Oct. 5, 1943. A. W. GRAY 2,330,882

REFLEX HAMMER

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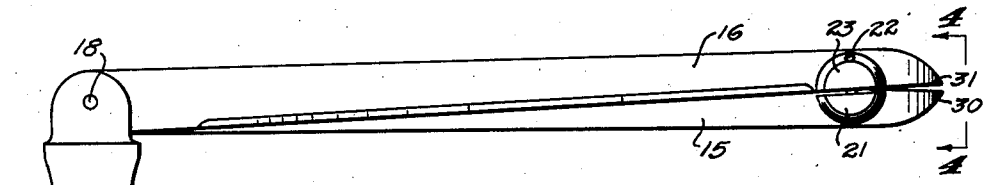


Fig. 1.

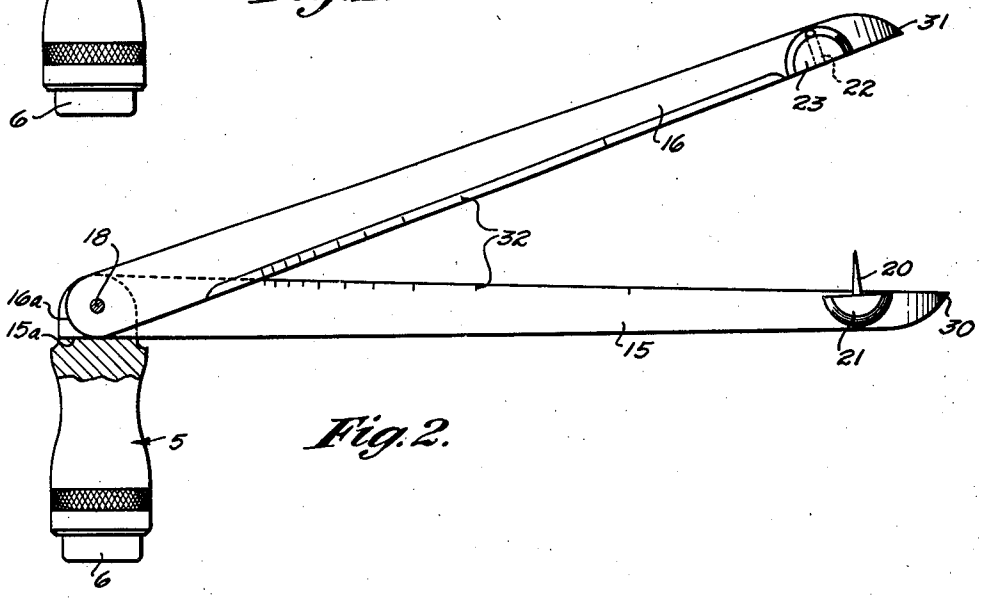


Fig. 2.

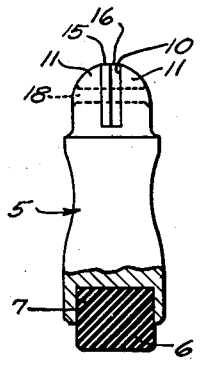


Fig. 3.

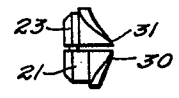


Fig. 4.

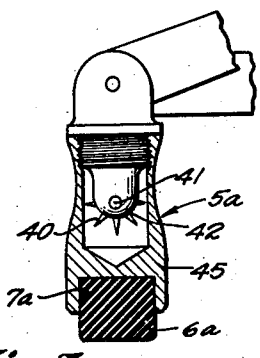


Fig. 5.

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REFLEX HAMMER

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Application July 31, 1942, Serial No. 453,025

1 Claim. (Cl. 128—2)

My invention has to do with hammers. Its presently preferred adaptation is as a reflex hammer, such as is employed by physicians in making neurological examinations, and for the purpose of making the invention understood, I shall describe it in that category since such hammers necessarily must be made relatively small and compact because they are usually carried in the pocket and when hammers of conventional construction are so made, the helve or handle element is necessarily too small to provide a firm and effective hand grip for efficient use.

