

March 8, 1949.

S. GRASSI ET AL
MEANS FOR DISLODGING CONCRETE PRACTICE
BOMBS FROM MOLD BASES
Filed July 30, 1945

2,463,965

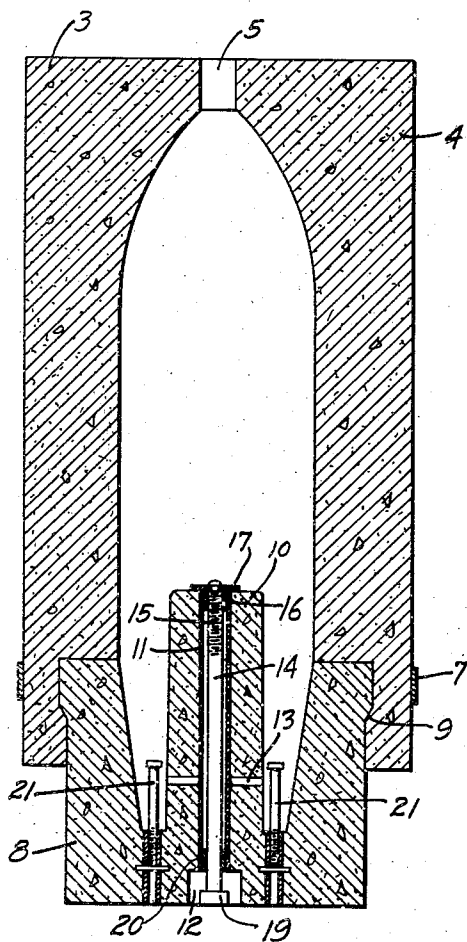


Fig. 1

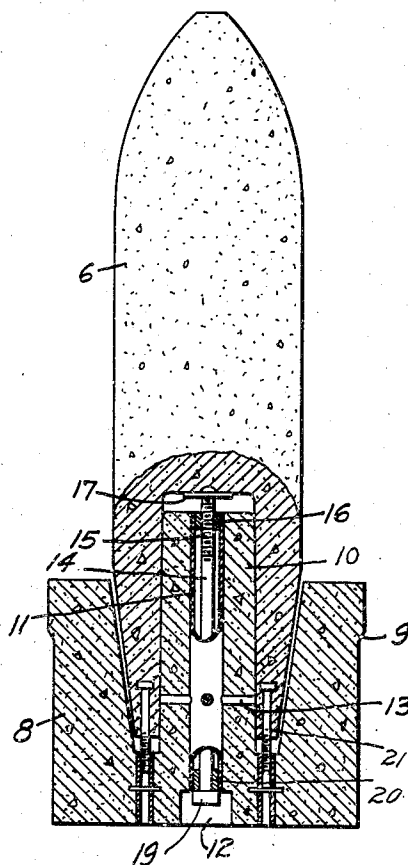


Fig. 2

INVENTORS
Salvatore Grassi
Elio Filippi
BY *Edward Healy*
ATTORNEY

UNITED STATES PATENT OFFICE

2,463,965

MEANS FOR DISLODGING CONCRETE PRACTICE BOMBS FROM MOLD BASES

Salvatore Grassi and Elio Filippi,
San Francisco, Calif.

Application July 30, 1945, Serial No. 607,700

1 Claim. (Cl. 25—120)

1

2

This invention relates to a device or appliance for readily removing a concrete practice bomb from the mold in which the bomb is cast.

The principal object of the invention is the provision of a manually controlled pusher appliance adapted to exert a straight vertical pressure against the bomb to thus push or shove the bomb from the base, for subsequent easy removal of the bomb.

A further object of the invention is the provision of an appliance that is economical to manufacture, positive in operation, strong, durable, and highly efficient in use.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a transverse vertical section disclosing to advantage the relationship of the two side molds to the base mold, and the relationship of the permanent core, in which the bomb removing apparatus is positioned, to the base mold, the appliance in this instance being shown in a retracted position, and

Fig. 2 is a cross sectional view of the base mold, with the completed bomb, shown partly in section and partly in elevation, and in this instance illustrating the appliance in operative position.

