

March 17, 1925.

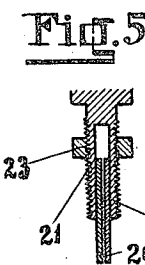
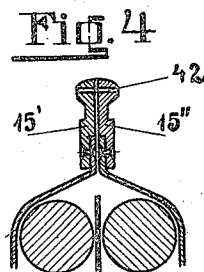
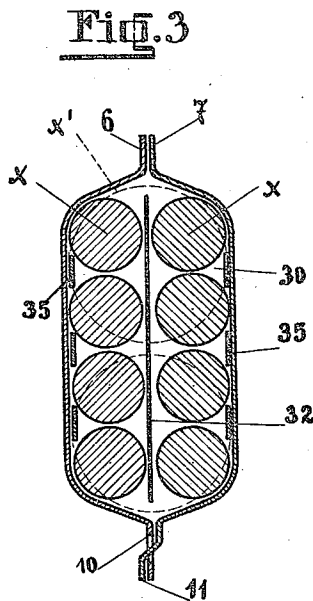
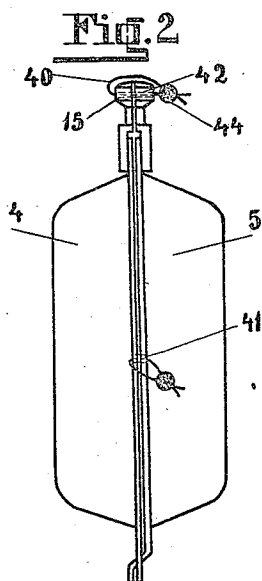
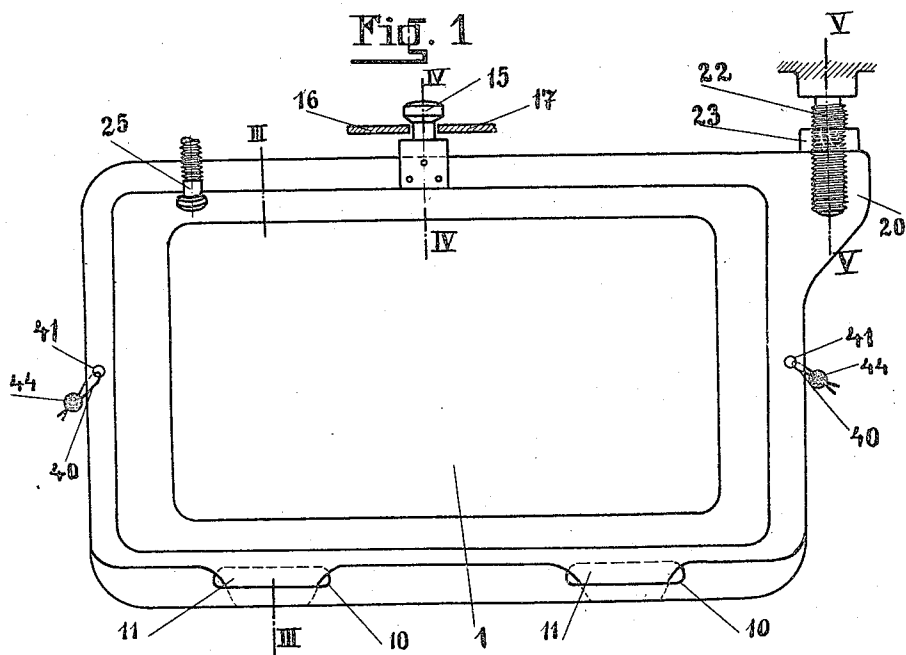
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E. PANTOFLICEK

APPARATUS FOR THROWING BOMBS

Filed Oct. 16, 1924

2 Sheets-Sheet 1



BOHDAN PANTOFLICEK
Inventor: *Bohdan Pantoflick*
by *Bohdan Pantoflick* Attorney.

March 17, 1925.

