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2,131,284

VACCINATING METHOD AND MEANS

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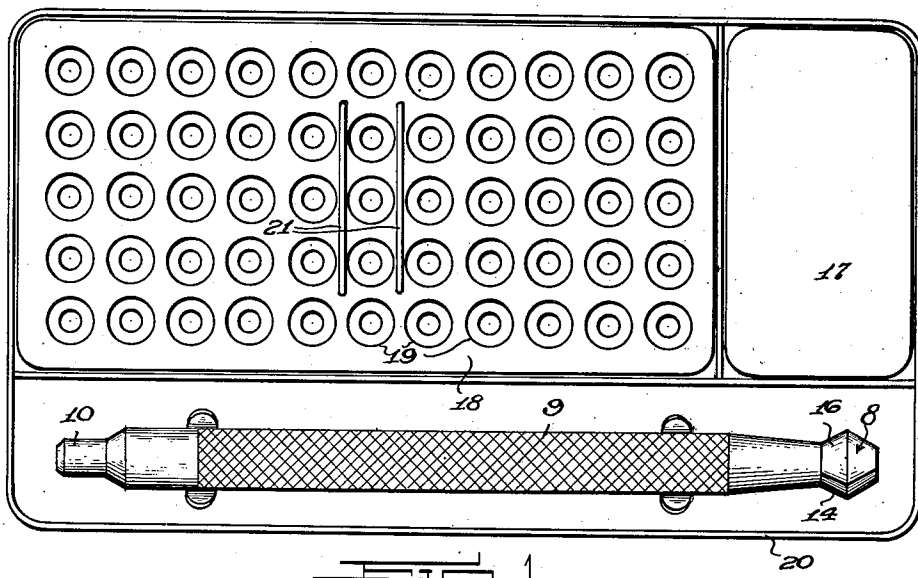


FIG. 1 -

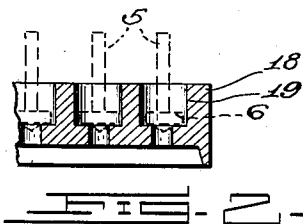


FIG. 2 -

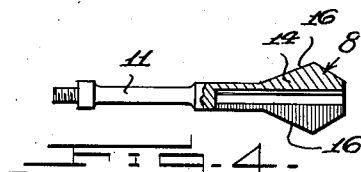


FIG. 4 -

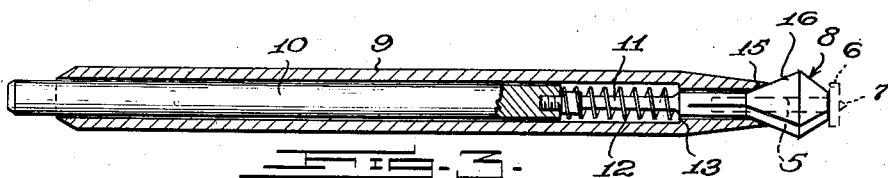


FIG. 3 -

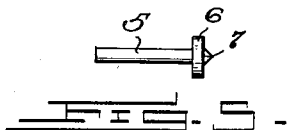


FIG. 5 -

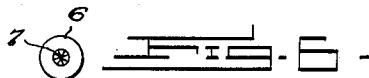


FIG. 6 -

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VACCINATING METHOD AND MEANS

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8 Claims. (Cl. 128—333)

The object of the invention is to provide an improved technique and apparatus through which successive vaccinations against smallpox may be effected upon large numbers of persons, with great rapidity, without pain to the individual and with absolute safety against the infection of one person from another. My invention is especially useful in armies or in times of smallpox epidemics.

These and other advantages of my method and apparatus will be best appreciated by a consideration of the accompanying drawing, wherein:

Figure 1 is a plan view of the several elements of my apparatus assembled in a carrying case from which the cover has been removed;

Fig. 2 is a fragmentary sectional view through one corner of the point sterilizer;

Fig. 3 is a longitudinal sectional view through the point gripping and manipulating holder or carrier, hereinafter described;

Fig. 4 is a detail view of the chuck of the holder, and

Figs. 5 and 6 are side and end views of one of the special vaccine points hereinafter described.

Like numerals designate corresponding parts in all of the figures of the drawing.

Broadly stated, the invention contemplates the use of a large number of special vaccine points, a sterilizing container in which a multiplicity of the special points may be sterilized simultaneously by immersion in boiling water, by being subjected to flame, by immersion in a suitable sterilizing solution, or otherwise.

The sterilizer is constructed to hold the special vaccine points with their shanks disposed upwardly and in such position that they may be quickly engaged by the gripping chuck of the holder. Each special vaccine point comprises a shank 5, a disk-like head 6, and a preferably roughened point 7 which projects forwardly of head 6.

