

June 30, 1931.

P. SLINDE

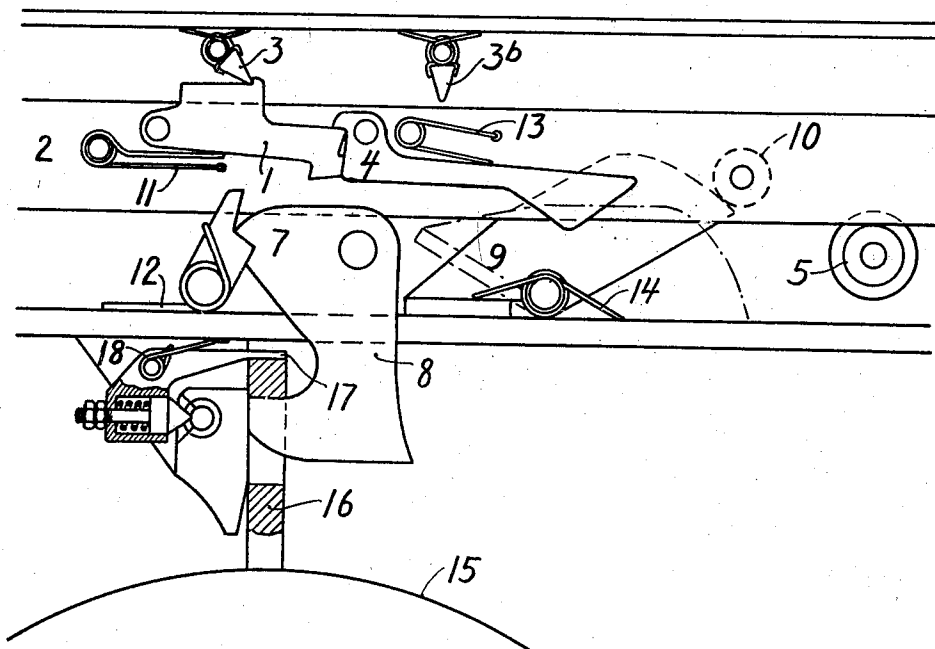
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DEVICE FOR RELEASING SHELLS IN AIRCRAFT

Filed Aug. 28, 1928

2 Sheets-Sheet 1

Fig. 1



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Fig. 2

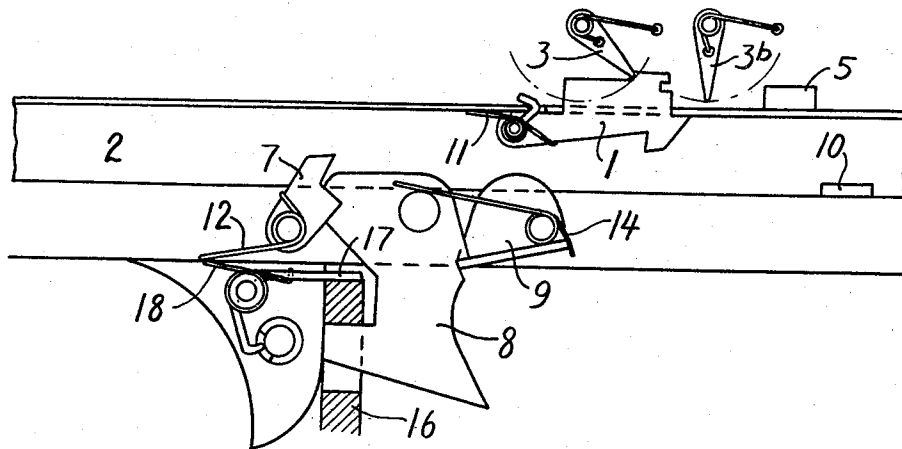
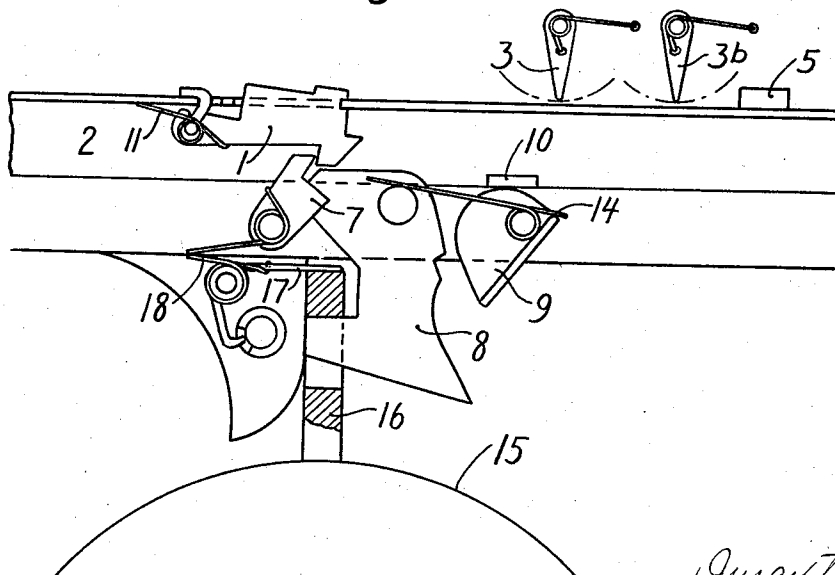


