

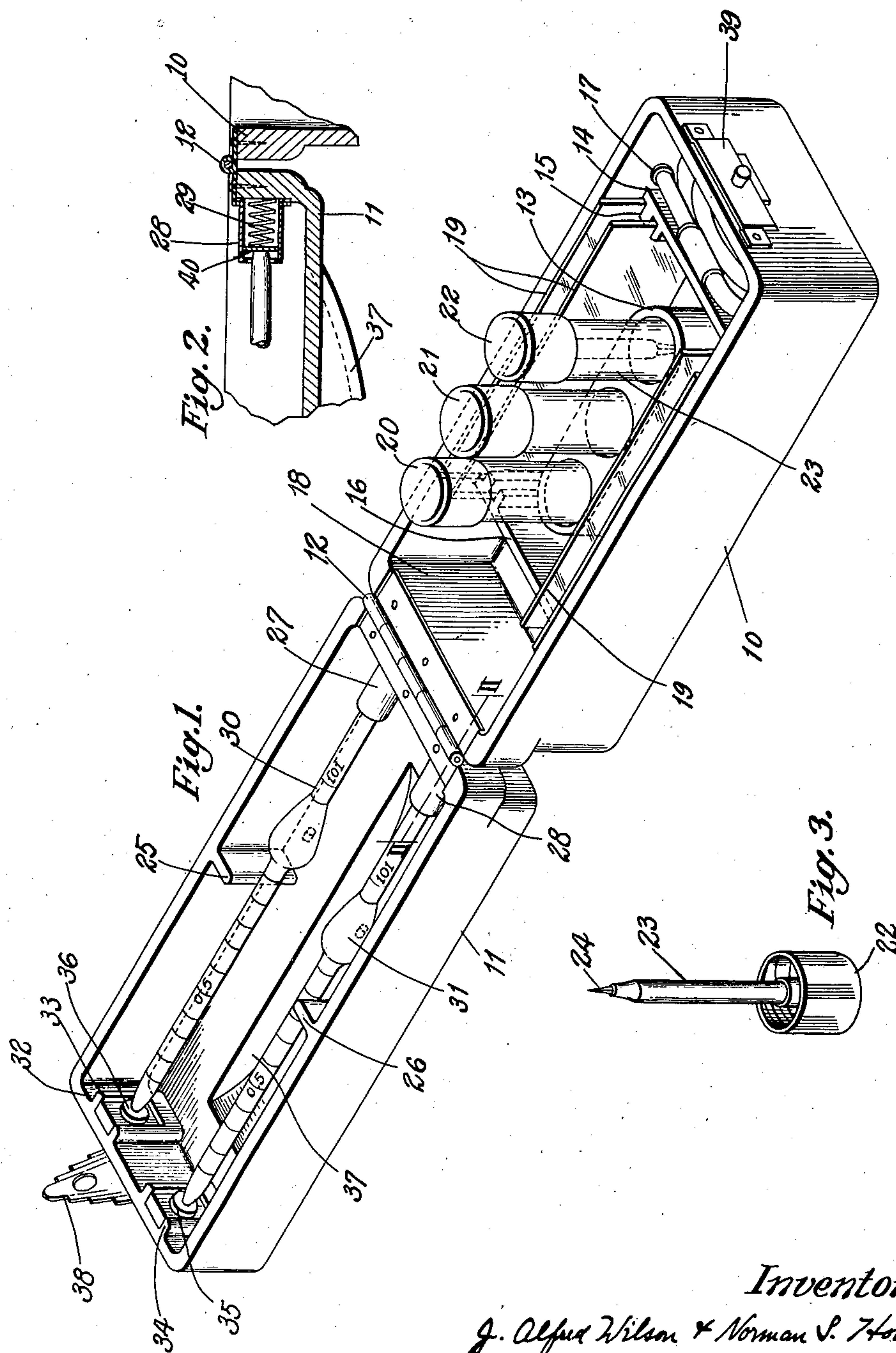
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HEMATOLOGICAL CASE

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HEMATOLOGICAL CASE

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This invention relates to hematological cases containing the instruments and equipment used in taking blood for analysis of various types, such as the usual red and white cell count and dif-
ferential count.

