Feb. 17, 1942. H. H. JOHNSON 2,273,044

DEVICE FOR SUPPORTING AN IMPLEMENT ON A DIGIT DURING USE

Filed April 19, 1939

Fig. 2

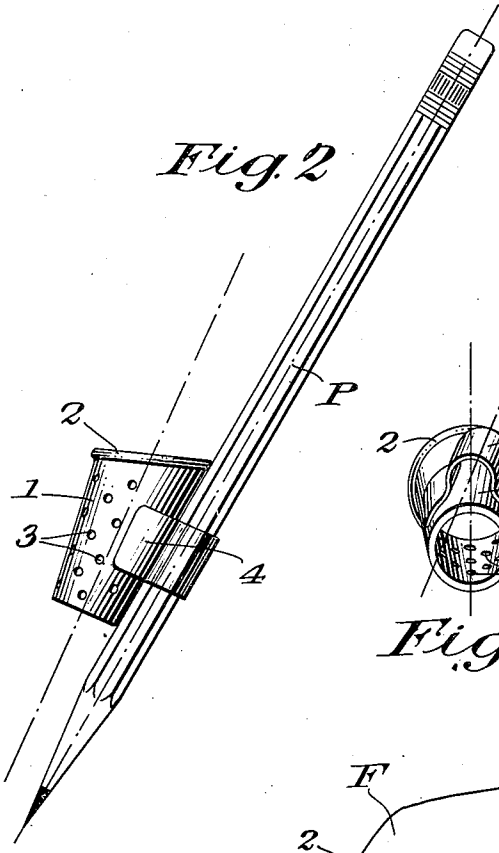


Fig. 1

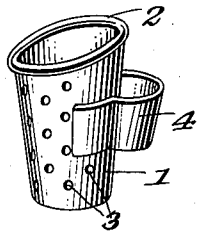
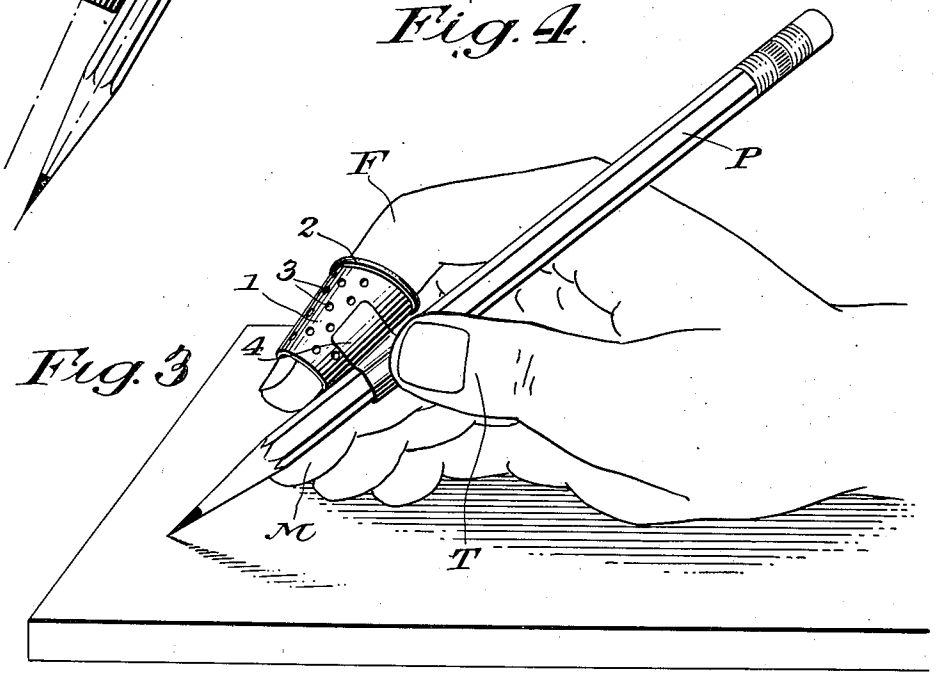


Fig. 4.

Fig. 3



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Patented Feb. 17, 1942

2,273,044

UNITED STATES PATENT OFFICE

2,273,044

DEVICE FOR SUPPORTING AN IMPLEMENT ON A DIGIT DURING USE

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Application April 19, 1939, Serial No. 268,775

3 Claims. (Cl. 120—103)

My present invention relates to a novel device for use in supporting an implement such as a pencil on one of the digits normally employed in holding it during use.

While my invention may be employed to advantage in the support of a variety of implements, its advantages, when used in support of a pencil or like writing implement, are so well illustrated, I have confined myself to a description of such use in the explanation of my invention.

I am aware that it has been proposed to provide a device to support a writing implement on a finger. While such proposals had a limited utility in that it was possible to carry the pencil on a finger where it was readily available for use, there was no recognition of the important problems to the solution of which my invention is particularly directed.

Fatigue incident to extensive writing is commonly experienced. While such fatigue depends on many factors among which the writer's manner of holding the pencil or pen is important, the digital pressures exerted in the support of the writing implement are such that "writer's cramp" is not unusual and callouses are commonly experienced.