Fig. 3



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UNITED STATES PATENT OFFICE

PER SLINDE, OF KJELLER, NORWAY

DEVICE FOR RELEASING SHELLS IN AIRCRAFT

Application filed August 28, 1928, Serial No. 302,618, and in Norway September 7, 1927.

The invention relates to a device for releasing shells and the like in aircrafts arranged to be manipulated from a certain distance by means of one or several strings or the like, for which application for Letters Patent was filed in Norway September 7, 1927, No. 38,343.

In previously known devices of this kind only one shell may be released at a time or all shells be released simultaneously.

The main object of the present invention is now to obtain a device of the said kind arranged thus that any number of the shells may be released simultaneously.

Another object is to obtain a device of the said kind having only few moved parts and connections to the manipulating place.

The invention is illustrated in the accompanying drawings in which:

Fig. 1 is a side view of one form of the invention.

Fig. 2 is a side view of a further modified form of the same.

Fig. 3 is a side view of a further modified construction.

In all figures the same references designate similar parts.

The shell is carried in well known manner by a hook 8 which is locked in its closed position by means of a trigger 7 of known construction kept in its locking position by means of a spring 12 but arranged to be pushed aside by means of a releasing hook 1 for releasing the shell.

The hook 1 by means of which the shell is released is mounted on a slide 2 which may be moved in its length direction by means of strings or the like, operated from the operating place. The releasing hook 1 is kept by means of a spring 11 in its uppermost position in which the trigger 7 may be passed by the same without coming into contact with it. When the trigger is depressed it is according to Fig. 1 locked in such depressed position by means of a counterhook 4. According to Figs. 2 and 3 the device is locked in another manner. In this event the hook 1 takes up such a low position that it will strike the trigger 7 when the slide is moved toward its outermost position in releasing direction (to the left).

The depression of the hook 1 is effected by means of a pawl 3 coacting with a recess, a crosspin or the like on the releasing hook 1 in certain positions of the slide 2. When the slide is moved somewhat against the pawl 3 (in the drawings to the left) the latter will force the releasing hook 1 downwards in its releasing position and the releasing hook be secured in such a position.

For each shell a special releasing hook is arranged and at least one pawl. The pawls 3 are placed in such a distance from the respective shell carrying hooks that the releasing hooks belonging to the several such hooks will be gradually acted upon in the several positions of the slide 2. If the pawl 3 does not coact with the recess or the crosspin in the releasing hook it will when the slide is moved back (in the drawings to the left) pass the recess or the cross pin without depressing the same.

Any number of releasing hooks may be gradually depressed and the corresponding shell carrying hooks be released when the slide 2 is fully returned to the releasing position.

In the drawings is shown an additional pawl 3b which will come to action simultaneously for all shells in a certain position of the slide.

Hereby is obtained a quicker adjustment for simultaneously releasing all shells. However the same adjustment may also be obtained by gradual adjustment of the releasing hooks for releasing the shells one by one.

When the slide 2 is moved to its outermost position opposite to the releasing position the counterhook will be released by a stop 5 so that the counterhook will be released and the releasing hook 1 by means of a spring 11 be returned to its original position.