No satisfactory way of transporting the pipettes filled with diluted blood had been discovered prior to our invention in instances where the physician had to take the blood samples while calling upon the patient, and in cases where the patient is un-
able to go to the testing laboratory.

It has heretofore been the general practice for the physician to assemble the necessary pipettes, diluting solutions, lancet, sterilizing medium, cotton and other appurtenances necessary to take a blood sample and carry these various articles by such means as might be at hand. Thus serious inconvenience has been experienced not only in assembling the various articles, but in the means of transporting them without risk of their break-
age or leakage of the diluted blood from the pipettes.

Our invention comprises a compact case of non-collapsible structure in which proper provision is made for holding and sealing the pipettes and for carrying the necessary glass slides for blood smears, suction tubing, gauze or absorbent cotton, small vials containing the appropriate dilution solutions for red and white blood cell count and sterilizing solution in which a lancet may be carried suspended and thus sterilized ready for use. The pipettes, slides and vials, of course, are extremely fragile and an important feature of our invention resides in the novel means employed to retain these fragile elements safely in place in the case and at the same time prevent leakage of the diluted blood solution contained in the pipettes. With the case of our invention, the physician attending his patient may extract samples of blood by suction into the pipettes, after having made a small incision by the lancet. Generally two pipettes are partially filled with blood samples. By further use of the suction tube, the physician can then draw saline solution from one vial into one of the pipettes and acid solution from another vial into the other pipette. Subsequently the pipettes can be fitted into the case and simultaneously sealed for transportation to the physician's office or laboratory. As previously explained, this procedure enables the physician to preserve the individual characteristic of the blood samples for a sufficient length of time to transport this conveniently to his laboratory. As a consequence, the laboratory analysis is accurate and valuable regardless of delay.

In one aspect our invention consists in a two-part case having provision for compactly retaining without danger of breakage, the equipment above discussed. To this end an important feature of the invention consists in a box having an upstanding centrally disposed boss in its bottom in which are formed a plurality of sockets for the vials, in combination with a cover having an elongated dome or well arranged to receive the upper ends of the vials and having elongated decks at each side of the dome providing space for a pair of pipettes which may be positioned conveniently in the cover while the latter is open, and brought into position on either side of the vials when the cover is closed.

These and other advantages and features of our invention will be more readily understood and appreciated from the following detailed description of a preferred embodiment thereof, selected for purposes of illustration and shown in the accompanying drawing in which,

Fig. 1 is a view in perspective of the case

Fig. 2 is a view in detail of a pipette socket; and

Fig. 3 is a view in perspective of the lancet.

The case comprises an elongated rectangular box 10 molded from any suitable material such as formaldehyde resin, and having a cover 11, of the same material, hinged at one end thereof. The portions of the box 10 and the cover 11 which carry the hinge 12 are somewhat thickened to provide greater strength.

Molded as an integral part of the bottom of the box is an elongated upstanding boss 13 having rounded ends and three sockets or receptacles for the vials to be presently described. The boss 13 is centrally disposed in the box 10 and the sockets therein are arranged in a straight line. Also molded as an integral part of the box are transverse partition members 14 and 16. These members are spaced from the opposite ends of the boss 13 and from the ends of the box so that they form a compartment at each end thereof. These members do not extend to the top edge of the box but are only about one-half the height of its side walls. The members 14 and 16 are provided on their opposite faces with vertical ribs 15 located adjacent to the side walls of the box and forming guideways for glass slides 19.

The compartments formed by the transverse partition members 14 and 16 and the end walls of the box 10 may be used for cotton and a rubber suction tube 17.

