DEVICE FOR STRAIGHTENING A DISABLED FINGER

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FIG. 1.

FIG. 2.

FIG. 3.

FIG. 4.

FIG. 5.

FIG. 6.

FIG. 7.

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DEVICE FOR STRAIGHTENING A DISABLED FINGER
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This invention relates generally to a device for straightening a disabled finger of a hand after an accident or surgery, and refers more particularly to a device which is employed with the healthy fingers of the hand and which has means engageable with the disabled finger to provide it with exercises helpful to straighten and strengthen such disabled finger.

One of the essential objects of the invention is to provide a device having rings adapted to be sleeved upon the healthy fingers of a hand and having a portion engageable with the disabled finger to straighten the same.

Another object is to provide a device having interconnected rings adapted to be sleeved upon the healthy fingers of a hand and having adjacent to one of the interconnected rings a longitudinally curved portion engageable with the disabled finger to straighten the same.

Another object is to provide a device having rings adapted to be sleeved upon the healthy fingers of a hand and having adjacent to one of the interconnected rings another ring adapted to be sleeved upon the disabled finger and adapted to straighten the same.

Another object is to provide a device, essentially formed from wire, having rings arranged substantially in edge-to-edge relation and adapted to be sleeved upon the healthy fingers of a hand and having a longitudinally curved portion engageable with the disabled finger to straighten the same.

Another object is to provide a device having interconnected rings arranged substantially in edge-to-edge relation and adapted to be sleeved upon the healthy fingers of a hand, and having adjacent and connected to an edge of one of the interconnected rings another ring adapted to be sleeved upon the disabled finger to strengthen the same.

Another object is to provide a device having interconnected rings arranged substantially in edge-to-edge relation and adapted to be sleeved upon the healthy fingers of a hand, and having adjacent and connected to an edge of one of the interconnected rings another ring adapted to be sleeved upon the disabled finger to strengthen the same.

Another object is to provide a device that is simple in construction, economical to manufacture, and efficient in use.

Other objects, advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawing wherein:

FIGURE 1 is an elevational view of a device embodying my invention for straightening a disabled finger of a hand.
FIGURE 2 is an elevational view of a slight modification.
FIGURE 3 is an elevational view of another modification.
FIGURE 4 is an elevational view of another modification.
FIGURE 5 is an elevational view of another modification.
FIGURE 6 is a perspective view showing the device illustrated in FIGURE 1 applied to the fingers of a hand.

FIGURE 7 is a cross-sectional view taken substantially on the line 7--7 of FIGURE 1.

Referring now to FIGURES 1 and 6 of the drawing, the device A comprises three rings 10, 11 and 12 respectively arranged substantially in edge-to-edge relation, a longitudinally extending horizontal portion 13 at the upper edges of and rigidly interconnecting the rings 10 and 11, a longitudinally extending horizontal portion 14 at the upper edge of and rigidly interconnecting the rings 11 and 12, and a longitudinally curved or longitudinally extending upwardly opening substantially U-shaped portion 15 rigidly connected to and projecting edgewise from the ring 12. The longitudinally extending horizontal portions 13 and 14 are disposed side by side and collectively constitute a bridge for the rings 10, 11 and 12. The free end 16 of the U-shaped portion 15 and the horizontally extending portions 13 and 14 are substantially in a common horizontal plane, while the base 17 of said U-shaped portion 15 and the centers of the rings 10, 11 and 12 are substantially in a common horizontal plane. Preferably the device A is formed from composite material as shown in FIGURE 7, and comprises a single length of relatively heavy gauge wire 18 provided throughout its length with a plastic covering 19. However, it is apparent that the device A could be made from rust wire, such as chrome finished or stainless steel that would not have to be covered unless it was thought that such covering would be more comfortable.

In FIGURE 1, I have shown a slight modification wherein the device B comprises three rings 20, 21 and 22 respectively arranged substantially in edge-to-edge relation, a longitudinally extending horizontal portion 23 at the upper edges of and rigidly interconnecting the rings 20 and 21, a longitudinally extending substantially horizontal portion 24 at the upper edges of and rigidly interconnecting the rings 21 and 22, a ring 25 adjacent to an edge of the ring 22, a longitudinally extending inclined portion 26 rigidly interconnecting the upper edge of the ring 22 and the lower edge of the ring 25, and a longitudinally extending substantially horizontal portion 27 rigidly interconnecting the upper edge of the ring 25 and the substantially horizontally portion 24. The longitudinally extending horizontal portions 23, 24 and 27 are disposed side by side and collectively constitute a bridge for the rings 20, 21, 22 and 25. Preferably the device B is formed from composite material like the device A.

