

SPECIFICATION

Detonating Mechanism for a Hand Grenade

The invention relates to a detonating mechanism for a hand grenade.

5 Such a detonating mechanism may comprise a fuze head for the hand grenade and a safety lever pivotally and releasably mounted on the fuze head, covering tensioned actuating means in its secured position and being secured by a cotter pin

10 extending through lateral cheeks of the safety lever and through a bore in the fuze head. Fuze heads of such detonating mechanisms are generally made of a plastics material, the safety levers are, however, usually produced from sheet

15 metal by stamping and pressing. In the secured position, the two lateral cheeks of the safety lever lie closely adjacent side walls of the fuze head. The cotter pin has its free end, which is spread apart, projecting from one side and its loop, for

20 the pull ring, projecting from the other side. Due to negligence, e.g. by being dropped, the projecting free end of the cotter pin may be pushed back into the fuze head, whereby the resistance to removal of the cotter pin, usually

25 provided by the spread apart free end thereof, is lost, and one lateral cheek of the safety lever may lose its support on the cotter pin, as the lateral cheeks of the safety lever are usually very thin. The cotter pin can then fall out and permit

30 undesired detonation.

To prevent this a protective cap of plastics material has been developed to be placed over the fuze head once the safety lever has been mounted thereon. The protective cap has a recess

35 in a thickened region of a lateral cheek thereof surrounding the bore and forming a sheath, the recess receiving the spread free end of the cotter pin. Since the free end of the cotter pin no longer projects, the above-mentioned disadvantage is

40 eliminated. It is, however, a disadvantage that the protective cap is a separate structural member, which has to be produced in an individual manufacturing process, thus increasing the cost of production.

45 According to the invention there is provided a detonating mechanism for a hand grenade, comprising a fuze head for the hand grenade and a safety lever pivotally mounted on and releasably engaging the fuze head, covering tensioned

50 actuating means in its secured position and being secured by a cotter pin extending through lateral cheeks of the safety lever and through a bore in the fuze head, including a tubular guide moulded

55 integral with the fuze head in the region of the bore and at a spacing from the adjacent side wall of the fuze head so as to form a slot between the tubular guide and said adjacent side wall, the tubular guide being in alignment with said bore and receiving the free end of the cotter pin, the

60 width of said slot corresponding at least to the thickness of the respective lateral cheek of the safety lever and receiving said respective lateral cheek in the secured position of the safety lever. Thus the free end of the cotter pin can be

65 protected without an additional member in the form of a protective cap being required.

70 Preferably a further tubular guide is moulded integral with the fuze head on the opposite side of the fuze head to the side at which said tubular guide is provided, the further tubular guide being spaced from the fuze head to form a further slot between the further tubular guide and the adjacent side wall of the fuze head.

75 The production of the tubular guide or guides in one manufacturing step need cause no problems and removes the requirement for a separate protective cap. The bore of the tubular guide is preferably enlarged at its outer end in the form of a funnel so that the free end of the cotter pin can be spread. In a preferred embodiment in

80 which a respective tubular guide is moulded on each of the two opposite sides of the fuze head, the further tubular guide can be used as a guideway, when pulling the cotter pin in a slanted direction, in order to avoid friction between the

85 pin and the safety lever and tilting of the cotter pin. It can also be used as a stop co-operating with the loop of the cotter pin receiving the pull ring to limit pushing in of the pin. Such further

90 pushing in could cause the spread end to project from the other tubular guide. In this embodiment it is possible to insert the cotter pin from either side.

95 The invention is diagrammatically illustrated by way of example in the accompanying drawing, in which:

Figure 1 is an elevation of a detonating mechanism for a hand grenade according to the invention in an almost fully released position;

100 Figure 2 is a view taken in the direction of arrow II of Figure 1 but omitting the safety lever; and

Figure 3 is a view taken in the direction of arrow III of Figure 2.

