

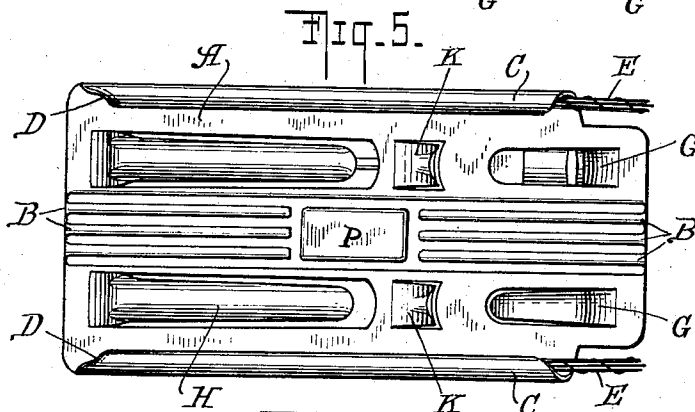
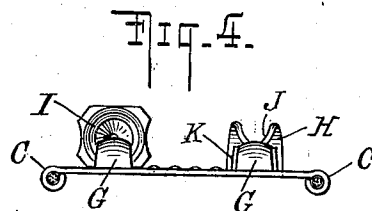
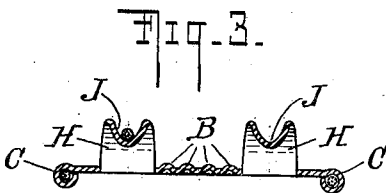
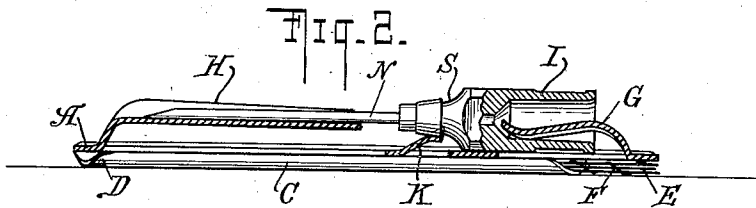
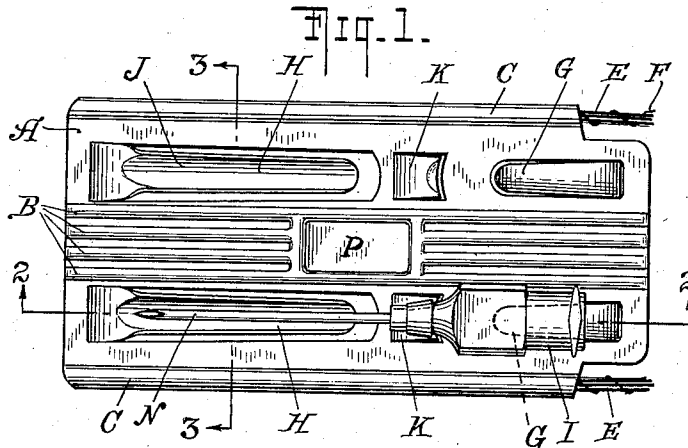
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NEEDLE CARRIAGE FOR HYPODERMIC NEEDLES

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WITNESS

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NEEDLE CARRIAGE FOR HYPODERMIC
NEEDLES

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The invention relates to a support for hypodermic needles and the object of the invention is to provide a convenient and compact implement of this type.

Hypodermic needles are generally sold either individually as loose needles or mounted on cards carrying a dozen. The loose needle with its unprotected point and absence of settled location when not in use, represents a variety of unsatisfactory conditions, while a card of twelve needles is frequently more than an individual user requires. It is accordingly of advantage to users of needles, particularly such as make their own injections of insulin, to have a definite repository for their own needles, one which can be conveniently handled and is not likely to become lost and in connection with which the point of the needle is protected. Such a needle carriage is provided by the present invention which not only holds the needles, protects their points, but is manipulatable with the greatest of ease.

Another feature of the invention is that the longitudinal edges of the needle support are so configured as to constitute a recess for the storage of a plurality of cleaning wires. Another feature of the invention is that by reason of its simplicity of manufacture it can be so inexpensively produced that it can be delivered without extra cost to the individuals purchasing the needles.

The invention is illustrated in the accompanying drawing in which Fig. 1 is a top plan view of a carriage for two needles with one needle in position. Fig. 2 is a longitudinal section on line 2—2 of Fig. 1. Fig. 3 is a cross-section on line 3—3 of Fig. 1. Fig. 4 is an end view looking toward the right end of Fig. 1. Fig. 5 is a bottom plan view, and Fig. 6 is a bundle of cleaners. For purposes of clear illustration the drawing is enlarged to twice the actual size.

