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2,315,160

NEUROLOGICAL UNIT

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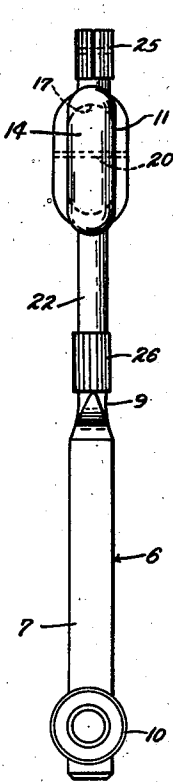


Fig. 2

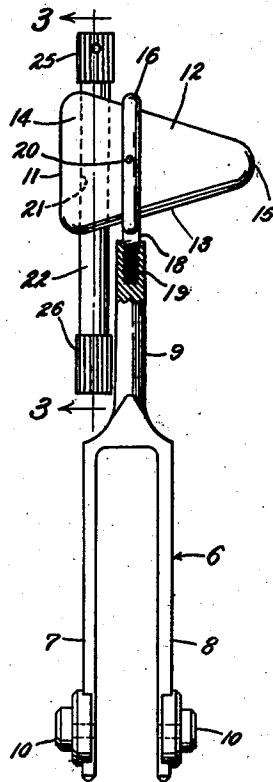


Fig. 1

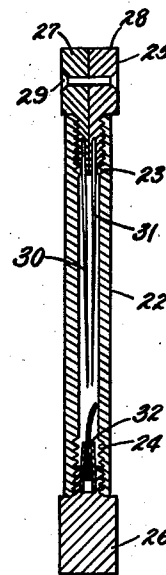


Fig. 3

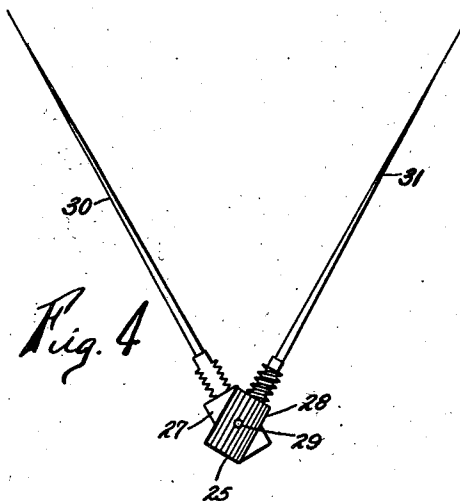


Fig. 4

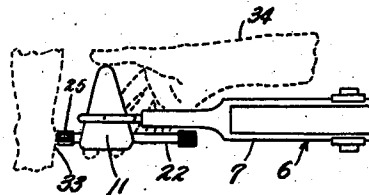


Fig. 5

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NEUROLOGICAL UNIT

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6 Claims. (Cl. 128—2)

The present invention relates to neurological instruments and is particularly directed to the novel arrangement of a plurality of said instruments in a compact and convenient unit.

In the practice of neurology and related professions a number of basic instruments are used to make sensory and reflex tests and observations of persons with nervous ailments or for patients about to undergo certain surgical operations. All of these instruments are relatively small in proportion and are easily mislaid or lost, especially when a neurologist has a number of professional calls to make in private homes. It is therefore an object of this invention to combine all of the basic neurological instruments in a single, compact unit so that said instruments can be conveniently carried about on one's person and which will present all of said instruments at one time to the person requiring them.

Another object of the invention is to provide a composite neurological unit which permits one or more of said instruments to serve as a necessary functional element for other instruments in the unit, thus greatly simplifying the resulting structural features of said unit.

Other objects will be apparent from the following specification and drawing, in which:

Fig. 1 is a front elevational view of our neurological unit, a part thereof being shown in longitudinal cross-section.

Fig. 2 is a side elevational view of said unit.

Fig. 3 is an enlarged cross-sectional view of the instrument case, taken on line 3—3 of Fig. 1.

Fig. 4 is a side elevational view of an esthesiometer for our unit illustrated in open position.

Fig. 5 is a general view illustrating the instrument in an operative position.

The neurological unit of our invention consists of a tuning fork 6 having a pair of spaced, parallel prongs 7 and 8 which are joined together at their upper common ends by means of an integral and elongated neck portion 9 disposed in the common plane of the prongs 7 and 8. The lower free ends of the prongs may be provided with conventional pitch regulators 10.

A percussion head 11 is mounted on the upper free end of the neck portion 9 and is formed of a uniform thickness throughout its transverse area and is triangularly shaped in side elevation, the upper side 12 and the lower side 13 converging from a blunt end 14 of the head to a reduced impact end 15. The head is mounted endwise on the neck 9 in the common plane of the prongs and said neck, so that the tuning fork forms a handle for the head, by a means comprising a

ring-like mounting member 16 which encircles and is in continuous engagement with the transverse, intermediate surface of the head 11. As shown in Fig. 2, the mounting member is elliptical in transverse elevation and is provided with an elongated opening 17 for snugly receiving said head, a threaded lug 18 depending from said mounting member for engagement with a threaded hole 19 formed in the upper end of the neck portion. A transverse pin 20 is run through the head and is fastened at its ends to the mounting member 16 to firmly hold the head within said mounting member.

