

Nov. 19, 1929.

J. PLATT

1,736,621

PORT SHIELD

Filed June 28, 1926

3 Sheets-Sheet 1

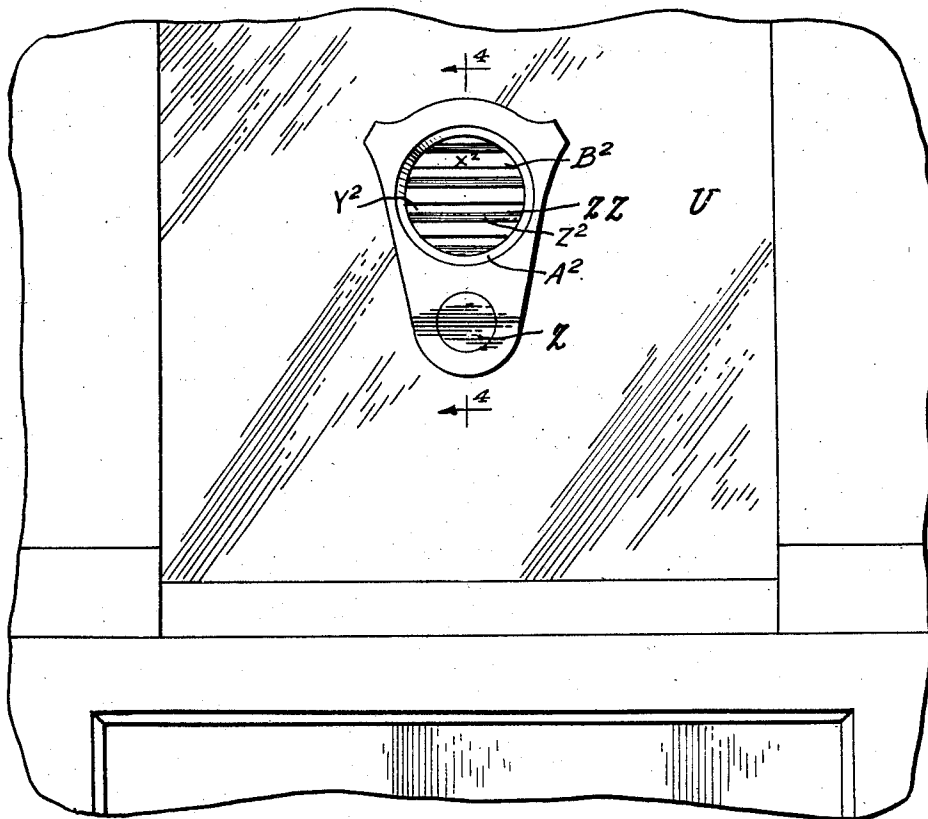


Fig. 1

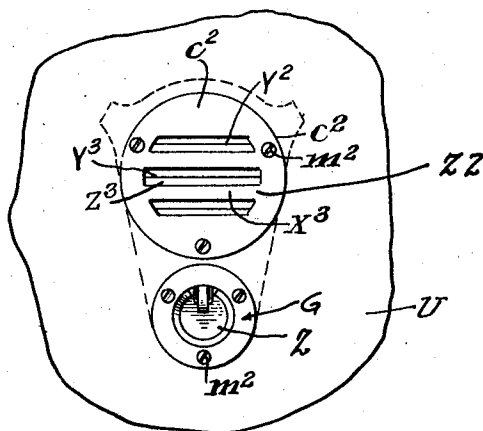