It is one of the principal objects of my invention to provide a hammer which may be made of sufficiently small size to be conveniently carried and yet whose handle may be firmly and effectively gripped when in use. I accomplish this purpose by providing a hammer embodying a laterally expansible handle.

I find, also, that by providing a handle of the construction hereinafter described and claimed, my reflex hammer is additionally rendered more useful as a tool for conducting neurological examinations since the construction is conducive to utilizing the handle portion to conduct other neurological tests such, for instance, as two-point discrimination tests and sensitivity tests.

For the purpose of making my invention understood, I shall now describe it in its presently preferred adaptation although, as will appear from the appended claim, the invention in its broader aspects is not to be confined to the details of construction and particular arrangement of parts hereinafter described. Moreover, from the following description, it will be apparent that the invention possesses advantages additional to those hereinabove specifically mentioned.

In the following description, I shall refer to the accompanying drawing, in which:

Fig. 1 is a side elevation;

Fig. 2 is a side elevation, partly in section, showing the handle expanded;

Fig. 3 is an end elevation, partly in section;

Fig. 4 is an end view taken on line 4—4 of Fig. 1; and

Fig. 5 is a fragmentary view, partly in section and partly in elevation, showing a variational form.

Referring now to the drawing, 5 denotes the hammer head which is provided with a rubber impact element 6 mounted in a recess 7. The top of the head is provided with a slot 10 between bifurcations 11, the slot being provided to receive the inner ends of the arms 15 and 16 comprising the handle elements to be described.

As best shown in Fig. 2, one of the handle elements, 15, has a straight bottom edge 15*a* which rests against the bottom wall of the slot 10, while the other handle element 16 has a rounded inner end 16*a* so that it may be swung with respect to handle element 15 about the pivot pin 18. Pin 18 extends through bifurcations 11 and the handle elements, drawing the bifurcations tightly against the sides of the handle elements, so that element 16, when swung to any adjusted position to expand the handle, is frictionally retained in that position.

When not in use the handle elements occupy the position of Fig. 1. When in use, the outer end of handle element 16 is swung away from the outer end of element 15 to the extent desired to expand the handle to the desired size (see Fig. 2).

When not in use, the outer ends of the handle elements are held against being sprung apart sidewise by means of a pin 20 carried by boss 21, the pin fitting into a recess 22 in boss 23. Bosses 21 and 23 are secured to or formed integral with the sides of the respective handle elements 15, 16.

In addition to the functioning of my improved hammer for the purpose of taking reflex tests, its novel handle element, by virtue of its expansibility and formation, also may be employed as a combination tool to make other neurological tests. For instance, by touching the pointed end of the pin 20 against the patient's skin, sensitivity tests may be made. Also, the relatively movable handle elements may be additionally employed for the purpose of making two-point discrimination tests of a patient at various measured points of separation, and to facilitate this I preferably form the outer ends of the handle elements 15, 16 into points 30, 31 (see Fig. 4) and I may graduate the sides of the handle elements as shown at 32 for use as a caliper in measuring the spacing of the points in the discrimination tests.

In Fig. 5, I show a variational form of head 5*a* for my hammer which is so constructed as to provide an additional neurological test element, such as a tool for conducting rapid sensitivity tests. Here there is a pronged wheel 40 which is mounted to rotate about a pivot 41 disposed through bifurcations 42 formed integrally with the upper portion of the head. The lower portion of the head is formed by cap 45 threaded onto the upper portion and has a rubber impact element 6*a* mounted in a recess 7*a*. In using this variational form for the purpose of conducting rapid sensitivity tests, the cap 45 is removed

and the user may roll the pronged wheel 40 over the skin surface of the patient.

I claim:

A tool of the class described comprising a head having a transverse slot through its top end, a pair of parallel handle members having their inner ends frictionally fitting side by side in the slot, and a cross pin through the body and extending transversely of the slot through both handle members, the first of the handle members being held stationary in the slot by the pin and the second handle member having its inner end portion rounded whereby to be swingable about the pin relative to the first handle member.

ALAN W. GRAY.