The shanks 5 are dimensioned to be gripped firmly by the spring chuck 8 of a pencil-like holder or carrier. This holder comprises an outer shell 9 in which a plunger 10 is slidably mounted. A shank 11 is connected to the inner end of the plunger, and a spring 12 bears between the plunger and a shoulder 13 on shell 9.

This spring thrusts the plunger to the left in Fig. 3 and thus moves the chuck jaws 14 of shank 11 toward each other under the action of the beveled end 15 of shell 9. The chuck jaws are provided with inclined faces 16 for coaction with the said end 15 of the shell, and they are of resilient metal and tend to spring apart when moved to the right in Fig. 3. The holder when held like a pencil may be caused to quickly pick up the

vaccine points and as quickly release them after use.

In actual practice, the physician applies to the epidermis of the patient a small amount of vaccine virus at a point previously cleansed by washing or sterilizing. He then draws one of the vaccine points, gripped in the holder, firmly across a small portion of the epidermis at the point where the virus is located. The action of point 7 is that of a positive friction upon the epidermis, but there is no cutting of the skin, no blood-letting, and no pain.

After a point has been used once it is not used again until it has been sterilized. Used points may be dropped into the box 17 and there collected until a convenient time when they are placed in the sterilizing container and sterilized by boiling, flame or otherwise.

The container comprises a metallic block 18, having a large number of pockets 19 therein in which the points rest with the shanks uppermost. The physician picks these sterilized points out of the pockets with the pencil-like holder, one after the other, as fast as he can draw a point across the virus impregnated epidermis of a patient. Despite the rapidity of the procedure, there is no danger of infection by one patient from another, because a separate point is used for each patient.

The sterilizer block 18, box 17 and pencil-like holder may all be assembled in a carrying case 20, as shown in Fig. 1. Handles, 21, provide means for lifting the sterilizer block from the boiling water or other sterilizing medium.

The disk 6 acts as a limiting medium to limit the action of point 7 to a mere frictional pressure upon the epidermis, not severe enough to cause penetration nor any appreciable pain. However, I have found this to be sufficient to cause the virus to "take". Since no pain is caused, children do not resist vaccination by my method as is the case with all other methods with which I am familiar.

Having described my invention, what I claim is:

1. In combination, a vaccine point comprising a shank, a transversely enlarged part near the lower end of the shank adapted to support the vaccine point with its shank in a vertical position, and a projection beyond the enlarged part shaped, when drawn across the epidermis, to frictionally impress into the said epidermis a previously applied vaccine virus, and a holder comprising a clutch adapted to engage said vertically disposed shank and manipulated by the same hand in which the clutch is held during the vaccine operation.

2. A vaccine point consisting of an integral metal member comprising a shank, a transversely enlarged head adjacent one end of the shank, and a projection upon the outer face of the head
5 having a roughened face for the purpose set forth.

3. A vaccine point consisting of an integral metal member comprising a shank, a transversely enlarged disk adjacent one end of the shank, and a conical projection upon the outer face of the
10 disk.

4. A vaccine point consisting of an integral metal member comprising a shank, a transversely enlarged disk adjacent one end of the shank, and a conical projection upon the outer face of the
15 disk having a roughened face adapted to frictionally impress into the epidermis without penetration of the same when the outer face of the disk is thrust against the epidermis.

5. A vaccine point consisting of an integral
20 metal member comprising a shank, a transversely enlarged disk adjacent one end of the shank, and a conical projection upon the outer face of the disk having a roughened face adapted to frictionally impress into the epidermis without penetration
25 of the same when the outer face of the disk is thrust against the epidermis, the said disk being of larger diameter than the projection and that portion of the outer face of the disk which lies outwardly of the projection presenting a
30 plane surface.

6. The combination with the vaccine points and holder recited in claim 1, of a container of a material to resist the action of boiling water, pro-

vided with a plurality of receptacles for vaccine points, said receptacles being of such shape with respect to the shape of the vaccine points as to hold the vaccine points in a vertical position with their shanks uppermost.

7. The combination with a vaccine point of the character recited in claim 5, of a sterilizing receptacle comprising a part having a plane upper face surrounding an opening, the said opening being
10 larger than the projection of the point but smaller than the disk, so that when a point is placed in said sterilizing receptacle, the plane outer face of the disk rests upon the plane face of the receptacle, and the projection is received in
15 said opening and the point is supported with the shank upstanding.

8. The combination with a vaccine point of the character recited in claim 5, of a sterilizing receptacle comprising a part having a plane upper face surrounding an opening, the said opening being
20 larger than the projection of the point but smaller than the disk, so that when a point is placed in said sterilizing receptacle, the plane outer face of the disk rests upon the plane face of the receptacle, and the projection is received
25 in said opening and the point is supported with the shank upstanding, and a pencil-like holder having a chuck shaped and dimensioned to engage said shank, said chuck being manipulatable to grasp or release the shank of a vaccine point
30 through the action of the same hand that holds the holder.

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