A concrete practice aerial bomb as now constructed, must be provided with a cavity or recess in the tail end thereof to receive the powder charge. As previously practiced a heavy spun cardboard tube was placed in the base mold and the same was covered with a metal cap. After the bomb was cast the cardboard necessarily had to be removed. However, this method not only proved to be costly and time consuming, but the serious paper shortage interfered with production. Even though a permanent concrete core was employed that was cast monolithically with the base mold, the use of said core was found to be impracticable because of the difficulty that we experienced in removing the bomb from the base mold after the bomb was cast.

We accordingly discovered that a considerable force would necessarily have to be applied, in opposite directions, to thus free and release the bomb from the base mold. This force we ascertained must be exerted absolutely parallel to the concrete core, which feature is now embodied in our pusher device, wherein there is exerted a straight vertical pressure against the bomb, and thus the bomb is shoved out of the base mold so that it can be easily and readily removed.

Referring to the drawing, the numerals 3 and 4 designate two side molds preferably made of light weight concrete while the numeral 5 designates an opening formed in the top of the side

molds. It is through this opening that the concrete is poured to cast a bomb 6. It will be noted that a band 7 or other detachable fastening means serves to secure the side molds to the base mold 8, also made of light weight concrete. An interlocking male key 9 provided in the base mold serves to properly locate and retain the side molds rigidly in place. The said mold 8 is equipped with a centrally positioned upwardly extending permanent core 10 that is cast monolithically with the base mold 8. It is within this permanent core that the bomb pusher or dislodging appliance is positioned. The said mechanism of the appliance functions to dislodge the bomb 6 from the base mold 8, as illustrated to advantage in Fig. 2. The said mechanism embodies in its construction an elongated metal tube 11 that is precast in the core and extends from the top of the core to a recess or cavity 12 formed in the bottom of the base mold. A plurality of pins 13 extends radially from said tube and serve to anchor and center the pusher appliance in the concrete core.

Positioned in said tube 11 for movement there-through, is an elongated bolt 14 that is threaded adjacent its upper end as at 15 and is encompassed by a hexagon nut 16 that has threaded engagement with the external thread of the bolt 14. A shoulder is provided on the nut and approximately .030 of an inch allowed for perfect fit. On the top of the bolt we mount a solid metal disc 17, while a head 19 formed on the opposite end of the bolt receives a socket wrench so that the disc 17 may be elevated, due to the turning actuation of the bolt, to thus dislodge the bomb from the base mold. A bushing 20 having a pressed fit is likewise positioned in the base of the tube 11. The retracted position of the bolt and the normal location of the bolt head are illustrated to advantage in Fig. 1, while the extended or operative position of the pusher appliance is disclosed to advantage in Fig. 2. It will be obvious that by virtue of the construction described, since a straight vertical pressure is exerted against the bomb, the latter will be readily dislodged from the base mold, for subsequent easy removal.

The type of bomb herein described is provided with fin bolts 21, and we have illustrated in the drawing a method of receiving and properly locating said bolts.

It is to be understood that the form of our invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the shape, size, material and arrangement of parts may be readily resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described our invention, we claim:
In combination with a bomb forming mold

3

having a perpendicular core in the base thereof, of means for dislodging a molded bomb therefrom comprising a tubular member fixed in and extending through the core, an elongated bolt manually movable through said tubular member, means provided in said tubular member for retaining said bolt in position to direct a straight vertical pressure against the bomb, a wrench receiving head provided on one end of said bolt, and a metal disc carried on the opposite end.

SALVATORE GRASSI.
ELIO FILIPPI.

4**REFERENCES CITED**

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
731,323	Palmer	June 16, 1903
2,049,011	Joannides	July 28, 1936
2,243,950	Franwick	June 3, 1941
2,388,569	Petersen	Nov. 6, 1945

FOREIGN PATENTS

Number	Country	Date
812,011	France	Jan. 27, 1937