

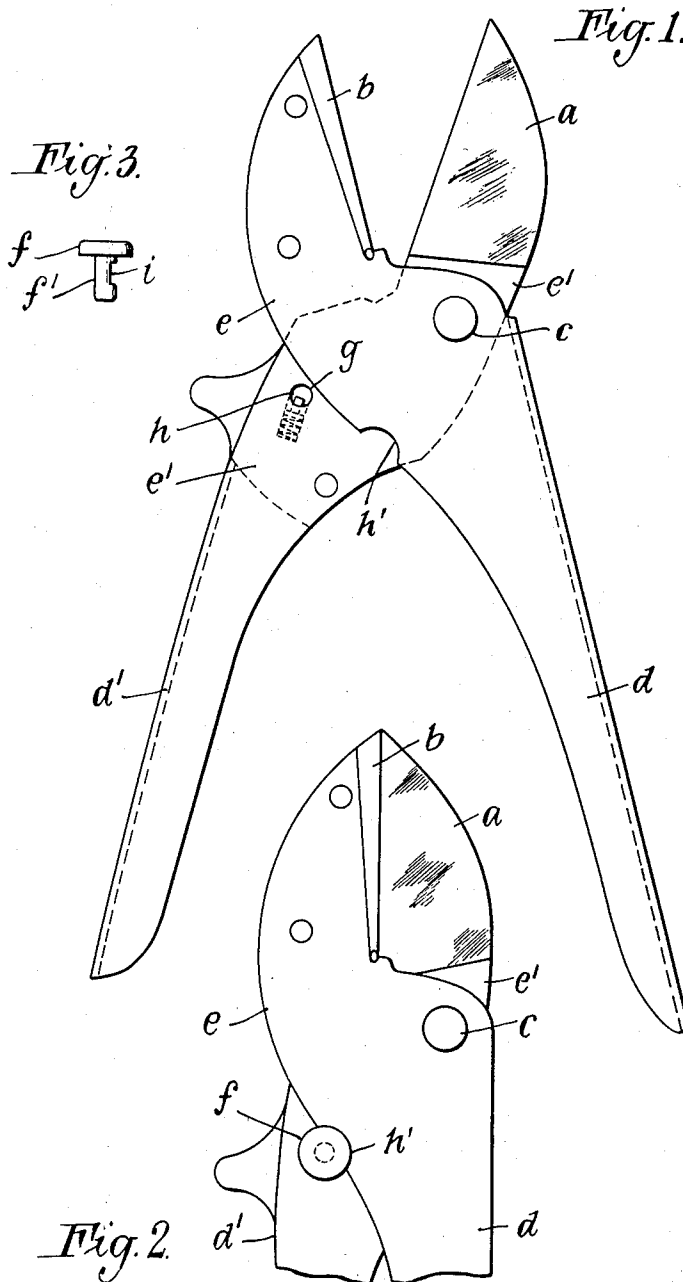
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SECATEURS

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1

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SECATEURS

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2 Claims. (Cl. 30—193)

This invention relates to secateurs, and more particularly to those in which a cutter blade is arranged to close with a drawing action against a flat edged jaw, the drawing action being brought about by off-setting the pivotal connection between the cutter blade and its cooperating flat edged jaw in relation to the line of contact between the blade and jaw.

Secateurs of the type to which this invention is applicable are well known and comprise a pair of mutually pivoted members of U-shape in cross section, pressed out of sheet metal. These members, besides serving as hand grips, are intended to form overlapping flattened cheeks which carry the blade and opposed jaw and are apertured to receive the off-set pivotal connecting member.

Secateurs of the kind referred to are spring opened when in use, but can be held closed when not in use or out of action.

This invention provides a simplified locking device for retaining the secateurs in the closed position against the action of the spring which tends to open them, and for this purpose a locking pin or stud (hereinafter referred to as the locking pin) mounted to have a limited degree of movement in a transverse aperture bored through the flattened cheeks of one operative member, is provided with a head or lateral projection adapted to be moved into or out of engagement with a recess formed in the contiguous edge of a flat cheek of the other operative member of the secateurs.

In a preferred form of construction the recess is arcuate in shape and is engaged by a portion of the periphery of a flat circular head on the locking pin which is conveniently pressed into the locking position by the thumb. In this position the opposite end of the locking pin protrudes a short distance through the opposite side cheek to enable pressure to be applied with the finger and by pressing on this end the pin can be moved to the release position, that is to say, the head of the pin can be disengaged from the recess and moved out of the plane and path of the cheek permitting the secateurs to open under the action of the spring usually employed for the purpose.

The range of movement of the locking pin is controlled and the locking pin is frictionally held in the locked position and in the released position by a spring loaded retaining pin housed in a recess formed in a plate held between the cheeks of the secateurs and to which the cutter blade is attached, the spring loaded retaining pin being adapted to engage a recess formed in the shank of the locking pin.

It will be evident that secateurs with an off-set pivotal connection and flat cheeks as aforesaid, readily lend themselves to this method of locking, which will be found exceedingly simple, unobtrusive and easy to manipulate and to replace worn or damaged parts.

In the accompanying drawing,

Fig. 1 is a side view of secateurs provided with locking means in accordance with this invention, the secateurs

2

being in the open position and the locking pin being removed and shown separately in Fig. 3 for the sake of clearness.

Fig. 2 is a side view showing the secateurs closed with the locking pin in position but with the handles partly broken away.

Fig. 3 is a detail view of the locking pin.

