E. BAUER.

ARMOR PLATING FOR SAFES, STRONG ROOMS, AND THE LIKE.

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1,132,902. Patented Mar. 23, 1915.

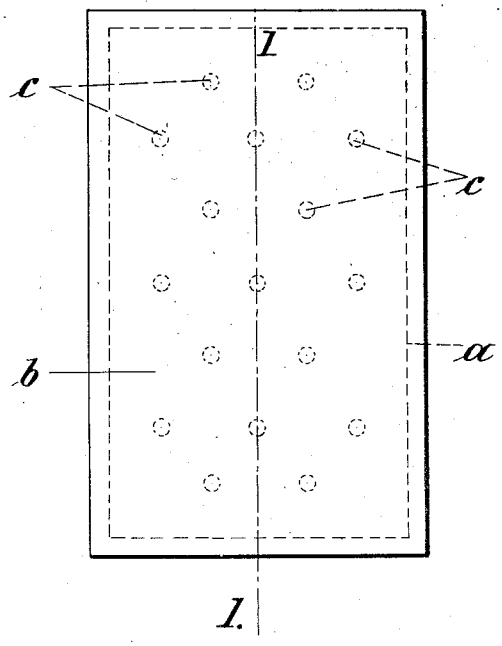

Fig. 1.

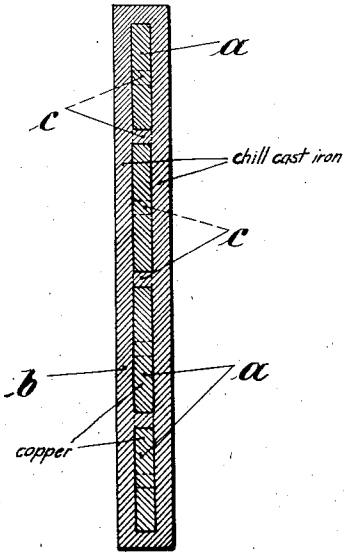

Fig. 2.

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UNITED STATES PATENT OFFICE.

EDWIN BAUER, OF ZURICH, SWITZERLAND, ASSIGNOR TO FRANZ BAUER & SÖHNE, A.-G., OF ZURICH, SWITZERLAND.

ARMOR-PLATING FOR SAFES, STRONG-ROOMS, AND THE LIKE.

1,132,902. Specification of Letters Patent. Patented Mar. 23, 1915.

Application filed June 23, 1913. Serial No. 775,297.

To all whom it may concern:

Be it known that I, EDWIN BAUER, a citizen of the Swiss Republic, residing at Zurich, in Switzerland, have invented certain new and useful Improvements in Armor-Plating for Safes, Strong-Rooms, and the like, of which the following is a specification.

Armor plates for safes and the like have heretofore in some cases been constructed of layers of different materials, or of the same material, united by means of a layer or layers of copper, which forms a good conductor of heat and whereby a thin layer or layers of copper alloy, generally copper alloyed with iron, is or are formed at the places of contact. The several layers are in this case joined by means of cast copper, and this is porous, a quality which reduces the conductivity. Moreover, it is difficult to efficiently harden these plates owing to the fact that it is impossible to exactly determine and regulate the conditions under which the hardening of the several layers is effected. Copper plates have also been used in conjunction with external steel plates, bars of I-section being fixed to the inner surfaces of the steel plates to support the copper plates.

The object of the present invention is to provide plates which are more efficient than those described, in regard to fire-proof and burglar-proof qualities. To this end I use a core of material which is a good conductor of heat, for example rolled or drawn copper, and cast around this core a skin of hardened iron (chilled work), of suitable thickness, so that the two metals intimately unite, but do not fuse together. I may form holes in the core, into which the casting penetrates, so as to more effectively lock the skin to the core, the skin or envelop on opposite sides being joined by the iron which has penetrated through the holes. A composite plate thus formed is practically entirely proof against attack by means of a blow-pipe, as the core conducts away the heat so rapidly that exposure to the flame for many hours does not result in penetration, though the skin may be melted in part.

In the accompanying drawings, Figure 1 is an elevation of a plate made in accordance with the present invention. Fig. 2 is a vertical sectional view of the same on the line 1—1.

As shown, *a* represents the central copper sheet forming the core of the improved plate here illustrated as having a number of perforations *c* formed therein. Around the plate on both sides and the four edges is a skin or sheet of chill cast-iron *b*, the faces of which are parallel and are sufficiently thick to accomplish the purpose desired, the perforations *c* in the copper sheet being filled by the iron during the process of casting the outer skin thereon.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. Plating for safes and the like comprising in combination a core of metal having a high degree of heat-conductivity and a skin of chill cast iron upon said core and enveloping the same.

2. Plating for safes and the like comprising in combination a core of copper and a skin of chill cast iron upon said core and enveloping the same.

3. Plating for safes and the like comprising in combination a core of metal having a high degree of heat-conductivity, said core having holes, and a skin of chill cast iron upon said core, enveloping the same and penetrating said holes.

In witness whereof I have signed this specification in the presence of two witnesses.

EDWIN BAUER.

Witnesses:
CARL GUBLER,
FRITZ KÜBLER.