In the drawing the plate A is a nickel or chromium-plated metal sheet strengthened by virtue of having a centrally located uncorrugated panel P and corrugations B extending laterally from said panel longitudinally of the plate and having its longitudinal edge portions curled over as indicated at C to form a cylindrical recess open at one end and bent over or closed at D at the other end. These curled-over portions C add further strength to the plate A and may be developed, as shown, as supporting rails for the structure. They also serve to hold a bundle of say six fine wires E (Fig. 6) conveniently held together by a coiled wire F to form a package which will fit within the cylindrical recesses of the rail C. The cleaning wires E are very thin,

resilient steel members of a size small enough to pass through the bore of the needles N. Such wires are not straight, but slightly arched, as shown in Fig. 6, and are held together by a wrapping wire F which is of soft metal, such as brass. The arched condition of the bundle creates and maintains frequent contact between the bundle and the recess of the rail C when the bundle is introduced into said recess. This prevents the bundle from falling out.

Stamped up from the sheet A upon which the hubs of the hypodermic needles are to rest, are two sets of members forming the fingers G and the saddles H. The fingers G are resilient and are adapted for entry into the conical interior of the needle hubs I to grip and to hold said hubs down against the plate A while the purpose of the saddles H is to receive and to protect the needle point portions of the hypodermic needles whose hubs are properly engaged by such fingers, from external objects. As is shown more clearly in Fig. 2 of the drawing, the saddles H are elongated and at one end are formed integrally with an upwardly inclined connecting portion rising from the plate A while their other ends are unsupported, and such saddles are provided with rounded or V-shaped surfaces, as indicated at J, so they partially enclose the points of the needles resting thereon. Between the fingers G and the saddles H there are preferably stamped up the resilient tongues K which cooperate with the fingers G to hold the needle hubs in position on the plate, such members K engaging the hubs and serving as stops to prevent unintentional separation of the hubs from the card. For example, if the needle hub is in the position shown in Fig. 2 and the structure is shaken during transportation or otherwise, the needle hub could move toward the left and separate itself from the finger G were it not that the forward edge of the tongue K came in contact with the shoulder S of the hub. The needle hub is preferably provided with two opposite flat sides (see Fig. 4) so that it will rest in contact with the plate A. The free ends of the saddles H are usually slightly inclined downwardly toward the plate A so that whatever may be the length of the needle, the pointed end portion thereof will be in contact with the saddle. At any rate, the highest point of the needle-receiving portions of said saddles will be approximately as high as one-half of the thickness of the needle hub.

In the assembled position the needles will just rest upon the saddles H while the hubs will be held down by the fingers G and the needle hubs

will be frictionally locked against displacement by the tongues K. The entire structure, together with the needles which are supported thereby, is generally wrapped in transparent cellulose and is delivered in this form to the customers.

By reason of the structural arrangement of the needle carriage the needle points are not so exposed as to be capable of injuring the fingers of the user or in perforating the cellulose wrapper. The user, in order to detach one of the needles from the carriage, merely lifts it, usually in the free space between the tongues K and the saddles H, and when the needle and hub are thus lifted, the hub can be at once drawn from the fingers G. To replace the needle the hub is advanced so that its conical interior portion engages the finger G.

It has heretofore been a great inconvenience for users of needles that no convenient association has been provided between the location of the needles and the location of the cleaning wires. If a particular cleaning wire has become bent so as not to be further useful, the user or the physician must hunt somewhere else for additional wires and as the needle should be cleaned frequently it is desirable that the cleaning wires should be made available in a location which is directly associated with that of the needles themselves. By configuring the edges C of the plate A as cylindrical recesses for the convenient storage of a multiplicity of cleaning wires, there will always be available a supply of such wires, or, if and when that supply is exhausted, a convenient place for the reception of a new bundle.

In the illustrated embodiment of the invention it is shown in its preferred form where the needle carriage is arranged for the reception of two needles, but it can also be made for the reception of but one needle or more than two needles, this depending upon the number of times that the unit of one finger G, one tongue K, and one saddle H is repeated on the metallic base.

The organization of the structure is such that it can be produced by a single stamping operation complete in all its parts.

Modifications in the matter of detail can obviously be made without departing from the scope of the invention.

Thus the needle carriage need not necessarily be made of metal but should be constituted of material which has at least a certain resiliency appropriate for the proper manipulation of the parts in connection with the seating and unseating of the needles therefor. The saddles may have somewhat different configurations than the specific one illustrated and the shape of the resilient stop-tongues as well as of the supporting rails and recesses may be other than the precise shapes shown. In many other directions the needle carriage is capable of variation as to size and shape. We regard it of importance, however, that the carriage should be surfaced so as to be easily and conveniently cleanable.