The shell carrying hook is secured by means of a safety plate 9 which is kept by a spring 14 in such a position that the hook is prevented from being opened. The safety plate may be turned away from this position by means of an impact 10 or the like on the slide 2 striking against a wing on the safety plate so that the latter will be turned aside and the securing action ceases. The hoop 16 on

the shell itself will, when the shell is in position, raise an arm 17 so as to close a contact leading an electric current to a signal lamp on the operating place. The current is broken when the shell is released owing to the fact that the arm 17 by means of a spring 18 is depressed when the hoop is removed.

It will be understood that the invention is not limited to the shown forms but may as to details be varied in many ways without departing the scope of the invention.

Claims:

1. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, and means for locking the releasing hook in the operative position in certain position of the slide.

2. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook releasing the trigger and mounted on the slide, means for moving the slide from the operating place, means for locking the releasing hook in the operative position, means for depressing the releasing hook into operative position relatively to the trigger, and means for securing the releasing hook in such depressed operative position until the load is released.

3. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, means for locking the releasing hook in the operative position, an adjustable pawl adapted in operative position to depress during movement of said slide the releasing hook into operative position relatively to the trigger, and means for securing the releasing hook in such depressed operative position until the load is released.

4. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, means for depressing the releasing hook into operative position relatively to the trigger, and means adapted to lock the releasing hook in the operative position and to secure said hook after its depression in operative position until the load is released.

5. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place,

an adjustable pawl adapted in operative position to depress during movement of said slide the releasing hook into operative position relatively to the trigger, and means adapted to lock the releasing hook in the operative position and to secure said hook after its depression in operative position until the load is released.

6. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, and means for locking the releasing hook in the operative position in certain position of the slide, and mechanical means for restoring the releasing hooks into inoperative position.

7. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, and means for locking the releasing hook in the operative position in certain position of the slide, and mechanical means for restoring the releasing hooks into inoperative position, a safety device adapted to bar the load carrying hook, and means for releasing said safety device.

8. In a device for discharging loads from an aircraft, a load carrying hook, a trigger arranged in operative relation to said carrying hook, a slide, a hook for releasing the trigger and mounted on the slide, means for moving the slide from the operating place, and means for locking the releasing hook in the operative position in certain position of the slide, and mechanical means for restoring the releasing hooks into inoperative position, a safety device adapted to bar the load carrying hook, and means for releasing said safety device.

9. In a device for discharging loads from aircraft, of the kind provided with load carrying hooks and releasing hooks mounted on a movable element, which is moved at a distance from the operating place, the arrangement of mechanical means for selecting loads or groups of loads to be released, by depressing and locking the releasing hooks in their active positions, the depression being effected by a pawl coacting with a recess when the slide is moved against the pawl from certain positions corresponding to the loads to be chosen.

10. A device as claimed in claim 9 having mechanical means for restoring the releasing hooks to inoperative position.

11. In a device as claimed in claim 9 a safety device that bars the load carrying hook and means for releasing said safety device.

12. A device as claimed in claim 9, having

mechanical means for restoring the releasing hooks into inoperative position, a safety device adapted to bar the load carrying hooks, and means for releasing said safety device.

13. In a device for releasing loads in an aircraft, a load carrying hook, a releasing hook mounted on a slide, means for moving the said slide, means for locking the releasing hook, means for depressing the releasing hook in such a position until the loads are released, a safety device with means for keeping it in such a position that it bars the load carrying hook, and means for releasing such safety device.

14. In a device for releasing loads in an aircraft, a load carrying hook, a releasing hook, mounted on a slide, means for moving the said slide, means for locking the releasing hook, means for depressing the releasing hook in such position until the loads are released, a safety plate, for the load carrying hook, a spring coacting with the safety plate, a wing on the safety plate and an impact coacting with the said wing for the purpose of allowing a releasing motion of the load carrying hook.

15. In a device for releasing shells in an aircraft, a shell carrying hook, a releasing hook mounted on a slide, means for moving the said slide, means for locking the releasing hook, means for depressing the releasing hook in such a position until the shells are released, a safety device and means for keeping the latter in such a position that it bars the hook-opening and means for releasing such safety plate.

16. In a device for releasing shells in an aircraft, a shell carrying hook, a releasing hook, mounted on a slide, means for moving the said slide, means for locking the releasing hook, means for depressing the releasing hook in such position until the shells are released, a safety plate, a spring coacting with the safety device, a wing on the safety device and an impact coacting with the said wing for the purpose of allowing a releasing motion of the shell carrying hook.

In testimony whereof I have signed my name to this specification.

PER SLINDE.