105 Referring to the drawing, a fuze head 1 made of a plastics material has a respective tubular guide 3, 4 on its opposite sides, the tubular guides 3, 4 being mounted integral with the lower part of the fuze head 1 and being spaced from side walls 8 of the upper part of the fuze head 1 to form slots 5. The tubular guides 3, 4 each have a bore therein aligned with a bore 10 of the fuze head 1. A cotter pin, which is not illustrated, extends through the aligned bores in the secured

110 position of the detonating mechanism. A safety lever 12 has lateral cheeks 13, each having a bore 14 therein, insertable into respective ones of the slots 5. The width of the slots 5 must therefore be at least equal to the thickness of the engaging lateral cheeks 13 of the safety lever 12. The safety lever is pivotally mounted on pins 9 of the fuze head 1. On one or on each side wall 8 of the fuze head 1 a clamp 2 can be provided for securing a pull ring (not shown) of the cotter pin.

115 Projections 6 can be disposed on a lower part 7 of the fuze head 1 for supporting the pull ring.

120 In the illustrated embodiment in which the cotter pin is to be inserted only from the side shown in Figure 1, the clamp 2 and the

projections 6 are only provided on this side. The tubular guide 3 serves only as a guide for the cotter pin and as a stop for the loop of the pin, and, therefore, has a cylindrical bore. On the opposite side the bore of the tubular guide 4 has its bore size increasing in an outward direction to form a funnel-like enlarged portion 11. The ends of the cotter pin can be spread within said portion 11 without projecting beyond it. The tubular guide 3 could obviously be made in the same manner if desired. The depth of the slots 5 is dimensioned in such a manner that the lateral cheeks 13 of the safety lever 12 can be inserted to such an extent that their bores 14 are in alignment with the bore 10.

The production of the fuze head described from a plastics material in one manufacturing operation need involve no problems. Due to the tubular guides 3, 4 moulded to the fuze head a protective cap is no more required, whereby the aforementioned disadvantage can be avoided.

Claims

1. A detonating mechanism for a hand grenade, comprising a fuze head for the hand grenade and a safety lever pivotally mounted on and releasably engaging the fuze head, covering

tensioned actuating means in its secured position and being secured by a cotter pin extending through lateral cheeks of the safety lever and through a bore in the fuze head, including a tubular guide moulded integral with the fuze head in the region of the bore and at a spacing from the adjacent side wall of the fuze head so as to form a slot between the tubular guide and said adjacent side wall, the tubular guide being in alignment with said bore and receiving the free end of the cotter pin, the width of said slot corresponding at least to the thickness of the respective lateral cheek of the safety lever and receiving said respective lateral cheek in the secured position of the safety lever.

2. A fuze head according to claim 1, wherein a further tubular guide is moulded integral with the fuze head on the opposite side of the fuze head to the side at which said tubular guide is provided, the further tubular guide being spaced from the fuze head to form a further slot between the further tubular guide and the adjacent side wall of the fuze head.

3. A fuze head substantially as hereinbefore described and illustrated with reference to the accompanying drawing.



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- 25 grenade, comprising a fuze head for the hand grenade and a safety lever pivotally mounted on and releasably engaging the fuze head, covering

tensioned actuating means in its secured position and being secured by a cotter pin extending through lateral cheeks of the safety lever and

30 through a bore in the fuze head, including a tubular guide moulded integral with the fuze head in the region of the bore and at a spacing from the adjacent side wall of the fuze head so as to form a slot between the tubular guide and said adjacent

35 side wall, the tubular guide being in alignment with said bore and receiving the free end of the cotter pin, the width of said slot corresponding at least to the thickness of the respective lateral cheek of the safety lever and receiving said

40 respective lateral cheek in the secured position of the safety lever.

2. A fuze head according to claim 1, wherein a further tubular guide is moulded integral with the fuze head on the opposite side of the fuze head to
- 45 the side at which said tubular guide is provided, the further tubular guide being spaced from the fuze head to form a further slot between the further tubular guide and the adjacent side wall of the fuze head.

- 50 3. A fuze head substantially as hereinbefore described and illustrated with reference to the accompanying drawing.