We claim:

1. A support for at least one hypodermic needle comprising a plate member, two edges of the plate being curved to form a longitudinal recess adapted to contain a bundle of cleaning wires for the needles, said plate having, for each needle to be supported thereon, a resilient finger whose free end is struck up above the level of the plate near one of the other edges thereof and adapted to project into the syringe-tip-receiving end of a needle hub and to hold said hub against the plate, and a saddle member in operative align-

ment with said finger, rising from and disposed longitudinally of each needle above the plate approximately as high as one-half the thickness of the needle hub to receive and to support the needle proper when its hub has been positioned with respect to the said finger.

2. A needle support such as set forth in claim 1 in which for each needle there is an upstanding stop-tongue in the path of a forward portion of the needle hub and positioned between each finger and each saddle.

3. A needle support as set forth in claim 1 in which the lateral edges of the saddle members are higher with respect to the plate than the central portions of the saddle members.

4. A needle support as set forth in claim 1 in which the recessed edge portions of the plate are supporting rails for the needle support as a whole.

5. A needle support as set forth in claim 1 in which the recessed edge portions of the plate are supporting rails for the needle support as a whole and in which the recess is cylindrical.

6. A needle support as set forth in claim 1 in which the longitudinal edge portions of the plate are in the form of cylindrical recesses open at one end only.

7. A needle support as set forth in claim 1 in which the plate is of thin sheet metal provided with a centrally located panel, the portions of said plate longitudinally of said panel being at least partially corrugated, the corrugations extending in the same direction as the needles.

8. A support for at least one hypodermic needle comprising a plate member, said plate having for each needle to be supported thereon a resilient finger whose free end is struck up above the level of the plate near that end of the plate upon which the needle hub is to rest, said finger being elevated sufficiently above the plate to be capable of projecting into the syringe-tip-receiving end of a needle hub and of holding said hub against the plate, and a needle-receiving saddle member in operative alignment with said finger having a groove on its upper surface, said saddle member rising from the plate and extending longitudinally of each needle above the plate approximately as high as one-half the thickness of the needle hub, to receive, support, and protect the needle point portion when its hub has been positioned with respect to its finger.

9. A hypodermic needle support formed from a single blank and comprising a plate portion upon which the hub of a hypodermic needle is to rest, said plate having resilient gripping means rising from the level of the plate, the said gripping means being elevated sufficiently above the plate and being formed so as to be capable of engaging with a recessed portion of a needle hub and of holding said hub with relation to the plate, and a needle-receiving saddle portion in operative alignment with a hypodermic needle hub engaged by said resilient gripping means and having a groove on its upper surface, said saddle portion rising from said plate and extending longitudinally of the needle above the plate approximately as high as one-half the thickness of the needle hub, to receive within said groove the needle point portion of the hypodermic needle when the hub of the latter has been positioned with respect to said gripping means.

10. A hypodermic needle support formed from a single blank and comprising a plate portion upon which the hub of a hypodermic needle is

to rest, resilient gripping means rising from the level of the plate and formed to engage a needle hub on the plate and hold the same in position thereon, an upwardly inclined connecting portion rising from said plate and a saddle portion forming a continuation of said connecting portion and spaced from said plate approximately one-half the thickness of the needle hub, said saddle portion being disposed with respect to said plate so as to receive the needle point portion of the hypodermic needle when the hub of the latter is held by said gripping means and the side edges of said saddle portion being spaced further from said plate than the longitudinal central portion thereof to provide for partial enclosure of such portion of the needle.

11. A hypodermic needle support formed from a single blank and comprising a plate portion upon which the hub of a hypodermic needle is to rest, resilient gripping means rising from the level of the plate and formed to engage a needle hub on the plate and hold the same in position thereon, a stop member projecting up from said plate transversely of a hub positioned on said plate and engaged by said gripping means, an upwardly extending connecting portion rising from said plate and a saddle portion forming a con-

tinuation of said connecting portion and spaced from said plate, said saddle portion being disposed with respect to said plate so as to receive the needle point portion of the hypodermic needle when the hub of the latter is properly held by said gripping means and being formed to partially enclose the same.

12. A hypodermic needle support formed from a single blank and comprising a plate portion upon which the hub of a hypodermic needle is to rest, a plurality of hub-positioning members rising from the level of the plate and adapted to engage with the needle hub and hold the same in position on the plate, an upwardly extending connecting portion rising from said plate and a needle-protecting portion forming a continuation of said connecting portion and spaced from said plate approximately one-half the thickness of the needle hub, said last-mentioned portion being disposed with respect to said plate so as to receive the needle point portion of the hypodermic needle when the hub of the latter is held by said positioning members and being formed to protect the same from external objects.

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