In FIGURE 5, I have shown another modification wherein the device C comprises two rings 30 and 31 arranged substantially in edge-to-edge relation, a longitudinally extending horizontal portion 32 at the upper edges of and rigidly interconnecting the rings 30 and 31, a ring 33 spaced edgewise from the ring 31 and a longitudinally curved or longitudinally extending upwardly opening substantially U-shaped portion 34 between and rigidly interconnecting the rings 31 and 33. The longitudinally extending horizontal portion 32 constitutes a bridge for the rings 30 and 31. Preferably the device C is formed from composite material like the device A.

In FIGURE 4, I have shown another modification wherein the device D comprises rings 40, 41, 42 and 43 arranged substantially in edge-to-edge relation, a longitudinally extending horizontal portion 44 at the upper edges of and rigidly interconnecting the rings 40 and 41, a longitudinally extending horizontal portion 45 at the upper edges of and rigidly interconnecting the rings 41 and 42, and a longitudinally extending horizontal portion 46 at the upper edges of and rigidly interconnecting the rings 42 and 43. The longitudinally extending horizontal portions 44 and 45 are disposed side by side, and the longitudinally extending horizontal portions 45 and 46 are disposed side by side. Such horizontally extending portions 44, 45 and 46 collectively constitute a bridge for...
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3. Preferably the device D is formed from composite material like the device A.

In FIGURE 5, I have shown another modification wherein the device D comprises two rings 50 and 51 arranged substantially in edge-to-edge relation, a longitudinally extending horizontal portion 52 at the upper edges of and rigidly interconnecting the rings 50 and 51, a ring 53 spaced edgewise from the ring 51, and a longitudinally curved or longitudinally extending downwardly opening inverted substantially U-shaped portion or yoke 54 between said rigidly interconnecting the rings 51 and 53. The longitudinally extending horizontal portion 52 constitutes a bridge for the rings 50 and 51. Preferably the device E is formed from composite material like the device A.

In the forms shown, different sized rings or longitudinally curved portions could be provided for different sized fingers. For example, different sizes could be provided for adults and children.

In use, the rings 10, 11 and 12 of the device A in FIGURE 1 would be sleeved upon the healthy fingers of a hand, as shown in FIGURE 6, while the upwardly opening substantially U-shaped portion 15 would be on the underside of the injured finger and would cause such injured finger to be raised and flexed with the motion of the healthy fingers. The rings 20, 21 and 22 of the device B in FIGURE 2 would likewise be sleeved upon the healthy fingers of a hand, while the ring 25 would be sleeved upon the injured finger and would cause such injured finger to be moved and flexed with the motion of the healthy fingers. The rings 30, 31 and 33 of the device C in FIGURE 3 would also be sleeved upon the healthy fingers of a hand while the upwardly opening substantially U-shaped portion 34 would be on the underside of the injured finger and would cause such injured finger to be raised and flexed with the motion of the healthy fingers. The rings 40, 41, 42 and 43 of the device D in FIGURE 4 would be sleeved upon the fingers of a hand in the event such fingers are afflicted with paralysis and are in need of exercise. The rings 50, 51 and 53 of the device E in FIGURE 5 would be sleeved upon the healthy fingers of a hand, while the downwardly opening inverted substantially U-shaped portion 54 would be on the upper side of the injured finger and would cause such injured finger to be lowered and flexed with the motion of the healthy fingers.

What I claim as my invention is:

1. A device for straightening a disabled finger of a hand, formed from a single length of relatively heavy gauge wire, and comprising three rings arranged substantially in edge-to-edge relation and adapted to be sleeved upon healthy fingers of the hand, a longitudinally extending substantially horizontal bridge portion at the upper edges of and rigidly interconnecting two of said rings, a longitudinally extending substantially horizontal bridge portion at the upper edges of and rigidly interconnecting the third ring and one of said two rings, and a longitudinally extending upwardly opening substantially U-shaped portion rigidly connected to and projecting edgewise from said third ring and engageable with the underside of the disabled finger, the free end of said U-shaped portion and said horizontally extending bridge portions being substantially in a common horizontal plane, and the base of said U-shaped portion and the centers of the rings being substantially in a common horizontal plane.

2. A device for straightening a disabled finger of a hand, formed from a single length of relatively heavy gauge wire, and comprising two rings arranged substantially in edge-to-edge relation and adapted to be sleeved upon healthy fingers of the hand, a longitudinally extending substantially horizontal bridge portion at the upper edges of and rigidly interconnecting said two rings, a longitudinally extending horizontally curved portion rigidly connected to and projecting edgewise from one of said two rings and engageable with the disabled finger, and a third ring rigidly connected to and projecting edgewise from said longitudinally curved portion and adapted to be sleeved upon another healthy finger of the hand.

3. The device defined in claim 1, wherein the single length of wire is provided throughout its length with a plastic covering.

4. The device defined in claim 2, wherein the single length of wire is provided throughout its length with a plastic covering.

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