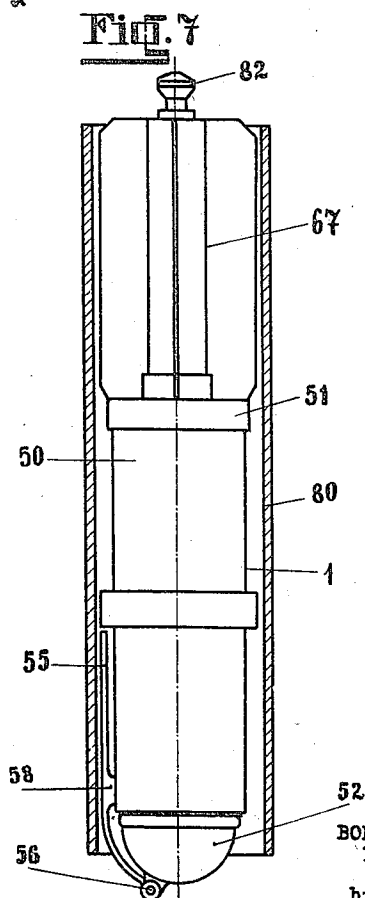
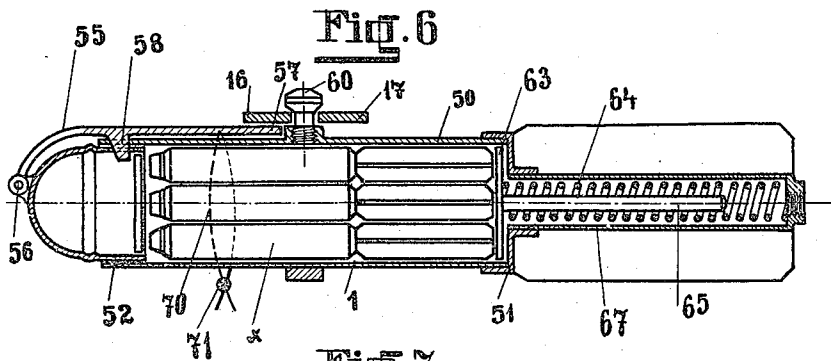
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B. PANTOFLICEK

APPARATUS FOR THROWING BOMBS

Filed Oct. 16, 1924

2 Sheets-Sheet 2



BOHDAN PANTOFLICEK
Inventor:
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UNITED STATES PATENT OFFICE.

BOHDAN PANTOFLICEK, OF PILSEN, CZECHOSLOVAKIA.

APPARATUS FOR THROWING BOMBS.

Application filed October 16, 1924. Serial No. 744,094.

To all whom it may concern:

Be it known that I, Ing. BOHDAN PANTOFLICEK, working manager, a subject of the Republic of Czechoslovakia, and residing at Pilsen, Karlsbaderstrasse Nr. 24, Czechoslovakia, have invented certain new and useful Improvements in Apparatus for Throwing Bombs, of which the following is a specification.

My present invention relates to apparatus for throwing simultaneously a plurality of bombs, more particularly from air crafts, by means of a bomb throwing apparatus as the well known or any suitable type designed for throwing one bomb only at a time.

With this and other objects in view the essence of my invention consists in that the bomb throwing apparatus is provided with a bomb carrier or basket containing a plurality of bombs and comprising means for throwing them; the basket being provided with devices for throwing out the bombs at a predetermined instant for instance at the instant of throwing of the basket or during its flight or directly before it strikes the ground or target or of the moment when the basket strikes the ground.

In the annexed drawings, I have shown by way of example three constructional forms of my invention.

Figs. 1 to 5 show one constructional form of my improved apparatus, Fig. 1 being a front elevation and Fig. 2 a side elevation of the same, Fig. 3 is a section on the line III, III Fig. 1. Figs. 4 and 5 are sections on the lines IV, IV and V, V respectively of Fig. 1. Fig. 6 is a longitudinal section of another constructional form of my invention; Fig. 7 is a side elevation partly in section of a third constructional form of my invention.

In the constructional form of my invention shown in Figs. 1 to 5 is the carrier or basket adapted to carry a plurality of bombs α . As shown the basket consists of two halves or troughs 4, 5 hinged together and provided with flanges 6, 7 at the edges contacting with each other and with locking means. As in Figs. 1 to 5 shown the hinges are formed by opening 10 provided in the trough 4 or its flange 6 and of hinges 11 provided on the other trough 5 engaging into the openings 10 when the troughs or halves are in the closed position as shown in Figs. 1 and 3. The hinges are provided as shown

in Fig. 1 on one of the longer sides of the basket which is rectangular in shape in the constructional form shown in Figs. 1 to 5. On the opposite side of the basket a head 15 is provided which permits to attach the basket to the air craft or the like by means of a releasing device 16, 17 of any known or preferred construction. The releasing device is operated in any known or preferred manner by the observer to release the head 15 and the basket. In the example illustrated the head is made in two parts 15' and 15'' Fig. 4 the part 15' being secured to the trough 4 and the part 15'' to the trough 5.

