Jan. 25, 1944. G. W. FOUKE 2,340,118

LOCKING DEVICE

Filed May 29, 1942

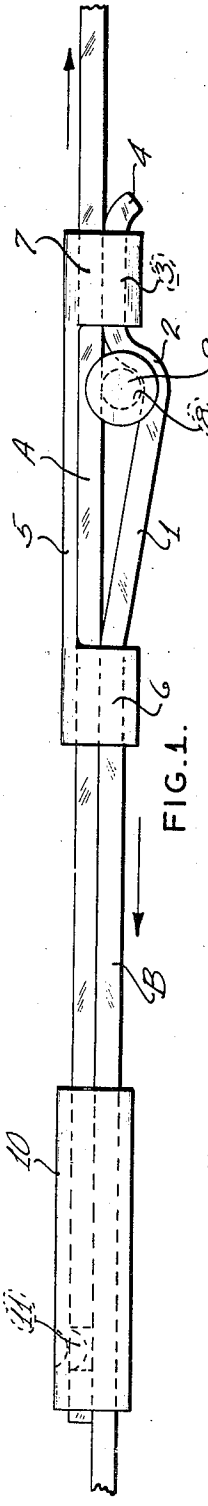


FIG. 1.

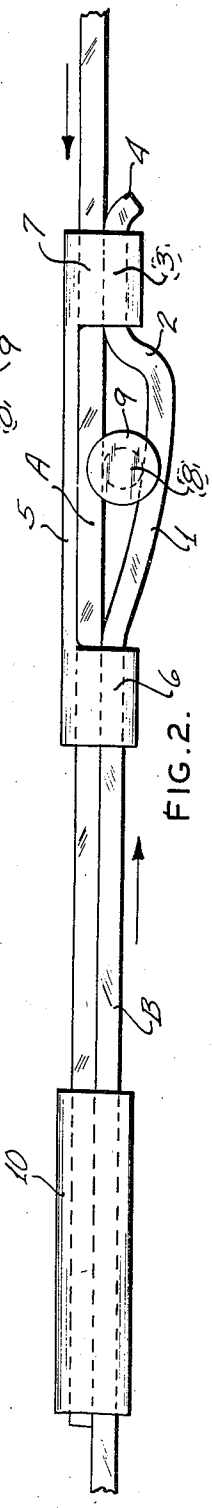


FIG. 2.

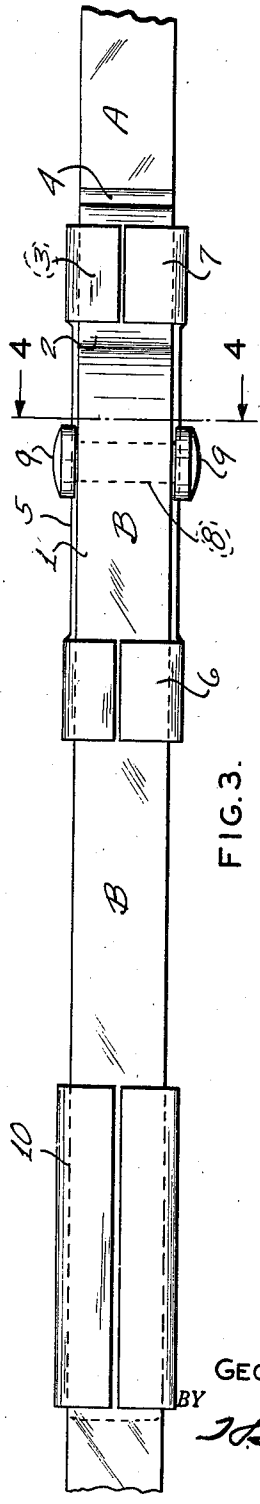


FIG. 3.

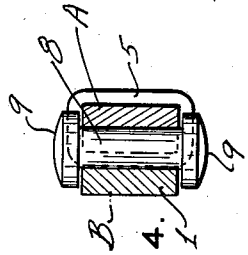


FIG. 4.

INVENTOR.
GEORGE W. FOUKE
BY
ATTORNEY

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LOCKING DEVICE

George W. Fouke, St. Louis, Mo., assignor to Lee-Rowan Company, St. Louis, Mo., a corporation of Missouri

Application May 29, 1942, Serial No. 444,951

1 Claim. (Cl. 287—58)

This invention relates to locking devices, and particularly to a device of this type where slidable adjustment of the article on which it is used is desirable, for instance, sweater stretchers, trouser creasers, and the like, and it is especially advantageous for the reason that the stretcher, or creaser, can be easily and quickly locked in position after it has been inserted in the garment and adjusted to the proper size. Another advantage is that, while it affords a very secure lock which cannot be accidentally loosened, it can be very easily and quickly unlocked and retracted and thus withdrawn from the garment by merely exerting a slight pull. Further, it is so constructed that it cannot get out of order, and is simple and inexpensive to manufacture.

While it is to be understood that this invention can be used on a great variety of articles which are adjustable as to size, for convenience I will describe my lock as being incorporated in a trouser creaser.

Fig. 1 is a side elevation showing the invention in unlocked position.

Fig. 2 is a similar view showing the lock as it appears in locked position.

Fig. 3 is a bottom view of the invention as illustrated in Fig. 2.

Fig. 4 is a vertical cross-section taken on line 4—4 of Fig. 3.