Fig. 2

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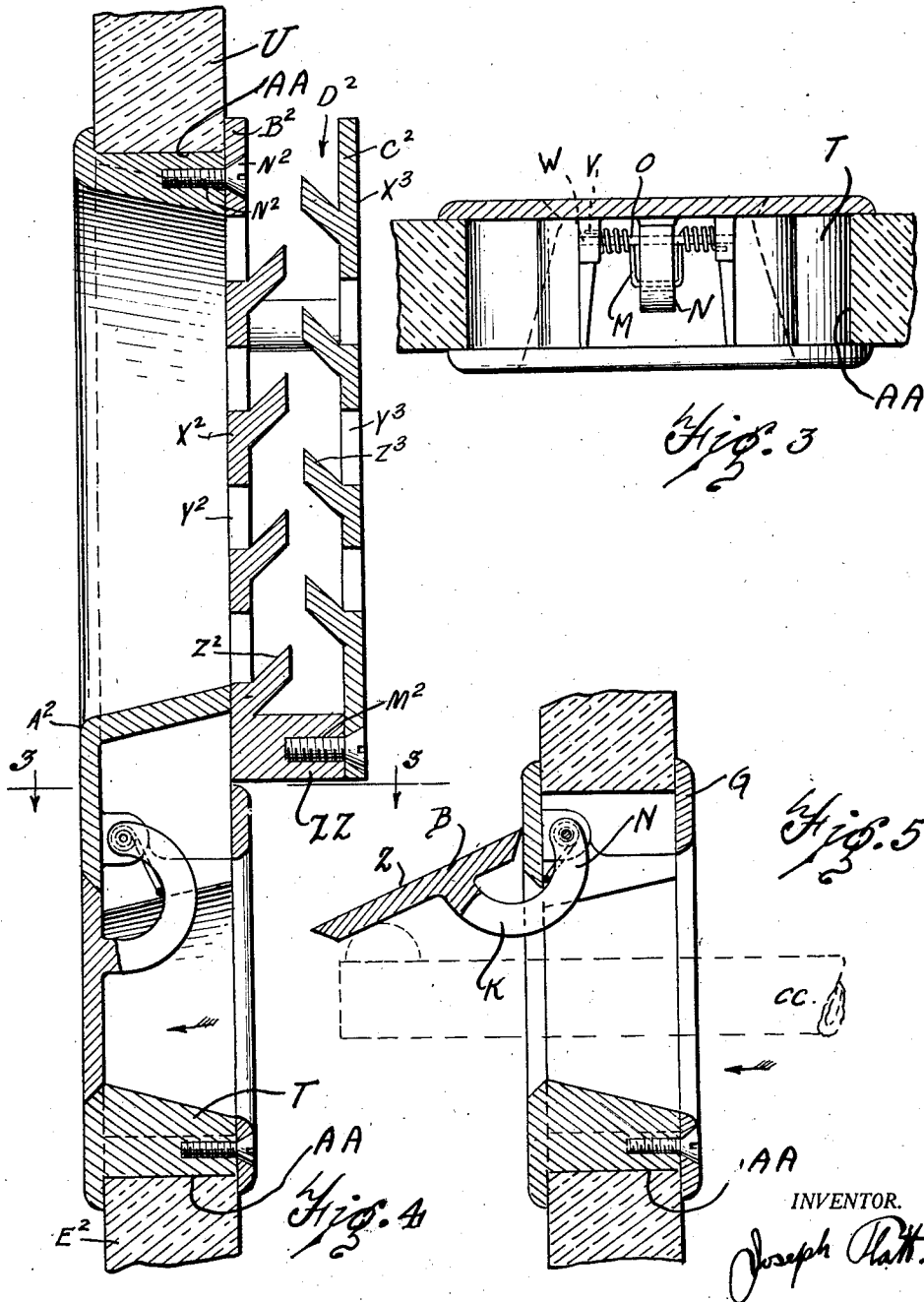
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PORT SHIELD

