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K. S. PITZER

2,463,200

INDIRECT SIGHTING INSTRUMENT FOR ROCKETS

Filed Oct. 31, 1945

Fig. 1.

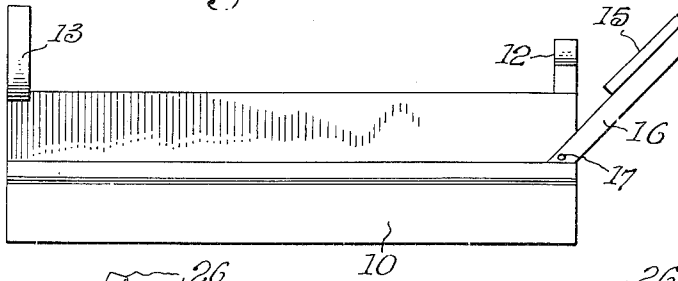


Fig. 2.

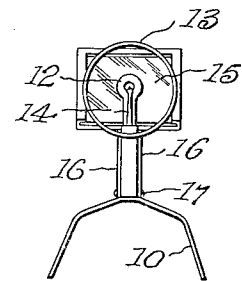


Fig. 5.

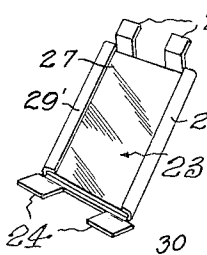


Fig. 4.

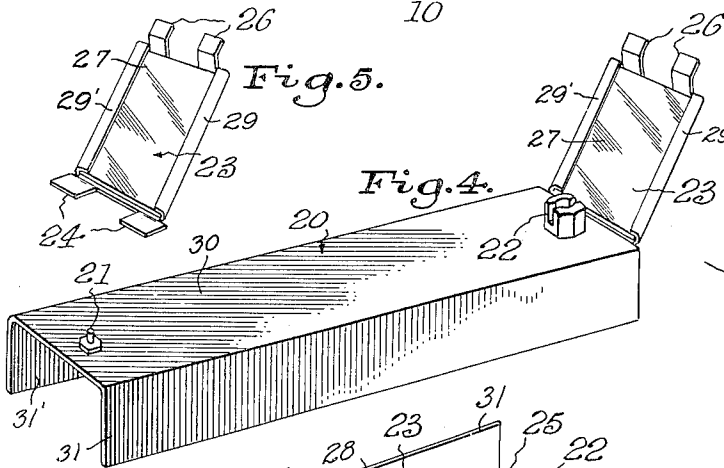
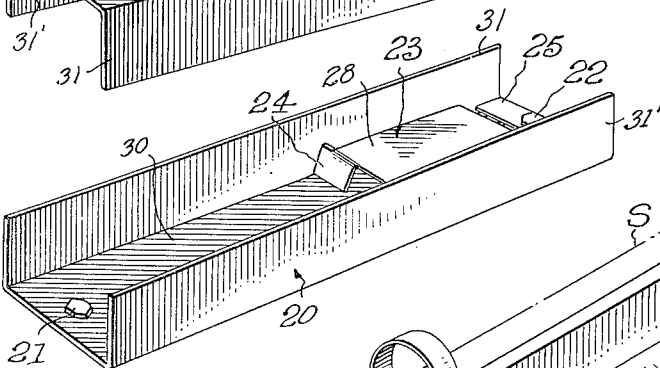
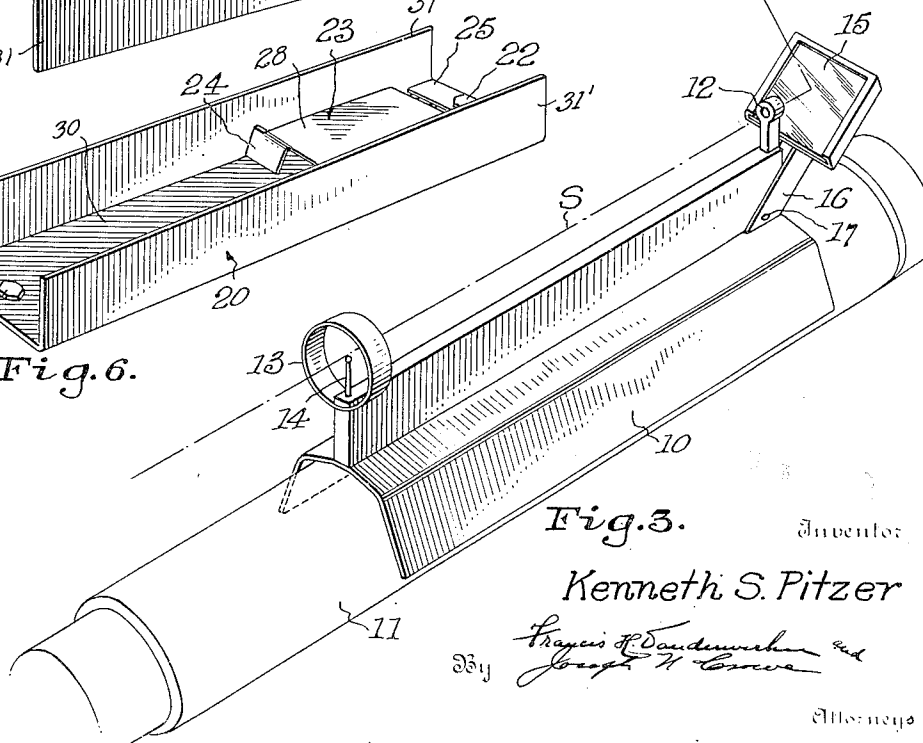


