

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 24

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BERNARD C. GETTINGS, DENNIS J. FLYNN
and JOHN A. APPLETON

Appeal No. 2004-2121
Application No. 08/160,835

HEARD: December 9, 2004

Before FRANKFORT, STAAB, and MCQUADE, Administrative Patent Judges.

FRANKFORT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 through 10, all of the claims pending in this application.

Appellants' invention relates to a munition which can be used with great effectiveness against hard targets such as hardened aircraft shelters, bridge piers, aircraft runways, and the like. Unlike general purpose bombs which in the past have been designed to penetrate a target by virtue of their kinetic

Appeal No. 2004-2121
Application No. 08/160,835

energy, the munition of appellants' invention comprises in combination, a "general purpose bomb" (1) having a weight of not less than 300 pounds and a penetrator warhead (2) mounted in front of the general purpose bomb and comprising a forwardly-directed shaped charge with a caliber of at least 90% of the caliber of the general purpose bomb. A copy of representative claim 1, as found in Appendix A of appellants' brief, is attached to this decision.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Muller	3,732,816	May 15, 1973
Kintish et al. (Kintish)	3,750,582	Aug. 7, 1973
Davis	4,063,512	Dec. 20, 1977
Chaumeau et al. (Chaumeau)	4,714,022	Dec. 22, 1987
Kellner	4,967,666	Nov. 6, 1990
Brauer et al. (Brauer)	5,098,487	Mar. 24, 1992

Claims 1 through 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner.

Appeal No. 2004-2121
Application No. 08/160,835

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner as applied to claim 1 above, and further in view of Chaumeau.

Claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner as applied to claim 1 above, and further in view of Muller.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner as applied to claim 1 above, and further in view of Kintish.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner as applied to claim 1 above, and further in view of Brauer.

Rather than reiterate the examiner's full commentary regarding the above-noted rejections and the conflicting viewpoints advanced by the examiner and appellants regarding those rejections, we make reference to the examiner's answer (Paper No. 14, mailed May 3, 1996) for the examiner's reasoning in support of the rejections, and to appellants' brief (Paper No.

Appeal No. 2004-2121
Application No. 08/160,835

11, filed October 6, 1995) and reply brief (Paper No. 16, filed July 1, 1996) for the arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we have made the determinations which follow.

In the rejection of claims 1 through 5 under 35 U.S.C. § 103(a) it is the examiner's view that both Davis and Kellner disclose a munition which comprises in combination, a general purpose bomb (7, 8 of Davis and 3 of Kellner) and a penetrator warhead (13 of Davis and 2 of Kellner) mounted in front of the general purpose bomb and comprising a forwardly-directed shaped charge, with the caliber of the penetrator warhead being at least 90% of the caliber of the general purpose bomb. Although the examiner did not articulate any differences between the munitions of Davis and Kellner and appellants' munition defined in claims 1 through 5 on appeal, we note that the examiner has indicated on page 4 of the answer that

Appeal No. 2004-2121
Application No. 08/160,835

It would have been obvious to one skilled in the art at the time the invention was made to employ a general purpose bomb having a weight not less than 300 pounds in either the Davis munition or the Kellner et al munition and to vary the caliber of the penetrator warheads and the masses of the penetrator warheads and the munitions in the Davis munition and the Kellner et al munition to achieve an optimum result, see In re Aller, 105 USPQ 233 (CCPA 1955) see In re Aller, 105 USPQ 233 (CCPA 1955) and In re Reese, 129 USPQ 402 (CCPA 1961).

Davis discloses an armor penetrating, tandem charge projectile for penetrating a fairly thick armored vessel, wherein the projectile includes a hardened penetrator body (8) containing a heavy charge of explosive material and a shaped charge explosive head (13) mounted forwardly of the hardened penetrator body. As noted in column 1 of that patent, the objective therein is to

provide an improved method and structure by which an internal blasting charge is caused to be driven in its entirety through fairly heavy armor to obtain the maximum blasting effects within the area projected by the armor. This object is attained in brief by producing, not only an opening in the armor at the area of impact but also spaced cuts or gashes radiating from the opening which weaken the metal for a considerable distance away from the opening as will allow the metal segments between the cuts to be bent inwardly when forced by the pressure of the main portion of the projectile. Thus, the initial opening is caused to be greatly enlarged, sufficient to allow the main casing which carries the full internal blasting charge completely to enter and pass through the armor.