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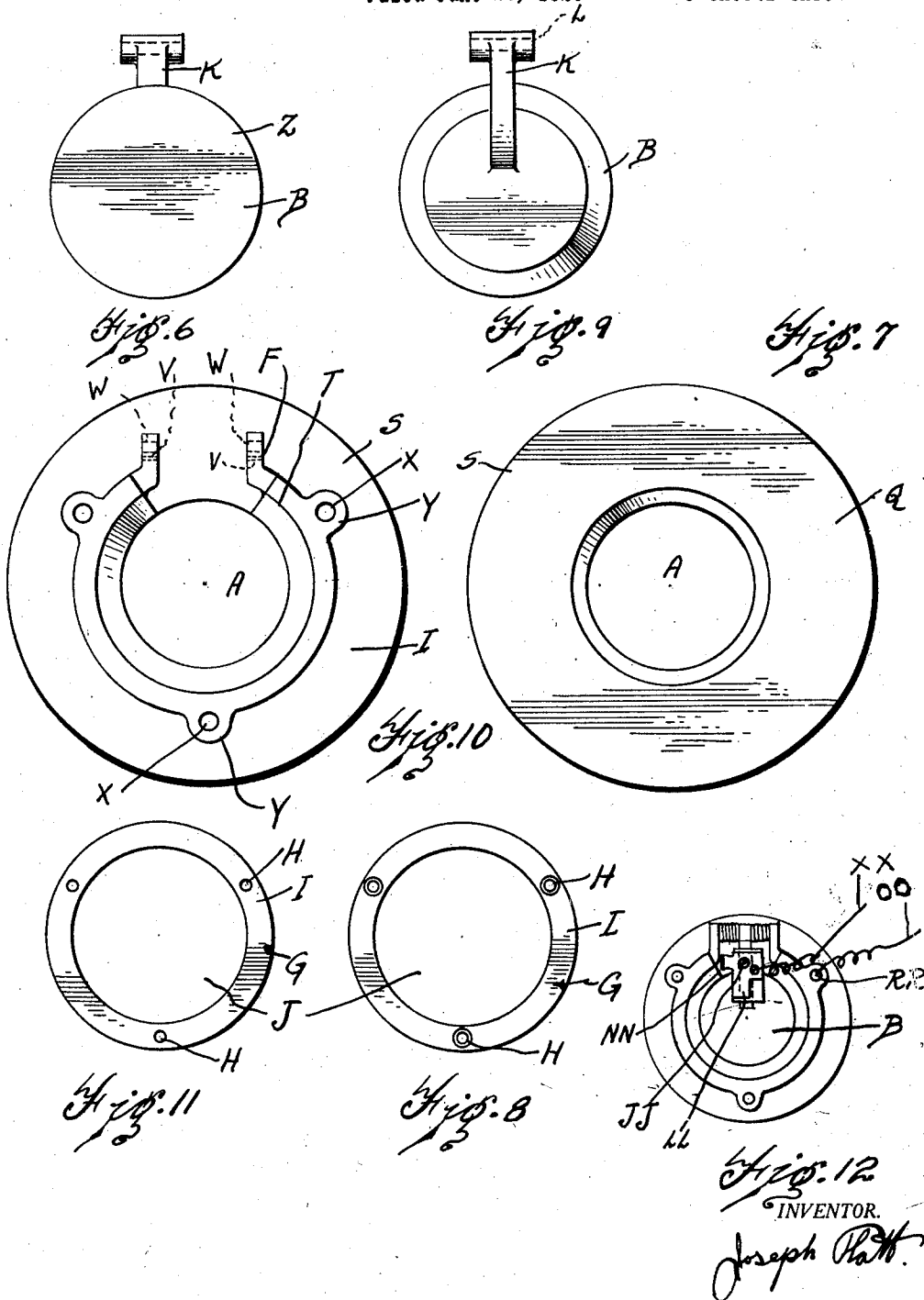
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PORT SHIELD

Filed June 28, 1926

3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE

JOSEPH PLATT, OF DETROIT, MICHIGAN

PORT SHIELD

Application filed June 28, 1926. Serial No. 119,056.

The present invention relates to improvements in a port shield, designed especially in connection with an amplifier for use in banking institutions but may be readily adapted for various purposes.

It is highly desirable wherever an attack might occur from an enemy or from robbers, especially in places where money and valuables are located to have an efficient protective shield against the attack, for persons are sometimes therein killed and robberies not prevented and arrest of intruders infrequent through failure to have an efficient protective means therein for those resisting the intruders. In such places it is necessary in order to protect the institutions and persons rightfully therein on lawful business to have one or more openings in the wall or partitions therein through which fire arms or other implements may be inserted only by those protecting the institution and properly discharged by them against the intruders. Because of such openings, it is necessary to have a port shield, made preferably of bullet-proof material which is also of such composition as to be non-magnetic, to cover such aforesaid openings when not used for protection of the institution, so as to act as a guard against the discharge of fire arms of the intruders and the injury that might result therefrom to the employed of the institution behind or near the openings. It is also highly desirable to baffle the intruders or the enemy in regard to the operation of these shields. A circular shield is most effective for this purpose, as its mode of operation may be regulated to the extent that it may be set to open in whatever direction the user desires without disclosing to the outsider what that direction may be.

An added feature of the present invention is that the port shield may be so connected with any electrical apparatus, such as an alarm system, of the institution where it is used that upon sufficient pressure, it will set off the alarm, acting in addition to or instead of other alarm starters.