As illustrated in the drawings, the secateurs are of the known type having cooperating cutter elements comprising a cutter blade *a* and a flat edged jaw *b* against which the blade is arranged to close with a drawing action, due to the off-setting of the pivot pin *c* in relation to the line of contact between the blade *a* and jaw *b*. The hand grips or handles *d*, *d'* which are pressed out of sheet metal extend in the form of parallel flattened cheeks *e*, *e'* which overlap, the companion cheeks *e'* passing between the companion cheeks *e* to which they are pivotally connected at *c*. Secateurs of this type are forced open by a blade spring, not shown, located in one of the handles.

As shown the improved locking device constructed according to this invention for retaining the secateurs in the closed position when desired, consists of a headed locking pin *f* shown separately in Fig. 3, for the reception of which a hole *g* is bored through the flattened cheeks *e'* formed integral with the hand grip *d'* of the secateurs. The locking pin *f* fits in the aperture in which it can slide longitudinally to a limited degree controlled by a spring loaded pin *h* as aforesaid which projects into a recess *i* in the shank *f'* of the locking pin *f*. As seen in Fig. 3 the recess *i* extends longitudinally of the shank and has a flat bottom with shoulders at each end.

In the edge of the cheek *e* which moves in close proximity to the shank *f'* of the locking pin *f* is an arcuate recess *h'* into which a portion of the flat circular head of the locking pin *f* can be pressed when the cutter elements of the secateurs are in the closed position as shown in Fig. 2, thus locking the secateurs in this position. Their release is effected by pressing the pin *f* in the opposite direction, a movement which can be easily effected by the pressure of the index finger on the protruding end of the pin shank *f'*. It will be noted that the retaining pin is longitudinally slidable in a plane radial to the bored aperture *g* and to the cylindrical shank *f'* of the locking pin, and that its end is pressed by the spring against the bottom of the recess *i* to frictionally retain the locking pin in an adjusted position. While the recess *i* may be variously formed it has at one end a stop shoulder spaced from the end of the shank opposite the enlarged projection or head and so positioned that when the shoulder engages the retaining pin the locking pin will be prevented from being accidentally or unintentionally pushed out of the bored aperture or hole *g*.

It will be seen that the locking device has many advantages. It is not only extremely simple in construction so that it may be manufactured at small cost but it is easy to manipulate and reliable in use since the secateurs cannot spring open while in the pocket or when dropped upon the ground due to the spring loaded retaining pin acting against the locking pin. Another inherent advantage of applicant's locking device is that the locking pin and the retaining pin and its spring may be readily removed if these parts become worn or damaged. By forcefully rotating the locking pin through about an arc of 180°, the flat bottom of the recess *i* will cam the retaining pin *h* to a retracted position in which it will engage the round or cylindrical portion of the shank of the locking pin, whereupon the latter may be slid out of the aperture *g*. The retaining pin and its spring may then be withdrawn for renewal or repair.

Although the head on the locking pin is described and shown as circular in shape, the possibility of employing

3

some other shape of head with a suitably modified form of recess for receiving it, will be evident, and while a preferred form of construction has been described and shown in the drawing, attention is invited to the possibility of making variations within the ambit of the invention as claimed.

I claim:

1. In spring opened secateurs of the type described having cooperative cutter elements carried by overlapping flattened cheeks on mutually pivoted operative members and locking means retaining the secateurs in closed position, said locking means comprising a locking pin having a shank with an enlarged head at one end, said shank having on one of its sides a recess which extends longitudinally of the shank between its ends and is provided with a flat bottom and with a stop shoulder spaced from the other end of the pin, the shank of said locking pin being slidable in a bored aperture extending through the companion cheeks of one of the operative members, one of the cheeks of the other of said operative members having in its edge a recess to receive said head when the cutter elements are in closed position, the length of said shank being such that when said head is received in said cheek recess, the said other end of the pin will project beyond the outer face of one of said companion cheeks and may be pushed to disengage the head from the cheek recess, and a spring loaded retaining pin slidable longitudinally between said companion cheeks in a plane radial to said bored aperture, said retaining pin having an end projected by its spring into said longitudinal recess in the shank of said locking pin and frictionally engaged with the bottom of the said recess to hold the locking pin in an adjusted position, said shoulder in the recess of the locking pin being engageable with the retaining pin to prevent accidental removal of the locking pin from its aperture.

2. In spring opened secateurs of the type described having cooperative cutter elements carried by overlapping flattened cheeks on mutually pivoted operative members, locking means retaining the secateurs in the

4

closed position comprising a readily detachable locking pin having a cylindrical shank with an enlarged head at one end, said shank having on one side a longitudinally extending recess provided with a flat bottom and with a stop shoulder at one end spaced from the other end of said pin, said locking pin having its shank slidable and rotatable in a bored cylindrical aperture extending transversely through the companion cheeks of one of the operative members, one of the cheeks of the other of said operative members having in its edge a recess to receive said head when the cutter elements are in closed position, the length of said shank being such that when said head is received in said cheek recess the said other end of the pin will project beyond the outer face of one of said companion cheeks and may be pushed to disengage the head from the cheek recess, and a spring loaded retaining pin slidable longitudinally between said companion cheeks in a plane radial to said bored aperture, said retaining pin having an end projected into the recess in the shank of said locking pin and engaged with the flat bottom of the recess to frictionally hold the locking pin in an adjusted position, the shoulder in the recess of the locking pin being engageable with the retaining pin to prevent accidental removal of the locking pin from its aperture, said locking pin being readily removable by forcefully rotating it to cause the flat bottom of its recess to cam said retaining pin to a retracted position and then sliding the locking pin out of its aperture.

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