

1,007,144.

Patented Oct. 31, 1911.

Fig. 1

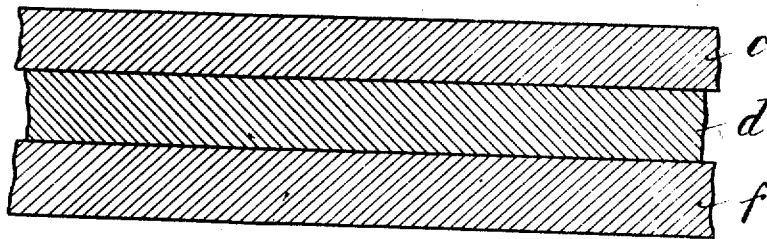


Fig. 2

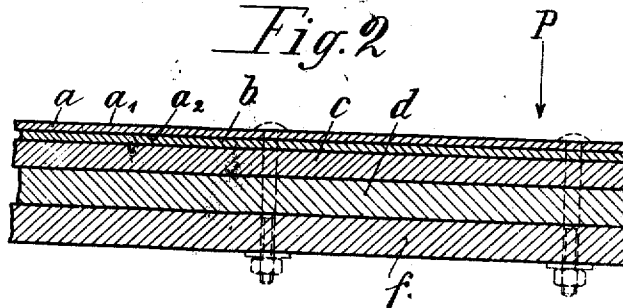


Fig. 3



Witnesses:
R. L. Peterson
Chas. Frank R.

Inventor:
OSKAR SCHAUMANN
by *[Signature]*
his Attorney

UNITED STATES PATENT OFFICE.

OSKAR SCHAUMANN, OF STEGLITZ, NEAR BERLIN, GERMANY.

ARMOR-PLATING.

1,007,144.

Specification of Letters Patent.

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Application filed December 2, 1909. Serial No. 530,964.

To all whom it may concern:

Be it known that I, OSKAR SCHAUMANN, a subject of the German Emperor, and residing at Steglitz, near Berlin, Germany, have invented certain new and useful Improvements in Armor-Plating, of which the following is a specification.

My invention relates to armor-plating, and a primary object is to provide ball-proof armor-plating consisting of a hard inelastic outer plate and inner plates becoming specifically lighter in the direction through the armor-plate from the side thereof on which the projectile impacts, so that in this manner a support of comparatively great strength and small weight is made for the top layer of the wall forming the armor-plate proper and the weight of the entire armor-plate is materially diminished.

In one special practical form of my invention the armor-plating consists of individual superposed plates which are specifically lighter in the direction through the plate from the impact side, whereas in another practical form all the plates are so united by suitably arranged rivets, screws or the like that they form one absolutely rigid body.

According to my invention, in order to obtain perfect security from penetration and perforation of the armor-plating by pointed projectiles, I may provide on the armor-plate proper an additional thin plate of great hardness, on which the point of the projectile becomes split when impacting, so that after the projectile has perforated this thin plate of great hardness it only acts on the armor-plate proper as a blunt or point-less projectile and consequently is stopped and leaves solely a slight impression.

In one very special practical form of my improved armor-plating the thin facing of great hardness has at the face against the armor-plate a less degree of hardness than at the impacting face of the projectile, whereby the protective facing-plate is prevented from being cracked when the projectile impacts thereon, which might otherwise readily occur because a plate of great hardness readily cracks under the action of a blow.

In another very practical form of the invention, an insertion of softer material, such as aluminium, silk, asbestos or the like,

is embedded between the armor plate and its protective facing, whereby the pressure of the impacting projectile is deadened and the armor plate is rendered more resistant.

Some embodiments of my invention are represented diagrammatically and by way of example on the accompanying drawings, wherein:—

Figure 1 is a section showing one form of my improved armor-plating, Fig. 2 is a like view of my armor-plating provided with the new protective facing, and Fig. 3 is a like view showing the top plate of the armor-plate proper, on which a pointed projectile, whose point was previously destroyed by the new protective facing, has impacted.

Referring firstly to Fig. 1, a steel plate *c* forms the impacting side for the projectile, an aluminium plate *d* being placed behind this and a celluloid or horn plate *f* behind the latter.

The manner in which my improved armor-plating acts is very striking because the same steel plate *c* when exposed alone to the shot is simply penetrated by the projectile but offers complete resistance at once to the shot as soon as the plates *d*, *f* consisting, according to my invention, of specifically lighter material, or other plates corresponding to the same conditions are placed under and firmly connected with the steel plate *c*.

Referring to Fig. 2, it will be noted that I provide outside the layer *c*, a protective plate or facing *a*, whose face *a'*, on which the projectors impact, is glass-hard, whereas the surface *a''*, facing the armor plate proper, is only tough-hard or ductile. Between the plate or facing *a*, and the layer *c*, is a layer of softer material *b*, consisting for example of aluminium, silk fabric, asbestos or other suitable material.

Now when a pointed projectile impacts in the direction of arrow *P* on this armor-plate, its point will split at the glass-hard face *a'*. Owing to the ductile structure of the steel or the like, at the other side of this facing, plate *a* is prevented from cracking, and the projectile, after having lost its point at plate *a*, arrives as a blunt or point-less projectile on the plate *c* forming part of the armor-plate proper. This armor-plate comprising, for example, the plates *c*, *d*, and *f* can only be penetrated by a

pointed projectile and consequently, since the projectile has now become pointless, it is stopped by the armor-plate. The projectile, arriving pointless on plate *c* of the armor-plating leaves behind only an impression *g* in plate *c*, as indicated in Fig. 3.

I claim:—

1. An armor-plate comprising in combination a celluloid plate, an aluminium plate thereon, a steel plate on said aluminium plate, and means uniting said plates.

2. An armor-plate comprising in combination a celluloid plate, an aluminium plate thereon, a steel plate on said aluminium plate, a thin, very hard, protective facing plate on said steel plate, and means uniting said plates.

3. An armor-plate comprising in combination a celluloid plate, an aluminium plate thereon, a steel plate on said aluminium plate, a thin, very hard, protective facing plate on said steel plate, the inner face of said facing plate being less hard than the

outer face thereof, and means uniting said plates.

4. Armor-plating consisting of a plurality of superposed plates which are each specifically lighter than the preceding one in the direction through the plating from the side thereof on which a projectile impacts, a thin, very hard, protective facing, and soft material between the facing and said former plates, for the purpose specified.

5. An armor-plate comprising in combination a celluloid plate, an aluminium plate thereon, a steel plate on said aluminium plate, a thin, very hard, protective facing plate, asbestos inserted between the facing plate and said steel plate, and means uniting said plates.

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

OSKAR SCHAUIMANN.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.