Fig. 6.

Fig. 3.



Inventor

Kenneth S. Pitzer

By Francis H. Dandeneau and Joseph H. Lawrence

Attorneys

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UNITED STATES PATENT OFFICE

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INDIRECT SIGHTING INSTRUMENT FOR
ROCKETSKenneth S. Pitzer, Contra Costa County, Calif.,
assignor to the United States of America as
represented by the Secretary of War

Application October 31, 1945, Serial No. 625,826

3 Claims. (Cl. 88-2.2)

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This invention relates to a sighting instrument and more particularly to a reflecting sight for the indirect aiming of a weapon such as a rocket tube.

An object of this invention is to provide a sighting instrument for use with a weapon which is not itself equipped with sighting means. Another object is to provide a sighting instrument for the indirect aiming of weapons whose position makes direct aiming difficult. Other objects and advantages of the invention will appear from the following description and accompanying drawings in which:

Fig. 1 is a side view of a sighting instrument embodying the invention;

Fig. 2 is an end view of the sighting instrument illustrated in Fig. 1;

Fig. 3 is a perspective view illustrating a sighting instrument embodying the invention in position for use;

Fig. 4 is a perspective view of a modified sighting instrument incorporating the invention;

Fig. 5 is a perspective view of a reflecting device for use in conjunction with the sighting instrument shown in Fig. 4; and

Fig. 6 is a perspective view showing the underside of the sighting instrument shown in Fig. 5 with the reflecting device in position to be carried.

Referring to the drawings in detail there is a U-shaped supporting member 10 adapted to fit over a weapon or projecting device 11 in such a manner that it will rest on the rocket tube or weapon 11 and be aligned therewith. A rear sight 12 is mounted at one end of the supporting member 10 and a front sight 13 is mounted at the other end of the supporting member 10. The center of the rear sight 12 is aligned for a given trajectory and distance with the tip of a center post 14 in the front sight 13.

A reflecting device 15 such as a mirror is pivotally mounted on the supporting member 10 by a pair of arms 16 and a pin 17. When the sight is placed on the rocket tube or weapon 11 such as the shipping container for a rocket as illustrated in Fig. 3, the mirror 15 is positioned behind the rear sight 12 and in angular relation thereto so that a line of sight "S" passing through the rear sight 13 and the front sight 12 will strike the mirror 15 and be reflected upward. Thus, the direction of the line of sight "S" may be observed by an observer "O" from a position above the rocket tube or weapon 11 along the line of sight "S".