The operation of these port shields may be extended entirely or in part to be included in turrets, especially armored turrets, in police flyers, in tanks used in warfare and

in many other places wherever it is desired to have an efficient protective means for openings therein.

The principal object of my invention is to provide a device of the character described, adapted, to be positioned as a bullet-proof and non-magnetic shield in openings, in walls, or partitions, especially of banking institutions, or in openings in similar locations, or in openings in armored cars, windshields of police flyers, turrets, especially bullet-proof turrets, tanks used in warfare, or in openings of similar conveyances.

A still further object of my invention is to have a port shield especially for institutions where money and valuables are kept, especially adapted to be in combination with a bullet-proof amplifier, that consists of any number of layers of any desired shape, preferably two layers, and preferably of a bullet-proof material, assembled together or made as one piece in such a way that the shields, or projecting parts of the layers, attached to the layers or made a part thereof, prevent a bullet or any instrument from passing through the layers and yet permit sounds to pass back and forth through the layers, to which may be attached or made a part thereof a collar of preferably a bullet-proof material.

Another object of my invention is to present a port shield whose mode of operation may be regulated to the extent that it may be set to open in whatever direction the user desires without the disclosing to the outsider or intruder what that direction may be.

A further object of my invention is to have a port shield that may be so connected with any electrical apparatus, such as an alarm system of the institution where it is used, that upon sufficient pressure upon the port shield in the proper direction, it will set off an alarm, acting in addition to or instead of other alarm starters.

A still further object of my invention is to have a port shield made of both a non-magnetic and bullet proof material.

Another object of my invention is to have a port shield that is simple in construction and comparatively inexpensive, one which is efficient and reliable in operation and well

adapted for the purposes for which it is designed as well as to have a neat and finished appearance that will not detract from the attractive or ornamental appearance of the fixtures equipped or used with such a device.

The above and other objects and features and advantages of the invention are obtained by certain improvements in a port shield and in an amplifier consisting in general of certain novel details of construction and especially of combination of parts thereof in connection with bullet-proof fixtures, and will appear from a detailed construction of certain embodiments of the amplifier and of the port shield illustrated in accompanying drawings which will now be considered to explain the mechanical construction of the port shield and the amplifier which will be hereinafter more fully described and later claimed distinctly and in connection with other fixtures especially those made of a bullet-proof material.

In the accompanying drawings:

Fig. 1 is a front elevation of the port shield in connection with the bullet-proof amplifier (ZZ) set in a bullet-proof partition.

Fig. 2 is the rear elevation of the port shield in connection with the bullet-proof amplifier (ZZ) set in a bullet-proof partition.

Fig. 3 is a cross section of the spring and pivot mechanism of the port shield, cut from top to bottom.

Fig. 4 is a cross section of the port shield in connection with the bullet-proof amplifier, (ZZ) cut from top to bottom, showing the port shield in a closed position.

Fig. 5 is a cross section of the port shield cut from top to bottom, showing the port shield in an open position.

Fig. 6 is a front view of the port door.

Fig. 7 is a front view of the port case.

Fig. 9 is a rear view of the port door.

Fig. 10 is a rear view of the port case.

Figure 11 is a front view of the port collar whose rear view is shown in Figure 8.

Fig. 12 is a rear elevation of the port shield showing connections for an alarm system.

Referring more particularly to different views set forth in the accompanying drawings:

The letter (S) indicates a layer, cut as a casing, called a port case. This layer is preferably made of a bullet-proof and non-magnetic material and preferably cylindrical in form and of sufficient size as is convenient for the user thereof. The port or opening, lettered (A), in the port case (S) is called the port. Its size and shape may depend upon the convenience of the user but should be preferably of sufficient size and shape as will permit the insertion of such a fire arm or missile as is desired by the user.

The port case (S) consists of an exterior or exposed surface, lettered (Q) and an inner surface, lettered (I). The exposed or exterior

surface (Q) of the port case (S) is that part of the port case (S) which fits in front of any desired partition, lettered (U), and may be of any desired size, shape, style and design, but preferably in the shape of a disc as is illustrated in the accompanying drawings.

