May 20, 1969 M. E. AMON 3,444,599

SNAP HOOK

Filed Feb. 21, 1968

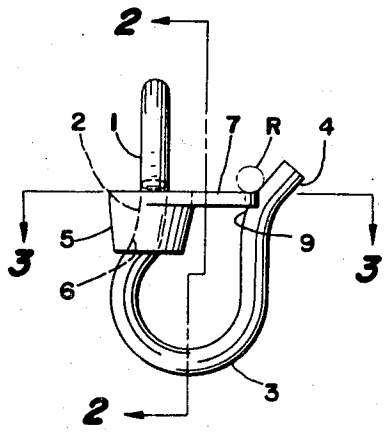


Fig. 1

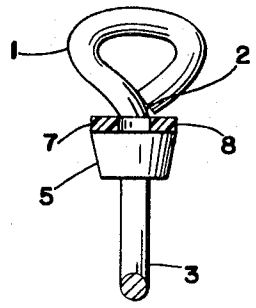


Fig. 2

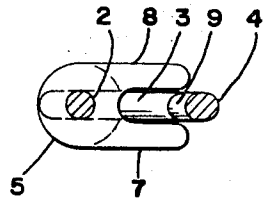


Fig. 3

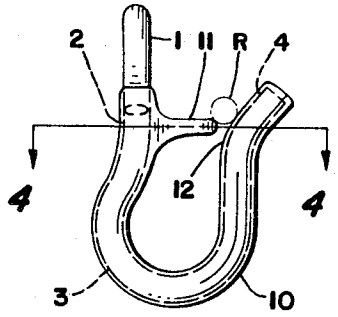


Fig. 4

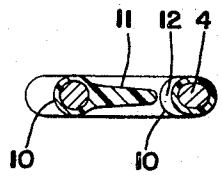


Fig. 5

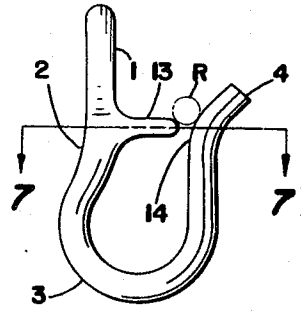


Fig. 6

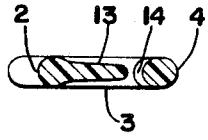


Fig. 7

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SNAP HOOK

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U.S. Cl. 24—236 4 Claims

ABSTRACT OF THE DISCLOSURE

The invention is concerned with snap hooks for detachably supporting the ring of a saxophone or like instrument, and which hooks are characterized by the provision thereon of a flexible plastic arm on the hooks which is adapted to be flexed in one direction to permit the ring to be snappingly received in the bight of the hook, and to be flexed in the opposite direction to permit the ring to be removed from the hook.

This invention relates, as indicated, to means for preventing or avoiding the dropping or falling of saxophones or like muscial instruments by students and other players.

When a student is seated with a saxophone resting on his right thigh, and leaning forwardly to play it, the conventional hook, which is suspended from his neck, has a tendency to fall out of the ring which is attached to the rear of the saxophone and which normally rests on the hook, when the student is standing.

Since the student is usually unaware that the hook has become disengaged from the ring, he exerts a very loose grip on the instrument, so that when he swings the instrument over to play, the instrument may fall or drop onto the floor, with consequent damage to the instrument, as well as interruption in the playing thereof.

In my U.S. Patent No. 3,354,522, conventional hooks of the foregoing nature are disclosed, having spring means associated therewith, which spring means is effective to prevent the ring from becoming disengaged from the hook, except upon exertion of a slight pressure by the player, but in which the resistance offered by the spring means is so slight as to permit the ring to be quickly and easily disengaged from the hook. Such spring means, however, is of somewhat complicated, as well as expensive, construction, and difficulty is encountered in properly assembling the spring means with the hook.

The present invention is directed to the provision of means of the character described, which, while accomplishing all of the objects of the foregoing patented means, is of considerably simpler construction, and is relatively easy to assemble with the conventional hook.