Appeal No. 2004-2121
Application No. 08/160,835

Kellner discloses a tandem charge warhead to be used against fortified or armored targets which, in particular, can be used to damage runways, roadway pavements, bunker walls, or the like (col. 1, lines 7-16). Kellner's warhead includes a hollow charge (2) provided in the front and a follow-up projectile (3) constructed as an explosive projectile or a solid projectile (col. 2, lines 54-57). The objective in Kellner is to provide a time sequence for the ignition of the forward hollow charge (2) and the propellant charge (5) of the follow-up projectile so that it is guaranteed that the desired target direction of the follow-up projectile with respect to the bored/broken hole in the target wall formed by detonation of the hollow charge is maintained. To that end, the patentee mandates that the propellant charge of the follow-up projectile be ignited first and that the forward hollow charge be initiated only after the follow-up projectile has been put in motion.

Appellants argue that both Davis and Kellner are related to relatively small caliber projectiles used for armor piercing and ground penetration, and that these patents do not address penetrator bombs of the type dealt with by appellants, wherein a "general purpose bomb," like that defined on page 3 of

Appeal No. 2004-2121
Application No. 08/160,835

appellants' specification, having a shaped charge penetrator warhead mounted in front of the bomb is used against hard targets such as hardened aircraft shelters, bridge piers, aircraft runways, and the like. As for the examiner's assertion that it would have been obvious to one of ordinary skill in the art at the time of appellants' invention to employ a general purpose bomb having a weight of not less than 300 pounds in the projectile of either Davis or Kellner, appellants note that what might work at one size in the field of armor piercing projectiles would not necessarily work in the penetrator bomb field if merely scaled up to a size like that defined in the claims on appeal. Appellants also point out that the examiner has provided no evidence indicating any benefit to be derived from utilizing a shaped charge in combination with a general purpose bomb.

We agree with appellants, and for that reason will not sustain the examiner's rejection of claims 1 through 5 under 35 U.S.C. § 103(a) as being unpatentable over Davis or Kellner.

We have additionally reviewed the patents to Chaumeau, Muller, Kintish and Brauer applied by the examiner in rejections of dependent claims 6 through 10 under 35 U.S.C. § 103(a), but

Appeal No. 2004-2121
Application No. 08/160,835

find nothing therein which overcomes or provides for the deficiencies we have identified above with regard to the basic patents to Davis and Kellner. Accordingly, the examiner's rejections of dependent claims 6 through 10 will likewise not be sustained.

It follows from the foregoing that the decision of the examiner rejecting claims 1 through 10 of the present application is reversed.

In addition, this application is being remanded to the examiner under the authority provided by 37 CFR § 41.50(a)(1) to have the examiner determine whether a rejection of any of the appealed claims would be appropriate based on British Patent Specification 1,605,340 to Manfred Held (published January 2, 1992) and cited by appellants in an Information Disclosure statement filed January 18, 1995 (Paper No. 8). Unlike the Davis and Kellner patents relied upon by the examiner above, Held discloses a penetrator bomb having two explosive charges positioned in axial succession with an intermediate gap therebetween, wherein the front explosive charge (5), which is arranged to detonate first, is a lined hollow charge and the rear

Appeal No. 2004-2121
Application No. 08/160,835

explosive charge (6), arranged to be detonated after the hollow charge, is an integral part of a shell or general purpose bomb meant to pass through an aperture formed in the target by the hollow charge. Held discusses many of the same problems mentioned by appellants on pages 1a and 2 of their specification. Looking to Figure 1 of Held, it is also apparent that the caliber of the penetrator warhead or hollow charge (5) is at least 90% of the caliber of the general purpose bomb/shell (6). The objective in Held is to provide a bomb that creates lasting damage to targets, such a runways and road surfaces, as the spike of the hollow charge penetrates concrete slabs, while the general purpose bomb or shell (6), passing through the aperture formed by the hollow charge, penetrates to deform the concrete slabs with the high pressure of the explosive charge, dislocating the concrete slabs from the foundation in the process.

Although Held does not mention the specific size of the general purpose bomb/shell (6) therein, the examiner should determine if the purpose specifically set forth in Held of deforming the large concrete slabs making up a runway or road surface and dislocating the concrete slabs from their foundation with the high pressure of the explosive charge (page 1, col. 1,

Appeal No. 2004-2121
Application No. 08/160,835

lines 35-49), would have made it obvious to one of ordinary skill in the art at the time of appellants' invention to utilize a general purpose bomb/shell (6) having a weight of not less than 300 pounds in the penetrator bomb of Held. If the examiner should determine that a rejection of independent claim 1 is appropriate, then the examiner should also consider rejections of dependent claims 2 through 10 relying on prior art references such as Chaumeau, Muller, Kintish and Brauer.

REVERSED and REMANDED

CHARLES E. FRANKFORT)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
LAWRENCE J. STAAB)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
JOHN P. MCQUADE)	
Administrative Patent Judge)	

CEF/lbg

Appeal No. 2004-2121
Application No. 08/160,835

NIXON & VANDERHYE
1100 N. GLEBE RD.
8TH FLOOR
ARLINGTON, VA 222014-4714