Extending from the exposed or exterior surface (Q) of the port case (S) preferably in the shape of a horse shoe through any desired partition (U) is a shoulder like casing, lettered (T). The interior surface of the shoulder like casing (T) slopes slightly away from the opening (A) in the exterior or exposed surface (Q) of the port case (S) so that the opening in the rear of the shoulder like casing (T) is larger than the opening in the exterior surface (Q) of the port case (S). On this shoulder like casing (T) there may be any desired number of protrusions with openings therein, but preferably not less than three, for the insertion of screws or the like. These protrusions are lettered (Y) and their openings are lettered (X) in the accompanying drawings. At any two desired places on the shoulder like casing (T) but preferably at the ends of the horse shoe, this casing may take the shape of somewhat resembling an ear with an opening therein. Such parts of the casing (T) are called the ears of the casing and are lettered (F) in the accompanying drawings. The openings in these ears are lettered (W) and (Y) in the accompanying drawings and are called the eyes of the casing (T) and are the places into which a hinge rod and an end of a spring or the like are inserted. The shoulder like casing (T) with its protrusions (Y) its ears (F), and its eyes (W) and (V) constitute the inner surface (I) of the port case (S).

The letter (B) represents a layer, made of preferably a bullet-proof and non-magnetic material, called a port door. The port door (B) consists of a port wall lettered (Z) and a port arm, lettered (K). The port wall (Z) is a cover for the port (A) and must be of sufficient size and shape as will exactly cover the exterior side of the port (A). The port arm (K) is an extension, preferably circular in form, from the port wall (Z) and determines by its size, shape and location, the distance and direction the port wall (Z) may open out of the port (A) without disclosure to the outsider or intruder. The port arm (K) contains one opening, lettered (L), close to its upper extremity, preferably at the furthest distance from the port wall (Z) through which a hinge rod or the like may be inserted. Any number of port arms, preferably similar in shape, design and size, may be used with one port wall to constitute one port door, although for all practical purposes one port arm is sufficient to form with one port wall a complete port door.

The letters (O) and (M) designate a hinge rod and a spring respectively, whose ends rest in the eyes (W) and (V) respectively in that part of the shoulder like casing (T) of the port case (S), designated as the ears (F). The hinge rod (O) sets through the opening (L) in the port arm (K) whereas the spring (M) rests against the outer surface of the port arm (K) at (N). The port arm (K) rotates through its opening (L) about the hinge rod (O) as an axis and keeps through the pressure exerted by the spring (M) upon its outer surface at (N) the port wall (Z) flush in its normal position with the exterior or exposed surface (Q) of the port case (S).

The letter (G) represents a layer, made preferably of a bullet-proof and non-magnetic material, called the collar. The collar contains a solid portion, lettered (I) called the rim and a hollow part or opening therein, lettered (J) called the collar port. The rim (I) of the collar (G) contains in its surface any desired number of openings or holes lettered (H) but preferably not less than three such openings or holes. These openings or holes (H) are arranged on the rim (I) to correspond to the location of the openings (X) in the protrusions (Y) of the shoulder like casing (T) of the port case (S). After the port case (S) is inserted with or without the amplifier (ZZ) through an opening (AA) of sufficient size in any desired partition (U), screws (RR) or the like are inserted through the openings or holes (H) on the rim (I) of the collar (G) placed in the rear of the partition (U) into the similarly arranged openings (X) in the protrusions (Y) of the shoulder like casing (T) of the port case (S).

The hollow part or opening (J) of the collar (G) may be of any desired shape, size, style and design, so long as it is of sufficient size and shape as will permit the insertion of such a fire arm or missile as is desired by the user, but preferably of a size, shape, style and design, as the interior side of the port (A) in the port case (S) so as to properly correspond with it.

An harmonious arrangement in all details of style, shape design and size between the port case (S), the collar (G) and the partition (U) in which the port case (S) is to be inserted with or without the amplifier (ZZ) is preferable, though is not essential except as is herein otherwise specified. The shape of the collar (G) itself may be of any desired, shape, style, size and design except as is herein otherwise specified, but preferably should be circular in form as shown in the accompanying drawings.

Though a collar (G) as is herein set forth is highly desirable to have an efficient gun port, yet a gun port may exist consisting solely of a port case (S) and a port door (B);

substantially as is herein set forth. Such a gun port would differ from the gun port herein above set forth, only that it would require, when being set up, with or without the amplifier (ZZ) in a partition, screws or the like to be inserted through any number of desired holes in a partition (U), having a large opening (AA) through which the port case is inserted, into similarly arranged openings (X) in the protrusions (Y) of the shoulder like casing (T) of the port case (S).