Furthermore each of the troughs is provided with a lug 20 engaging into a slot 21 of a bolt 22 as long as the basket is locked in position whereby the basket is kept in closed position. The top edges of the lugs 20 abut against an adjustable nut 23 on the bolt 22. This supporting device 21, 22, 23 is likewise a part of the well known bomb throwing apparatus for one bomb and engages in this case into a slot 21 of one of the stabilizing wings or surfaces. Besides the support 23 the present apparatus also comprises a support 25 which is likewise to be found in the well known bomb throwing apparatus for one bomb only.

The bombs α are arranged within the space enclosed by the troughs 4 and 5. Preferably the bombs α are arranged in the basket 1 in two or more series it being advantageous to select a pair number of bombs as then the basket 1 may be filled with bombs of different size as indicated in Fig. 3. α indicating bombs of small diameters and α' indicating bombs of a larger diameter. If desired the bombs may be separated from each other by partitions 32. Springs 35 are interposed between the bombs α and the inner surfaces of the troughs 4 and 5 to facilitate the opening of the basket. Furthermore the basket may be provided with armourings protecting the delicate parts of the bombs from injury say by projectiles. These armourings consist preferably of a smooth and highly resisting material, for instance armour plates.

The basket is moreover provided with safety devices which prevent an accidental opening of the basket before the latter is suspended from the air craft or the like. In the constructional form shown in Figs. 1 to 5 these safety devices consist of wires 40

passing through openings 41 in the flanges 6 and 7 and through an opening 42 of the head 15 and connected by a lead or other seal 44. One of these safety devices is arranged near the suspending device in such a manner that the basket 1 can be suspended in position only after removing this safety device. This is secured in the constructional form shown in Figs. 1 to 5 by the fact that one of the safety devices connects the two parts 15', 15'' of the head 15. By arranging one safety device near the suspending device the attendant is most reliably warned that also as the other safety devices have to be removed which may be arranged at any desired points.

The basket 1 charged with bombs is thrown off by simply actuating the releasing device 16, 17 whereby the head 15 is released and the basket with the bombs is permitted to fall the basket is opened only at the instant when the hinges 20 have come clear of the slot 21 and therefore in the example shown after throwing off the basket. When the troughs 4, 5 have opened the bombs fall out and continue on their way irrespective of the basket.

Of course the basket can be caused to open at any predetermined instant and by means of any internal or external forces such as resistance of the air, springs, centrifugal force, weights or the like. Or a bursting charge might be provided in the basket for opening the same at a predetermined instant. By properly constructing the releasing means above mentioned the bomb basket may be caused to open during flight or directly before or at the instant of hitting the target or ground.

In the constructional form shown in Fig. 6 the basket 1 consists of a sleeve 50 closed at one end by a head 51 and at the other end by a removable cover 52 and enclosing the bombs α . On the cover 52 a locking lever 55 is pivoted at 56 and engages with its free end 57 into the releasing device 16, 17. 58 is a safety lug provided on the locking lever which as long as the lever 55 is turned inward prevents the cover 57 from coming free of the sleeve 52 which latter is provided with a suspending head 60 which is retained in position by the releasing device 16, 17 as long as the basket is suspended.

In the constructional form shown in Fig. 6 means are provided for ejecting the bombs from the sleeve 50. These means consists of the piston 63 acted upon by a spring 64 and carrying a guide rod 65. The spring and the rod are enclosed and adapted to move longitudinally in a tube 67 secured to the head 51.

If desired this constructional form may be likewise provided with safety devices, which prevent an accidental opening of the basket 1 before it is safely suspended

on the air craft or the like. In the example shown the safety devices consist of a wire 70 and a seal 71. The wire 70 is passed round the lever 55 in its locked position and round the basket 1 and its ends are connected with each other by the lead or other seal 71.