In the drawing, A and B designate strips of equal width, and preferably of some light weight material, forming either the top or bottom member of the creaser, the strip A being slidably positioned above the strip B (Figs. 1 and 2). Near its free end the strip B is bent so as to diverge from the strip A for a short distance, as shown at 1, and said strip is then bent to curve upwardly, as at 2, until it again slidably contacts the strip A for a slight distance, as at 3, and then at its outermost end said strip B again curves downwardly, as shown at 4. Thus, as will be seen in Figs. 1 and 2, the strips A and B are spaced apart for a short portion of their length, for a purpose to be hereinafter set out.

A strip 5 is slidably mounted above the strip A, said strip 5 being of very slightly greater width than the strips A and B, and preferably being formed of the same material as the latter strips. The strip 5 is of such length as to extend from a point immediately adjacent the point where the strip B starts to diverge, as shown at 1, and over the portion of the strips A and B where they are in contact at 3. At its ends the strip 5 is greatly widened to provide lateral extensions 6 and 7, respectively. At the end of the strip 5 which lies above the strips A and B adjacent the diverging section 1, the extensions 6 are bent around the strips A and B, and at the opposite end of the strip 5 the extensions 7 are bent around the strips A and B where they contact at 3. It will be readily understood that the extensions 6 and 7 thus serve to hold the strips A and B in slidable contact, and the downwardly curved portion 4 of the strip B keeps the free end of said strip from slipping out of the encircling extensions 7 (see Figs. 1 and 2).

A cylindrical member 8 is loosely mounted between the strips A and B within the space formed by the curved portion 2 of the strip B, the diameter of said cylindrical member 8 being slightly less than the distance between the strips A and B at their point of widest divergence, and said cylindrical member 8 is provided with a retaining knob 9 at each of its ends to retain it in position between the strips A and B. By referring to Fig. 1 it will be seen that a pull exerted on the cylindrical member 8 will have the effect of transmitting this pull to the free end of the strip B, thus accomplishing a sliding movement of said strip with respect to the strip A.

At the free end of the strip A a retaining member 10, preferably of the same material as the parts heretofore mentioned, is rigidly secured to said strip and bent around the strips A and B to hold them together in sliding engagement, the member 10 also being slidable on the strip B. In the drawing the retaining member is shown as being secured to the strip A by a small protuberance 11 on said retaining member which is forced into a corresponding depression in the strip A, but it is to be understood that these parts may be rigidly secured together in any suitable manner.

Suppose the creaser is to be used in a trouser leg. It is positioned therein so that one of its ends having the above described locking assembly is near the top of the trouser leg and the opposite end, also provided with a locking assembly, is near the bottom of the leg. When it has been inserted, in order to extend the device to the desired width at either top or bottom it is only necessary to grasp the strips A and B on either side of the locking assembly, one strip in each hand, and exert a gentle pull on said strips in opposite directions. Since the strips A and B are slidably held together by the extensions 6 and 7 of the strip 5, as above described, there is nothing to check their sliding movement until they have been drawn apart to such an extent that the retaining member 10 and the

extension 6 meet, at which time the device will be expanded to its widest extent, where it may be locked in position as will be later described, but if it is desired to expand the device a shorter distance the motion of drawing the strips A and B apart may be stopped at any desired point and the strips locked in position.

The locking operation is as follows: While the drawing apart movement is in progress, the cylindrical member 8 rests loosely in the space formed by the strip A and the curved portion 2 of the strip B where said strips diverge most widely (Fig. 1). At the desired point of expansion the drawing apart movement is reversed and a pushing together movement is substituted therefor, which automatically moves the cylindrical member 8 to a position between the strip A and the portion 1 of the strip B where the degree of divergence of the strips A and B is smaller, and the firmer the pushing movement, the more tightly said cylindrical member 8 becomes wedged between the strips A and B, where it is securely held by frictional engagement with said strips (Fig. 2) so that any further movement of the strips A and B is impossible, and the device is securely locked. This procedure is then repeated with the locking assembly at the opposite end of the device so that it will properly fit the trouser leg.

Suppose now it is desired to retract the device and withdraw it from the trouser leg. The operator grasps the retaining member 10 in one hand and the knobs 9 respectively between the thumb and forefinger of the other hand. He exerts sufficient pull on the knobs 9 to draw the cylindrical member 8 back into position between the strip A and the curved portion 2 of the strip B, where, it will be recalled, it is loosely mounted, and then, still grasping the retaining member 10 and the knobs 9, he exerts a pulling apart movement. It will be remembered that this exerts a pull on the free end of the strip B by virtue of the mounting of the member 8 in the curved portion 2 as previously described (Fig. 1), while the rigid attachment of the retaining member 10 to the free end of the member A permits that end to be pulled in the opposite direction, which operation, as will be readily seen, has the effect of drawing the strips A and B to a retracted position, in which position, when the retracting operation has been performed on the opposite end of the creasing device, said creasing device can be easily withdrawn from the garment.

I claim:

A locking assembly comprising substantially parallel, slidably associated sections, one of said sections near its free end diverging from the other of said sections for a relatively short distance and then curving upwardly to rejoin said second section in slidable contact for a short distance so that a substantially triangular space is formed between said sections, said curving section ending in a downwardly bent retaining portion, an element positioned adjacent the free end of said diverging sections and slidable with respect to the other section, said element being provided with a lateral extension at one of its ends to hold said sections in slidable engagement at a point adjacent the point of divergence and with a lateral extension at its opposite end to hold said sections in slidable engagement where said diverging section rejoins said other section, a cylindrical member loosely mounted in the widest portion of said triangular space and adapted to be wedged in a narrower portion of said triangular space, and a member rigidly secured to the other of said sections adjacent its free end to retain said sections in sliding engagement.

GEORGE W. FOUKE.