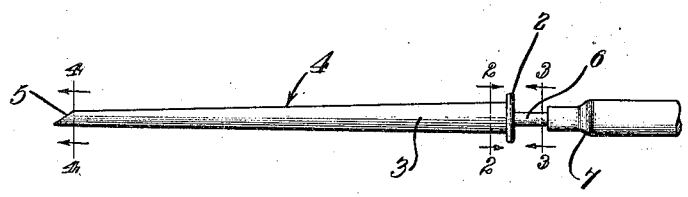
Aug. 21, 1923. 1,465,851

O. W. KRESS

HYPODERMIC NEEDLE

Filed Jan. 2, 1923

Fig. 1.



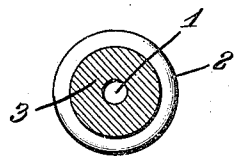


Fig. 2.

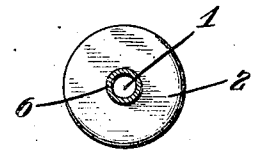


Fig. 3.

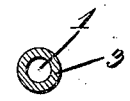


Fig. 4.

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Patented Aug. 21, 1923. 1,465,851

UNITED STATES PATENT OFFICE.

OSCAR W. KRESS, OF WATERLOO, IOWA.

HYPODERMIC NEEDLE.

Application filed January 2, 1923. Serial No. 610,236.

To all whom it may concern:

Be it known that I, OSCAR W. KRESS, a citizen of the United States, residing at Waterloo, in the county of Blackhawk and State of Iowa, have invented a new and useful Hypodermic Needle, of which the following is a specification.

The device forming the subject matter of this application is a hypodermic needle, and, in order that the objects of the invention may be understood clearly, and to the end that the specific problem to be solved may be presented properly, it is necessary to comment at some length, but without derogation, upon the prior art.

It is a matter of common knowledge that a hypodermic needle often breaks or bends when in use, and, if bent, is straightened, a complete rupture occurring subsequently at the point of bending and straightening, and a portion of the needle remaining embedded in the tissue. To remedy this condition, it has been proposed hitherto to mount upon the needle a guard which is adjustable longitudinally of the needle, the needle being of a common diameter and of a uniform strength between the guard and the point of the needle, and the needle being reduced in diameter and weakened to the rear of the guard, upon the supposition that if the needle bends or breaks at all, it will do so at the point where it is weakened, the guard remaining exposed, so that the portion of the needle which is broken off may be readily withdrawn from the tissue wherein it is embedded.

Two difficulties present themselves, in the manipulation of a needle of the sort last above described. First, the operator, seeking a deep point of application, often shifts the adjustable guard until the weakened place, lies between the guard and the point of the needle, the result being that the needle breaks between the point and the guard, the severed part remaining inaccessibly embedded in the flesh. It is possible, to obtain from the prior art, the suggestion that the guard be fixed, but this does not afford an adequate remedy, in view of a second difficulty which will now be explained.

Even though the guard be fixed and the needle weakened to the rear of the guard, the needle sometimes will break between the point of the needle and the guard, if the needle is of uniform cross section and strength from the guard to the point of the needle. That portion of the needle which is immediately in front of the guard may be embedded in tough muscle tissue which reinforces the needle in front of the guard and closely adjacent thereto, the point portion of the needle being in relatively soft tissue, affording no reinforcement, and wherein a bone or other deflecting obstruction exists. Then, notwithstanding the weakening of the needle to the rear of the guard, the point may break off.

The undesirable features above enumerated are obviated in a hypodermic needle provided intermediate its ends with a fixed outstanding guard, and comprising a body which is increased in diameter gradually from its entering end to the guard, the needle comprising a weakened portion located to the rear of the guard and of less diameter than the body. So far as I am advised as to the state of the prior art, no one has supplied such a hypodermic needle, and it is the object of this invention to provide one.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the drawings—

Figure 1 shows in elevation and on a greatly enlarged scale, a hypodermic needle constructed in accordance with the invention; and Figures 2 and 3 and 4 are sections taken respectively on the lines 2—2, 3—3 and 4—4 of Figure 1.

The needle forming the subject matter of this application has a bore 1 of uniform diameter from end to end, and is provided intermediate its ends with a fixed outstanding guard 2, the needle comprising a body 3 which is increased gradually in diameter, as shown at 4, from its beveled entering end 5 to the guard 2, the needle comprising a weakened portion 6, of uniform diameter from end to end, the weakened portion 6 connecting the body 4 with the hub 7 of the needle, said portion 6 being of less diameter than

the body and the hub, and being located to the rear of the fixed guard 2. The tapered form of the body 3 reduces the pain incident to the initial introduction of the needle, and the general construction accomplishes the objects of the invention as hereinbefore set forth.

What is claimed is:—

A hypodermic needle provided intermediate its ends with a fixed outstanding guard and comprising a body which is increased in diameter gradually from its entering end to the guard, the needle comprising a weakened portion located to the rear of the guard and of less diameter than the body.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

OSCAR W. KRESS.

Witnesses:

E. R. McCoy,

Fern F. Dean.