An alarm system preferably electrical in character may be connected from any desired location on the port case (S) to a piece of metal (LL), of different material from that of which the port case (S) is made, at the upper part of the port arm (K) as is illustrated in the accompanying drawings where the screw (JJ) connects the piece of metal (LL) to the upper part of the port arm (K).

Then one of the wires (XX) necessary for the electrical alarm is connected to the piece of metal (LL) through the screw (JJ) and the other wire essential for the alarm is connected to any desired location on the port case (S) but preferably to a screw (RR) that fits in the opening (X) of the protrusion (Y) of the shoulder like casing (T) of the port case (S).

The screw (RR) is the screw that connects the port case (S) with or without the amplifier (ZZ) to either the partition (U) or the collar (G) as herein before set forth.

As the shoulder like casing (T) slopes slightly away from the opening in the exterior or exposed surface (Q) of the port case (S) so that the circumference of the port (A) is greater in the rear of the shoulder like casing (T) than where the port (A) meets the exterior surface (Q) of the port case (S), the alarm system would be set off upon sufficient pressure being exerted outward in the direction as indicated by the arrow in the accompanying drawings in the Figures 4 and 5, upon the port wall (Z) through the gun port (A) due to the piece of metal (LL) striking any part of the interior surface of the shoulder like casing (T) and thereby creating a contact for an electrical circuit where the strip of metal (LL) meets the interior part of the shoulder like casing (T) of the port case (S) as illustrated in the accompanying drawings at (NN) which is the point of contact between that part of the interior surface of the shoulder like casing (T) of the port case (S) and the strip of metal (LL) after sufficient pressure is exerted outward as before stated. The pressure needed to set off the alarm just described may be made by someone placing a fire arm (CC) through the gun port (A) against the port wall (Z) or employing other means through the gun port (A) against the port wall (Z). The amount of pressure to be exerted upon the port wall (Z) to set

off the alarm as before stated depends upon the tension under which the port arm (K) operates in connection with the hinge rod (O) and spring (M). The wires (XX) and (OO) may lead to a distinct and separate alarm operated solely from the contact creating an electrical circuit at (NN) due to sufficient pressure being exerted on the port wall (Z) as before stated.

If desired however the wires (XX) and (OO) may lead to a general alarm system of any institution installing my gun port with or without the amplifier (ZZ), so that general alarm system of the institution will be set off due to the contact for an electrical circuit (NN) as herein before stated.

If desired the port shield in the combination of the amplifier (ZZ) and the port shield as before stated may have an alarm system of the type substantially as herein above set forth. Similarly the combination of port shields and amplifiers as above stated may have an alarm system of the type substantially as herein above set forth.

Referring now more particularly to Figures 1, 2, 4 and 5, as regards the amplifier (ZZ), the letter (A²) designates the layer called the collar made preferably of a bullet-proof substance. The collar (A²) may be constructed in any particular manner but preferably of a size, shape and design to afford proper amplification, and serve as a suitable mouthpiece to which an adjoining substance, preferably of some bullet-proof material may be attached.

The letter (B²) represents the layer called the collar or exterior guard, which is primarily exposed to a bullet or sharp instrument sent forth by one in front of the collar or mouthpiece through the opening in same. The collar guard (B) may be attached to the collar or it may itself serve both as collar and a guard.

Letter (C²) indicates the layer called the interior or final guard which is secondarily exposed to a bullet or sharp instrument sent forth by one in front of the collar or mouthpiece through opening of same.

Guards (B²) and (C²) may be interchangeable and each perform the work of the other, providing they are assembled in a position as indicated in the drawings and not with the smooth surfaces back to back.

In both the exterior and interior guards, (B²) and (C²) are found openings in the surface designated as (Y²) and (Y³) respectively and shields or prongs lettered (Z²) and (Z³) respectively. These shields or prongs (Z²) and (Z³) are made of some bullet proof material attached to the guards or made a part thereof. That part of the exterior and interior guards (B²) and (C²) comprising the entire surface of the guards exclusive of the shields or prongs and the openings aforementioned are denominated the guards prop-

er and respectively lettered (X²) and (X³). They are preferably made of some bullet-proof material. The number of shields used in one guard is solely dependent upon the number of openings in the other guard. Each shield may guard a net work of openings joined together and considered as one unit.