As will be readily seen, such indirect sighting

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is extremely useful where the rocket tube or weapon 11 rests on the ground in such a manner that it would be difficult to sight it directly because of its proximity to the ground. Such a sight is especially adaptable for aiming the shipping containers of rockets from which the rockets may be fired, but which are not themselves equipped with sights.

When the sight is to be carried in a pack or elsewhere, the mirror 15 may be positioned under the supporting member 10 so as to be more compact and so that its reflecting surface will not be damaged.

In the modified form of the invention shown in Figs. 4, 5, and 6, there is a U-shaped supporting member 20 having an upper wall 30 and lateral walls 31 and 31' and carrying a front sight post 21 and a rear sight post 22 aligned for a given trajectory and distance. When this sight is to be used, a reflecting device 23 is positioned behind the rear sight 22 and in angular relation thereto. The reflecting device comprises a reflector 27 and a reflector support backing 28 which is provided with bent edges 29 and 29' for clamping the reflector thereto. The backing is provided with flanges or lugs 24 at one end thereof which are adapted to be secured under a keeper 25 on the supporting member 20 for supporting the reflector 27 in operative position, and lugs 26 at the opposite end thereof for securing the reflector to the inside of the supporting member 20 when the device is not being used.

While preferred embodiments of the invention have been shown and described herein, it will be apparent to those skilled in the art that various changes and alterations may be made without departing from the scope of the invention as described by the appended claims.

What is claimed is:

1. A sighting apparatus for directing the flight of a rocket, including the combination with a rocket tube of instrumentalities removably mounted on said tube, the said instrumentalities comprising a U-shaped supporting member adapted to fit over the rocket tube, a keeper attached to the inner surface of said supporting member, a front sight and a rear sight carried by the supporting member, and means for indirectly observing the direction of the line of sight between the front sight and the rear sight comprising a reflector, a reflector support backing provided with lateral, bent edges for attachment to said reflector, lugs at one end of said backing for engagement by said keeper to support said reflector in sighting position, and lugs at

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the opposite ends of said backing for engagement therewith for supporting said reflector within said U-shaped member when the instrument is not in use.

2. A sighting apparatus for directing the flight of a rocket, including the combination with a rocket tube of instrumentalities removably mounted on said tube, the said instrumentalities comprising a U-shaped supporting member having an upper wall and lateral walls adapted to fit over the rocket tube, a keeper attached to the inner surface of said upper wall of said supporting member, a front sight and a rear sight carried by the supporting member, and means for indirectly observing the direction of the line of sight between the front sight and the rear sight comprising a reflector, a reflector support backing provided with lateral, bent edges for attachment to said reflector, lugs at one end of said backing for engagement between said keeper and said upper wall to support said reflector in sighting position, and lugs at the opposite ends of said backing for engagement between said keeper and said upper wall for supporting said reflector within said U-shaped member when the instrument is not in use.

3. A sighting apparatus for directing the flight of a rocket, including the combination with a rocket tube of instrumentalities removably mounted on said tube, the said instrumentalities comprising a U-shaped supporting member adapted to fit over the rocket tube, sight posts supporting a front sight and a rear sight mounted

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on said supporting member, a keeper attached to said rear sight post adjacent the inner surface of said supporting member, and means for indirectly observing the direction of the line of sight between the front sight and the rear sight comprising a reflector, a reflector support backing provided with lateral, bent edges for attachment to said reflector, lugs at one end of said backing for engagement by said keeper to support said reflector in sighting position, and lugs at the opposite ends of said backing for engagement therewith for supporting said reflector within said U-shaped member when the instrument is not in use.

KENNETH S. PITZER.

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