An analysis of the factors causing excessive fatigue in writing involves a consideration of the usual manner in which a pencil or other writing implement is held. In common practice, the pencil is held between the thumb and forefinger. While it is possible to hold the pencil with these two digits alone by applying their pressure against diametrically opposed portions of the pencil, in the great majority of instances, they are not thus supported, but are so held that the pencil bears with considerable pressure against the middle finger causing it to cooperate in the support of the pencil. The extent to which writing involves movement of the pencil holding digits is another factor contributing to fatigue in writing, but the controlling factor is the pressure of the thumb and forefinger which, when not applied against diametrically opposed portions of the implement, cause excessive fatigue.

In accordance with my invention, I am able to eliminate excessive fatigue in writing. I accomplish this result by providing an elastic splint for the first joint of the forefinger and by providing means on the splint to support the implement so that it must always be parallel to and in contact with the splint. By this construction, the zone of pressure of the forefinger on the implement is so increased that it is impossible to avoid the proper application of the holding pressures exerted by the thumb and the forefinger. Consequently, the holding pressures are reduced to a minimum so that if, through habit, the middle finger is employed in the support of the pencil, the pressure thereon is immaterial. As my solution of the problem involved results in a substantially proper position of the pencil, its great value in teaching correct writing positions will be appreciated. Of particular interest is the use of my invention by children learning to write because it compels the pencil to be held properly thus making approved writing styles more readily obtainable.

While in certain uses of my invention, the factors discussed above may not be involved or may be of less importance, other important features and advantages of my invention will be apparent from the accompanying drawing and specification.

In the drawing, I have shown a preferred embodiment of my invention in which

Fig. 1 is a view of an embodiment of my invention.

Fig. 2 shows the device of Fig. 1 in end view.

Fig. 3 shows the device positioned for use, and

Fig. 4 is a front perspective view of the device.

In accordance with my invention, I employ a sleeve 1 of resilient elastic stock. The sleeve 1 is adapted to constitute an elastic splint for the first joint of one of the digits normally employed in holding the pencil P. Such a digit is normally the forefinger indicated at F in Fig. 1. The splint is tapered in order to permit it to be easily positioned on or removed from the finger F and to ensure its fitting on the finger F to splint the first joint. The sleeve 1 is preferably formed adjacent its larger end with a bead 2 which strengthens the sleeve so that it may be more readily guided into proper position on the finger F. The rear portion of the sleeve is formed to establish a projection underlying the digit. Preferably, the sleeve is so shaped that its larger end presents a diagonal. Preferably, the sleeve 1 is provided with a plurality of ventilating apertures 3.

The sleeve 1 carries a band 4 of resilient and preferably elastic stock and constitutes means to hold the pencil P between it and the sleeve 1. The band 4 may be formed integrally with the sleeve 1 or it may be separately formed and attached to the sleeve 1 in any desired way. It will be noted that the band 4 is preferably disposed diagonally of the major axis of the sleeve 1 so

that the pencil or other implement P is normally held in a position diagonal with respect to the finger F.

The band 4 must, of course, be disposed on the sleeve 1 to permit any conventional pencil P or other writing implement to be supported with sufficient firmness so that when it has been positioned properly in relation to the sleeve, it will not slip from that position. At the same time, the pencil P must be so held by the band 4 as to permit its diagonal position relative to the finger F to be varied freely as desired by the writer.

Accordingly, the junctions of the band portion 4 with the sleeve 1 are spaced apart a distance substantially greater than that required by the size of the implements with which my device is to be used in order that the band 4 may not interfere with the relatively free readjustment of the pencil P. Thus, while the pencil P is maintained parallel to the sleeve 1, its diagonal position is not materially restricted.

The use of my invention will be obvious from the above description. The sleeve 1 is placed on the finger F and the pencil P adjusted relative to the sleeve 1 and to the finger F as desired by the user. While the writer may interrupt his writing with the implement always available and have use and freedom of the hands without the inconvenience of laying down and picking up the pen or pencil, the more important advantages of my invention result from the fact that, since the finger F is splinted by the sleeve 1 and the implement P in contact with the sleeve 1, the pressure exerted by the finger F in holding and using the pencil P is on a zone of the pencil P that is inclusive of the zone of the pressure applied by the thumb T. Thus, the pressures are reduced to a minimum with a consequent reduction in fatigue. Through habit, the middle finger M may cooperate in the support or use of the pencil P, but any pressure thereon is reduced to such an extent that it is an immaterial factor.

It will be appreciated that although the implement P is not rigidly carried by my device, when it is held for use, the pressures of the thumb T and the finger F hold it securely. In most instances, it will be found that the normal position of the thumb T is against the band 4.

What I therefore claim and desire to secure by Letters Patent is:

1. A device for holding a writing implement on a digit, said device comprising a tapered elastic sleeve portion of rubber or the like to provide a yieldable cushioning brace for the first joint of the digit and a second portion of rubber or the like carried by said first portion at the side thereof and apertured to receive and to hold said implement in desired relation to said sleeve portion, the axis of said second portion being disposed in converging relationship to the axis of said sleeve portion and also being disposed diagonally relative to the axis of said sleeve portion to hold said implement diagonally of the axis of the first named digit whereby said implement, regardless of length, may be held by said device in a substantially correct position for use and the muscular effort of the digits in using the implement may be reduced substantially to that required to guide the implement.

2. The device of claim 1 in which the second portion is a band secured to the sleeve.

3. The device of claim 1 in which the sleeve is formed so that its lower part extends further towards the next joint than its upper part.

HARRY H. JOHNSON.