The shields or prongs (Z²) and (Z³) are projected from the guards proper (X²) and (X³) in such a way that the shields of one guard complement the openings of the opposite guard, whose shields in turn supplement the openings of the opposite guard so that the openings of each guard are completely covered by the shields of the other guard and the guard proper of one guard forms with the shields of the other guard an absolute barrier to any bullet or sharp instrument passing in either direction through both guards.

Any number of pairs of exterior and interior guards may be used, assembled substantially as hereinbefore set forth.

Either the exterior or interior guard may have such attachments as may be necessary to enable it to serve both as collar, mouthpiece, and amplifier and as a guard, thus eliminating the necessity of the collar, mouthpiece or amplifier.

Instead of a wide opening in the collar there may be perforated holes therein or any other means desired to prevent dust or instruments from passing through the amplifier.

The guards, (B²) and (C²) are assembled together by connecting means (M²) such as machine screws, forming the space (D²) whose size and shape depend upon the size of the opening and shields of the guards (B²) and (C²).

The collar (A²) is attached to either guard (B²) or (C²) preferably to the guard used as the exterior guard by a connecting means (N²) such as a machine screw.

It is thought that the utility of my invention will be apparent without further description. While I have described the preferred embodiment of my invention, and have illustrated the same in the accompanying drawings, certain minor changes or alterations may appear to one skilled in the art to which this invention relates, during the extensive manufactures of the same and I therefore reserve the right to make such alterations or changes as shall fairly fall within the scope of the appended claims.

What I claim is:

1. An improvement in a port shield consisting in combination with a partition with an opening therein a layer of a non-magnetic and bullet-proof material in the form of a casing with an opening therein setting in that partition, a layer of a non-magnetic and bullet proof material consisting of an outwardly opening cover for the aforesaid open-

ing in the aforesaid casing and an arm extending from the aforesaid cover regulating the distance and direction the cover may open without disclosure to the outsider, cooperating hinge elements consisting of a means on which the aforesaid arm rotates as an axis and a means to keep the aforesaid cover flush in its normal position with the exterior surface of the casing, and a layer made of a non-magnetic and bullet proof material with an opening therein serving as a connecting means for the aforesaid casing to the aforesaid partition, substantially as herein set forth.

plifier (22) and port shield to permit the installation thereof in separate openings for each and any desired partition substantially as herein set forth.

7. The construction called for in claim 2 with an electrical apparatus for an alarm system adapted to be set off upon sufficient pressure in the proper direction upon the cover (k) and in combination with an amplifier (22) disposed above said casing and added for the transmission of sound therethrough substantially as herein set forth.

JOSEPH PLATT.

2. An improvement in port shield consisting in combination a layer of a non-magnetic and bullet proof material in the form of a casing with an opening therein, a layer of a non-magnetic and bullet proof material consisting of an outwardly opening cover for the aforesaid opening and an arm extending from the aforesaid cover regulating the distance and direction the cover may open without disclosure to the outsider, cooperating hinge elements consisting of a means on which the aforesaid arm rotates as an axis and of a means to keep the aforesaid cover flush in its normal position with the exterior of the casing, and a layer made of a non-magnetic and bullet-proof material having an opening therein serving as a connecting means for the aforesaid casing to any desired partition, substantially as herein set forth.

3. An improvement in a port shield consisting in combination a layer of a non-magnetic and bullet-proof material in the form of a casing with an opening therein, a layer of a non-magnetic and bullet-proof material consisting of an outwardly opening cover for the aforesaid opening and an arm extending from the aforesaid cover regulating the distance and direction the cover may open without disclosure to the outsider, cooperating hinge elements consisting of a means on which the aforesaid arm rotates as an axis and of a means to keep the aforesaid cover flush in its normal position with the exterior of the casing, substantially as herein set forth.

4. The construction called for in claim 2 with an electrical apparatus for an alarm system adapted to be set off upon sufficient pressure in the proper direction upon the cover (K), substantially as herein set forth.

5. The construction called for in claim 2 in combination with an amplifier disposed above said casing and added for the transmission of sound therethrough substantially as herein set forth.

6. The construction called for in claim 2 with an electrical apparatus for an alarm system adapted to be set off upon sufficient pressure in the proper direction upon the cover (k) in combination with an amplifier (22) disposed above said casing and adapted for the transmission of sound therethrough and there being sufficient distance between the am-

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