Another object of the invention is to provide means of the character described, which can be moved to an inoperative position in relation to the hook, when so desired.

A further object of the invention is to provide means of the character described, which, in some forms, is a substantially integral part of the hook, or is so associated with the hook, as to form, in effect, a part of the hook.

Other objects and advantages of my invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

FIG. 1 is a view, in side elevation, of a hook such as is conventionally used for supporting the ring of a saxophone, and showing a preferred form of the means attached thereto;

FIG. 2 is a cross-sectional view, taken on the line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view, taken on the line 3—3 of FIG. 1;

FIG. 4 is a view similar to FIG. 1, but showing a modified form of the invention;

FIG. 5 is a cross-sectional view, taken on the line 5—5 of FIG. 4;

FIG. 6 is a view similar to FIG. 1, but showing another modified form of the invention, and

FIG. 7 is a cross-sectional view, taken on the line 7—7 of FIG. 6.

Referring more particularly to FIGS. 1 to 3 inclusive of the drawings, there is disclosed a conventional hook such as is commonly used for supporting the ring R of a saxophone, the cross-sectional configuration of the ring being shown in broken lines.

The hook, which is usually formed of steel wire, comprises a body portion or loop **1**, disposed in a plane slightly inclined to the vertical, and which is adapted to be suspended from a strap supported by the neck of the musician, a short substantially vertical shank portion **2**, and a ring-engaging bight **3**, having an outwardly flared free end portion **4**.

Frictionally secured to the shank portion **2** of the hook is an element molded of a soft plastic material, such, for example, as polyethylene, and consisting of an inverted conical portion **5** having an axial opening **6**, and spaced parallel flexible arms **7** and **8**, which extend horizontally from the upper end of the portion **5** and terminate short of the lower end of the flared portion **4** of the hook.

The axial opening **6** in the portion **5** of the said conical element is of smaller diameter than the diameter of the wire of which the hook is formed, so that the element may be assembled with the hook by forcing the portion **5** of the element over the flared end **4** of the hook, and slipping the element around the bight **3** of the hook and to the position shown in FIG. 1.

With the plastic element installed on the hook in the manner shown, the ends of the arms **7** and **8** are spaced from the point **9** of the hook a distance which is slightly less than the diameter of the cross-section of the ring R, so that when the ring is moved through the space between the ends of the arms **7** and **8** and the point **9**, a slight pressure is required to move the ring through this space, the arms **7** and **8** being flexed downwardly to permit passage of the ring through the space, but resuming their original horizontal position after the ring has moved through this space. Upon removal of the ring from the hook, a similar slight pressure is required to move the ring upwardly through the space in question, the arms **7** and **8** being flexed upwardly to permit passage of the ring through the space, but resuming their original horizontal position after the ring has moved through this space.

The arms **7** and **8** are thus effective to prevent the ring from becoming disengaged from the hook, except upon exertion of a slight pressure by the player, yet the resistance of these arms to such pressure is so slight as to permit the ring to be quickly and easily disengaged from the hook. As a result, the musician has more freedom of movement of his instrument, without fear of dropping or falling of the instrument, due to inadvertent disengagement of the ring from the hook.

The plastic element, as thus described, is of simple construction, can be molded, at low cost, in large quantities, and is relatively easy to assemble with any conventional hook of the character described.

At times when it is not desired to use the plastic element for the purpose described, it can be rotated horizontally about the shank **2**, 180 degrees, to an inoperative position, and without the necessity of removing it entirely from the hook.

The pressure required to move the ring into and out of the hook may be varied or adjusted by bending the flared portion 4 of the hook inwardly or outwardly in relation to the arms 7 and 8, so as to vary the spacing between the ends of these arms and the flared portion of the hook.

In FIGS. 4 and 5, a modified form of the invention is shown, in which a hook, such as shown in FIGS. 1 to 3, is coated with a coating 10 of plastic material, such as polyethylene, which covers the shank 2, bight 3, and flared portion 4 of the hook.

At the same time that the coating is deposited on the hook, a flexible arm 11 is provided, as a part of the coating, this arm extending horizontally to a point short of the base of the flared portion of the hook, this base being indicated by reference numeral 12.