The basket 1 charged with bombs is first suspended by means of the head 15 in the releasing device 16, 17 of a bomb throwing apparatus of any known or preferred construction for one bomb only the lever 55 being locked in its closing position. After locking the basket in position the safety device 71 is removed. The basket 1 is thrown off by actuating the releasing device 16, 17. By releasing the basket the closing lever 55 is likewise released and is turned upwards by any force acting on the same, say by a spring that its lugs 58 releases the cover 52. Thereupon the ejecting piston 63 comes into operation and ejects first the cover 52 and then the bombs α from the basket 1. By combining the basket closing mechanism 52, 55, 58 with a releasing mechanism the opening of the basket 1 and the ejection of the bombs α therefrom can be caused to take place at any predetermined instant.

The constructional form shown in Fig. 7 closely resembles that shown in Fig. 6 and is designed for throwing bombs from a vertical tube 80. 50 is the sleeve for receiving the bombs, 51 is the head and 52 the cover of the basket 1. 55 is the closing lever, 56 its fulcrum on the cover the suspending head 82 is in this case provided at the end of the sleeve 67.

In this constructional form the closing lever 55 is locked in its closing position by the tube 80 but when after releasing the head 82 the basket has come clear of the tube 80 the lever can turn freely whereby the cover 52 is released and the basket 1 is opened. The present arrangement permits throwing simultaneously any desired number of bombs of any shape size and nature.

The arrangements herein disclosed only show by way of example various constructional forms of the invention and may be modified in many ways without departing from the essence of my invention.

What I claim is:

1. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket.

2. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs and comprising a plurality of parts and means for detach-

ably holding together such parts with means for holding the bombs in position in such basket means for releasing the bombs, means for detachably securing the basket to a structure and means for closing and opening the basket.

3. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs and for ejecting them from the basket at a predetermined instant means for detachably securing the basket to a structure and means for closing and opening the basket.

4. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs such basket comprising a plurality of parts and means for detachably holding together such parts whereby the bombs are held in position, means for opening such part whereby the bombs are released and means for detachably securing the basket to a structure.

5. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs comprising a plurality of parts and closing devices for holding together such parts and means for opening such closing devices at a predetermined instant with means for holding the bombs in position in such basket, means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket.

6. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs comprising a plurality of parts and closing devices for holding together such parts and means for opening such closing devices such means being adapted to be operated by the impact of the basket against the target with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket.

7. In an apparatus for throwing bombs the combination of a basket adapted to receive plurality of bombs such basket comprising a plurality of parts and means for detachably holding together such parts whereby the bombs are held in position means for opening such parts comprising a bursting charge whereby the bombs are released and means for detachably securing the basket to a structure.

8. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs the bombs being arranged in a plurality of series side by side the number of such series varying according to the size of the bombs, with means for

holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket.

9. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket, the basket being provided with armourings adapted to protect the delicate parts of the bombs.

10. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket, the basket being provided with armour plates adapted to protect the delicate parts of the bombs.

11. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket, the basket consisting of two troughs hinged together at one side and held together at the opposite side by closing devices adapted to be operated by the said means for detachably securing the basket to a structure.

12. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket, the basket consisting of two troughs one of such troughs being provided with openings and the other trough being provided with lugs engaging into the said openings the said openings and lugs being arranged at one side of the troughs, the opposite side of the latter being provided with closing devices adapted to be operated by the said means for detachably securing the basket to a structure.

13. In an apparatus for throwing bombs the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening the basket, the basket consisting of two troughs hinged together at one side and provided

with a two part head and lugs at the opposite side and means provided on a structure for detachably holding the head and lug.

14. In an apparatus for throwing bombs
5 the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure
10 and means for closing and opening the basket, the basket consisting of two troughs hinged together at one side and provided with a two part head and lugs at the opposite side means provided on a structure for
15 detachably holding the head and a slotted bolt on the said structure adapted to receive the said lugs.

15. In an apparatus for throwing bombs
20 the combination of a basket adapted to receive a plurality of bombs with means for holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure

and means for closing and opening the basket, and safety devices adapted to prevent
25 the accidental opening of the basket prior to its being secured to the structure.

16. In an apparatus for throwing bombs
the combination of a basket adapted to receive a plurality of bombs with means for
30 holding the bombs in position in such basket means for releasing the bombs means for detachably securing the basket to a structure and means for closing and opening
35 the basket and safety devices adapted to prevent the accidental opening of the basket prior to its being secured to the structure the said safety devices being arranged rear the means for securing the basket to the structure.

In testimony whereof I affix my signature in presence of two witnesses.

ING BOHDAN PANTOFLICEK.

Witnesses:

R. WANKA,
GUSTAV BOHEN.