A bore 21 is formed through the blunt end 14 of the head in parallelism with the neck portion 9 of the tuning fork for receiving and firmly holding a tubular instrument case 22 at a point intermediate its ends. A substantial portion of the case body depends below the head and adjacent the neck portion in the direction of the prongs of the tuning fork, the ends of said case being provided with interior threads 23 and 24 for receiving exteriorly threaded portions on the caps 25 and 26, respectively. As most clearly illustrated in Fig. 4, the cap 25 is split longitudinally into equal sections 27 and 28 which are rotatably fastened together by means of a transverse pivot pin 29. This cap forms the pivot portion for the esthesiometer, said sections being provided with needles 30 and 31 which extend from the interior surface of said cap sections, respectively. As shown in Fig. 4, the sections are provided with reduced threaded parts which, when the esthesiometer is in closed position, form a single screw thread for engagement with the interior threads 23 on the case. The cap 26 is provided with a brush 32 extending inwardly from its interior face.

It will therefore be understood that in our neurological unit the tuning fork functions as a convenient handle for the percussion head when the unit is used to elicit reflexes, such as the patellar reflex obtained by striking the patient's knee with the reduced impact end 15 of the head. The unit is also used in other neurological tests and for the purposes of these tests, as illustrated in Fig. 5, the tuning fork 6, the percussion head 11 and the instrument case 22 cooperate in transmitting vibrations to certain bony prominences of a patient. In this circumstance the physician will hold the upper end 25 of the case 22 against a bony prominence such as ankle 33 of a patient by holding said unit with his hand 34 around the percussion head 11. It will be noted that the percussion head 11

serves as a hand gripping element which is easily and naturally grasped and securely held by the physician while the case 22 acts as a body contact member for the unit. For the purposes of these tests, vibrations are set up in the tuning fork and are transmitted from the neck 9 of the tuning fork through the rubber percussion head 11 to the case 22 and thence to the bony prominence 33. Said vibrations would not be dampened by the fingers of the physician as he holds the instrument by the rubber percussion head, as illustrated in Fig. 5.

What is claimed is:

1. A neurological unit comprising a tuning fork having a neck portion extending from one end thereof, a hand gripping element fastened intermediate its ends to the free end of the neck portion and a reduced body contact member mounted on and extending from the element.

2. A neurological unit comprising a tuning fork having a neck portion extending longitudinally therefrom, an elongated hand gripping element disposed transversely of the neck portion, means engaging an intermediate portion of the element and adapted to fasten said element to the free end of the neck, and a reduced body contact member mounted on the element and extending longitudinally from the side of said element opposed to the side at which the neck is fastened to the element.

3. A neurological unit comprising a tuning fork having a neck portion extending longitudinally therefrom, an elongated hand gripping element disposed transversely of the neck portion, means engaging an intermediate portion of the element and adapted to fasten said element to the free end of the neck, and a reduced body contact member mounted on the element adjacent the fastening means and extending longitudinally from the side of said element opposed to the side at which the neck is fastened to the element.

4. A neurological unit comprising a tuning

fork having a pair of spaced, parallel prongs, and a straight neck portion connected to common ends of said prongs and extending longitudinally therefrom, a triangularly shaped hand gripping element fastened endwise to the free end of the neck portion, a bore formed through the blunt end of the element in parallelism with the prongs, and an elongated body contact member held intermediate its ends in the bore with a substantial portion of its body extending from both sides of the element.

5. A neurological unit comprising a tuning fork having a pair of spaced, parallel prongs, and a neck portion connected to common ends of the prongs, a triangularly shaped hand gripping element disposed in endwise position at the free end of the neck portion, a ring-like mounting member continuously engaging the transverse, intermediate surface of the element and having an integral threaded lug extending therefrom, a threaded hole in the upper end of the neck portion for receiving the lug, and a body contact member held intermediate its ends on the blunt end of the element.

6. A neurological unit comprising a tuning fork having a pair of spaced, parallel prongs, and a neck portion connected to common ends of the prongs, a triangularly shaped hand gripping element disposed in endwise position at the free end of the neck portion, a ring-like mounting member continuously engaging the transverse, intermediate surface of the element, a pin run transversely through the element and fastened at its ends to the opposed sides of the mounting member, an integral threaded lug extending from said member, a threaded hole in the upper end of the neck portion for receiving the lug, and a body contact member held intermediate its ends on the blunt end of the element.

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