No. 712,605. Patented Nov. 4, 1902.

J. SHAABER.

ARMOR PLATE.

(Application filed Apr. 7, 1902.)

(No Model.)

Fig. 1.

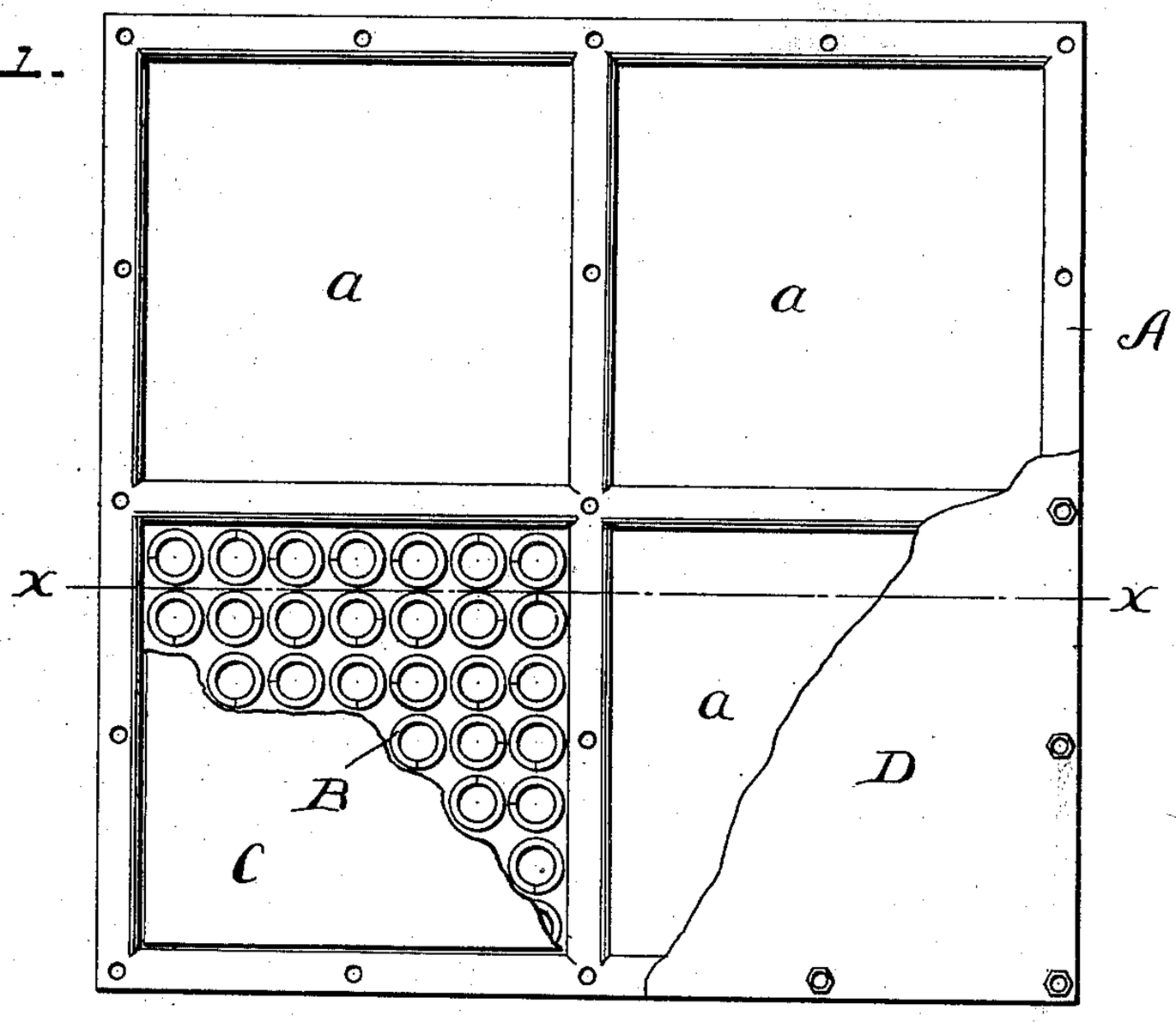
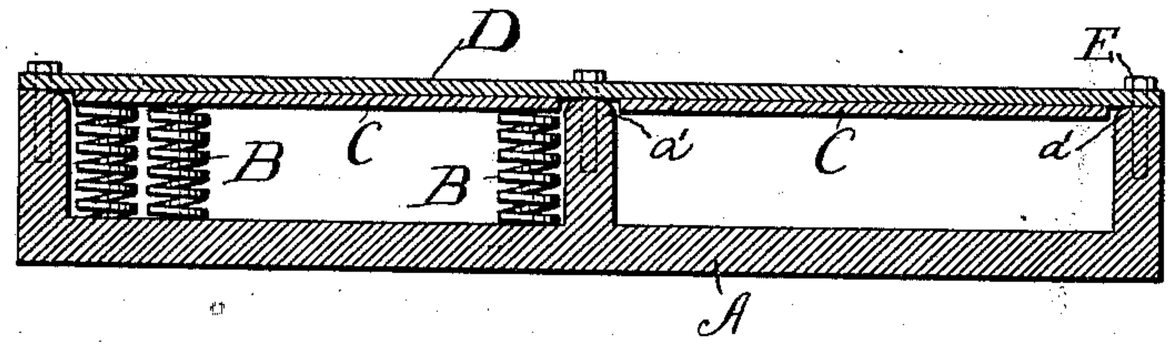


Fig. 2.