The end of the arm 11 is spaced from the point 12 of the hook a distance which is slightly less than the diameter of the cross-section of the ring R, so that when the ring is moved through the space between the end of the arm 11 and the point 12, a slight pressure is required to move the ring through this space, the arm 11 being flexed downwardly to permit passage of the ring through the space, but resuming its original horizontal position after the ring has moved through this space. Upon removal of the ring from the hook, a similar slight pressure is required to move the ring upwardly through the space in question, the arm 11 being flexed upwardly to permit passage of the ring through the space, but resuming its original horizontal position after the ring has moved through this space.

The arm 11, in this case, it should be noted, is so associated with the hook as to form, in effect, a part of the hook.

Moreover, the coating 10 is advantageous in that it has more frictional resistance to movement of the ring along the coating than does the bare wire, thus acting to reduce or minimize the chances of the ring slipping off the hook.

In FIGS. 6 and 7, another modified form of the invention is shown, in which the entire hook is molded of a soft plastic material, as, for example, polyethylene.

In molding the hook to provide the loop 1, shank 2, bight 3 and flared end 4, a somewhat flexible arm 13, similar to the arm 11, is molded as an integral part of the hook, this arm extending horizontally from the shank 1 to a point short of the base 14 of the flared end 4.

Since the bight and flared end has a certain degree of flexibility, the hook, in this instance, preferably has a design, such as shown in FIGS. 6 and 7, which is slightly different from that of the hooks in the previously described forms of the invention.

The end of the arm 13 is spaced from the point 14 of the hook a distance which is slightly less than the diameter of the cross-section of the ring R, so that when the ring is moved through the space between the end of the arm 13 and the point 14, a slight pressure is required to move the ring through this space, the arm 13 being flexed slightly downwardly to permit passage of the ring through the space, but resuming its original horizontal position after the ring has passed through this space. Upon removal of the ring from the hook, a similar slight pressure is required to move the ring upwardly through the space in question, the arm 3 being flexed upwardly to permit passage of the ring through this space, but resuming its original horizontal position after the ring has moved through this space.

Since the hook in its entirety is made of a plastic material, it has the same advantages as the coating 10 in that it has more frictional resistance to movement of the ring along the hook than does a metal wire, thus acting to reduce or minimize the chances of the ring slipping off the hook.

Moreover, since the bight and flared end of the hook have a certain degree of flexibility, the arm 13 can be extended almost to the point 14, since the ring, in passing through the space between the arm and flared end of the hook can act to spring or spread the arm 13 and flared end away from each other to permit passage of the ring into and out of the hook.

It is to be understood that the forms of my invention, herewith shown and described, are to be taken as preferred examples of the same, and that various changes may be made in the shape, size and arrangement of parts thereof, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. In combination with a hook having a loop portion, a shank portion, a bight portion, and an outwardly flared free end portion extending from said bight portion, said hook adapted to receive the suspending ring of a saxophone or like musical instrument, means for preventing accidental disengagement of said ring from said hook, said means consisting of a conical plastic element frictionally secured to said shank and having an arm extending substantially horizontally from the upper end of said conical portion toward said flared end portion of the hook and terminating at a point spaced from substantially the base of said flared end portion, said arm being flexible to permit said ring to be received within the bight portion of the hook through the space between the end portion of the arm and the base of said flared portion of the hook.

2. The combination, as recited in claim 1, wherein a second arm extends from the upper end of said conical portion in spaced parallel relation with said first arm.

3. A device of the character described, adapted to be frictionally secured to a saxophone supporting hook, said device molded of a single piece of plastic material and comprising a conical portion having an axial passageway therethrough, and a flexible arm extending from the larger end of said conical portion and in a direction substantially in the plane of said larger end, said flexible arm being bifurcated at its end, said device being adapted to be mounted on said hook with said flexible arm acting as a means for preventing accidental disengagement of an engaged element from said hook.

4. A device, as defined in claim 3, wherein a second flexible arm extends from the larger end of said conical portion in spaced parallel relation with said first arm.

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