The sockets in the boss 13 are dimensioned to receive vials 20, 21, and 22 which are provided

with caps carrying varying indicia, corresponding with similar indicia on the vials. We prefer to employ indicia of different colors in order that the color marking on each vial may be matched to the color of its cap, thus distinguishing it from the others. Vials 20 and 21 may be used for appropriate solutions for dilution of the red and white blood cell count. Vial 22 may be used to carry a germicidal solution which may be used both for sterilizing the area of the patient's skin to be punctured by the lancet, and also in which the lancet may be suspended by attachment to its cap.

In taking blood samples, it is necessary to make an opening in the skin of the patient, generally at the lobe of an ear or the end of a finger. For this operation we provide one vial 22 with a lancet 23 mounted in the cap thereof. The cap of the vial 22 has a flat top in order that the lancet may be put down in upright position as shown in Fig. 3 without touching any unsterilized surface. When the cap with the lancet 23 is placed on the vial 22, the lancet projects downwardly into the vial, and by filling the vial 22 with an antiseptic solution such as alcohol, it is possible to keep the lancet 23 constantly sterile. Since a definite puncture must be made in the skin of the patient, we prefer a lancet provided with a three-sided point 24.

Substantially in the center of the lateral walls of the cover 11 are formed inwardly projecting lugs 25 and 26 molded with the cover 11. When the cover 11 is closed on the box 10, the lugs 25 and 26 rest on the upper edges of the smear slides 19 and prevent them from rattling and breaking.

As shown in Fig. 2, one side of the hinge 12 is provided with a downturned plate at right angles to the side of the hinge 12. In the plate are apertures for a pair of tubular eyelets 27 and 28. Within the barrel of each eyelet is placed a sealing disc 40 backed up by compression springs 29. Glass pipettes 30 and 31 are inserted at their ends in the eyelets 27 and 28 and have their open ends sealed by the discs 40 which may be formed of any suitable resilient material such as rubber. The other ends of the pipettes 30 and 31 are sealed by pads 35 and 36 which are retained against the opposite end 32 of the cover by notched shoulders 33 and 34 molded with the cover 11. Thus the pipettes 30 and 31 are not only held in position with provision for a small amount of play to break the force of shocks, but yielding means are provided to seal the ends at the same time.

In the center of the enclosure of the cover 11, we provide an elongated dome or narrow recess 37 which performs the function of receiving the caps of the vials 20, 21, and 22 to prevent them from being shaken from the sockets in the boss 13 during transportation. The cover 11 is provided with an apertured locking member 38 which engages a cooperating member 39 on the box 10.

From the foregoing description it will be seen that when the cover 11 is closed over the box 10, the pipettes 30 and 31 will lie with the vials 20, 21, and 22 between them, the lugs 25 and 26 will abut against the upper edges of the smear slides 19, and the upper portions of the vials 20, 21, and 22 will project into the dome 37. In the construction of the box 10, the boss 13 and the transverse partition members 14 and 16 may be molded in one piece with the box 10; similarly, the lugs 25 and 26 and the notched shoulder 33 and 34 may be molded with the cover 11. With this construction it will be readily understood that the cost of the case will be very small.

Those skilled in the art will at once see the possibility of varying the construction of the case and the disposition and character of its contents, but such variations are within the scope of our invention as recited in the appended claims.

We claim:

1. A hematological case comprising a box enclosing an elongated open space having spaced pads located at one end and spaced sockets located at the other end which are provided with yielding sealing discs.

2. A hematological case for retaining a plurality of pipettes, comprising a box having a cover hinged at one end thereof and provided with perforated hinge plates overlying one end wall, eyelets projecting through the plate and retained with their flanges beneath the plate, and yielding sealing discs located within the eyelet barrels.

3. A hematological case comprising an elongated box, a cover hinged to the box and provided with a broad enclosure and a narrow recess opening into the broad enclosure, an upstanding boss secured to the bottom of the box and provided with a series of open sockets disposed beneath the narrow recess in the cover, and means disposed in the broad enclosure of the cover for holding a plurality of pipettes.

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