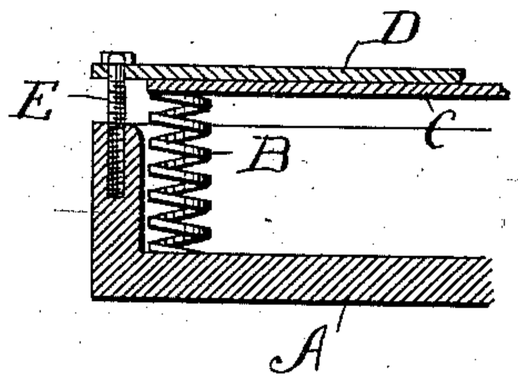


Fig. 3.

Witnesses
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JACOB SHAABER, OF READING, PENNSYLVANIA.

ARMOR-PLATE.

SPECIFICATION forming part of Letters Patent No. 712,605, dated November 4, 1902.

Application filed April 7, 1902. Serial No. 101,657. (No model.)

To all whom it may concern:

Be it known that I, JACOB SHAABER, a citizen of the United States, residing in the city of Reading, county of Berks, State of Pennsylvania, have invented certain new and useful Improvements in Armor-Plates, of which the following is a specification.

My invention relates to an improved armor-plate of the composite type arranged to provide a yielding resistance to the projectile and at the same time deflect it from its course and so impair its penetrating power.

The invention is fully described in connection with the accompanying drawings, and the novel features are specified in the claims.

Figure 1 is a plan view of the main or base plate, indicating the springs located in one of the chamber-recesses formed in it, and small portions only of the piston-plate on said springs and of the cover-plate. Fig. 2 is a cross-sectional view taken on the line x x of Fig. 1, the parts being indicated in final positions; and Fig. 3 is a similar view showing the cover-plate only partially drawn to its seat.

A represents the main or base plate, preferably made of cast-steel and formed with chamber-recesses a a in its outer face, each adapted to receive a series of springs B, and a piston-plate C loosely fitting the recess and serving as a follower-plate to distribute the force of a striking projectile.

D is a cover-plate of relatively thin rolled steel, corresponding in size with the main plate A and rigidly secured to the latter by any preferred means, so as to form when completed an apparently solid though actually hollow armor-plate.

The springs B are of such size as to provide a strong though yielding resistance to compression and of such height as to be put under considerable tension by the drawing down of the cover-plate D into close contact with the ribbed outer face of the base-plate A, which is accomplished, as shown, by means of screw-bolts E, the piston-plates C being at the same time pressed down into the chamber-recesses a a.

My improved armor-plate may be fastened to the body of a vessel or the like in any ordinary manner, and when so applied will present the appearance of a solid plate, though in reality very much lighter in weight, less costly, and more easily and accurately fitted to the vessel. Moreover, its resisting qualities will be increased rather than diminished as compared with the solid plate of greater weight, because, first, of the more gradual and distributed strain brought upon it by impact of a projectile therewith, and, second, because of the tilting of the projectile which is almost sure to result after its point has penetrated the cover-plate D. It will be readily understood that the piston-plate C when it is struck by the point of the projectile and forced down against the resisting tension of the springs B will not only serve to distribute and gradually take up the momentum of the projectile, but that it will also practically yield or move unequally if the point of impact is anywhere except at the exact center of a chamber-recess, thus tilting the plate C and causing the point of the projectile to turn more or less from its original course, and thereby greatly reduce its penetration. In order to assist this turning tendency on the projectile I preferably employ grooved or corrugated sheets for the piston-plates and rounded edges a' on the base-plate ribs, as indicated.

What I claim is—

1. A composite armor-plate comprising a base-plate formed with one or more chamber-recesses in its outer face, springs and a piston-plate in each of said recesses and a rigidly-secured cover-plate substantially as set forth.

2. A composite armor-plate comprising a base-plate formed with one or more chamber-recesses in its outer face, springs and a piston-plate in each of said recesses and a cover-plate rigidly secured against the outer face of the base-plate and serving to compress the springs substantially as set forth.

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

JACOB SHAABER.

Witnesses:

D. M. STEWART,

W. G. STEWART.