

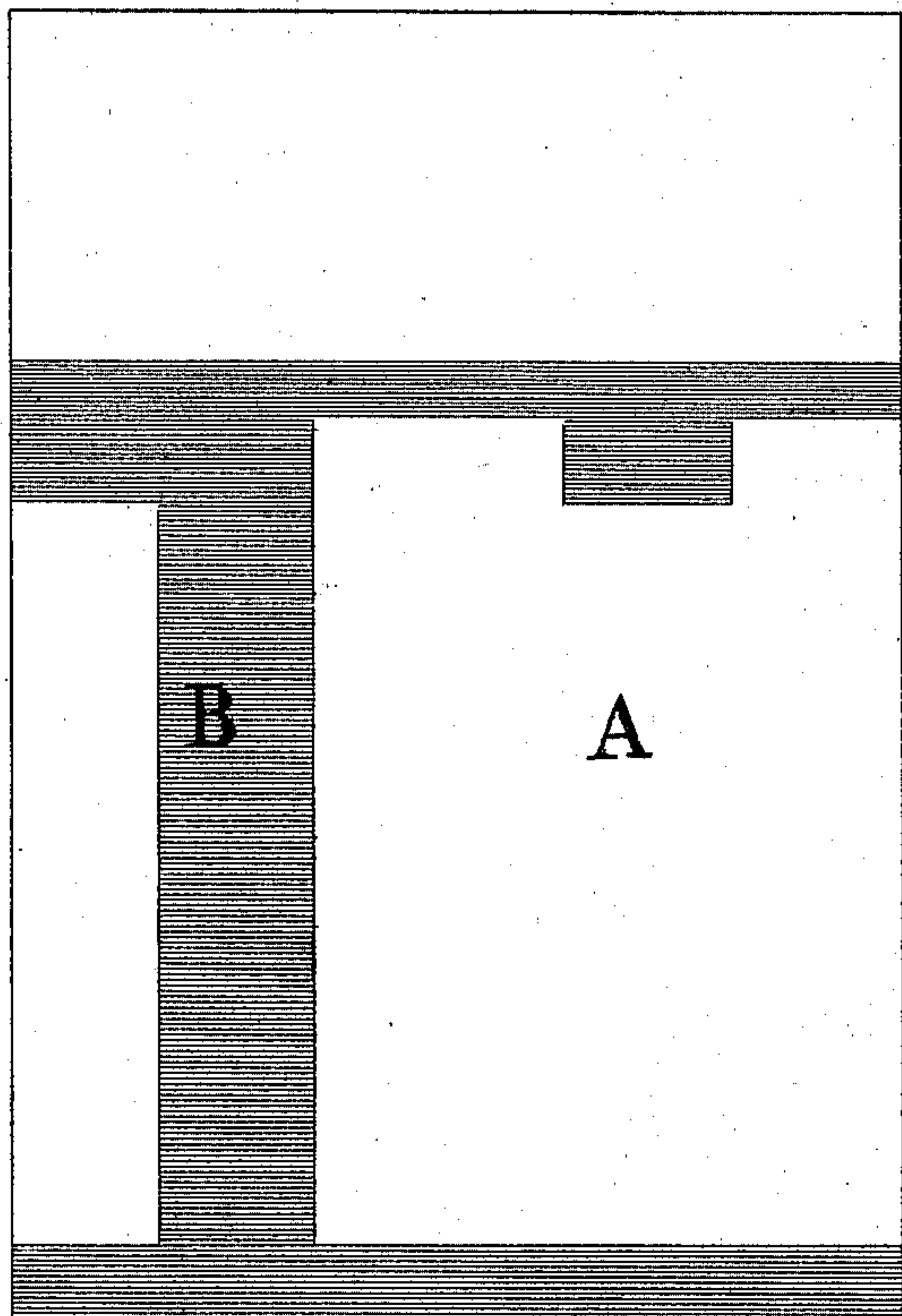
(No Model.)

W. E. COREY.  
APPARATUS FOR TREATING ARMOR PLATES.

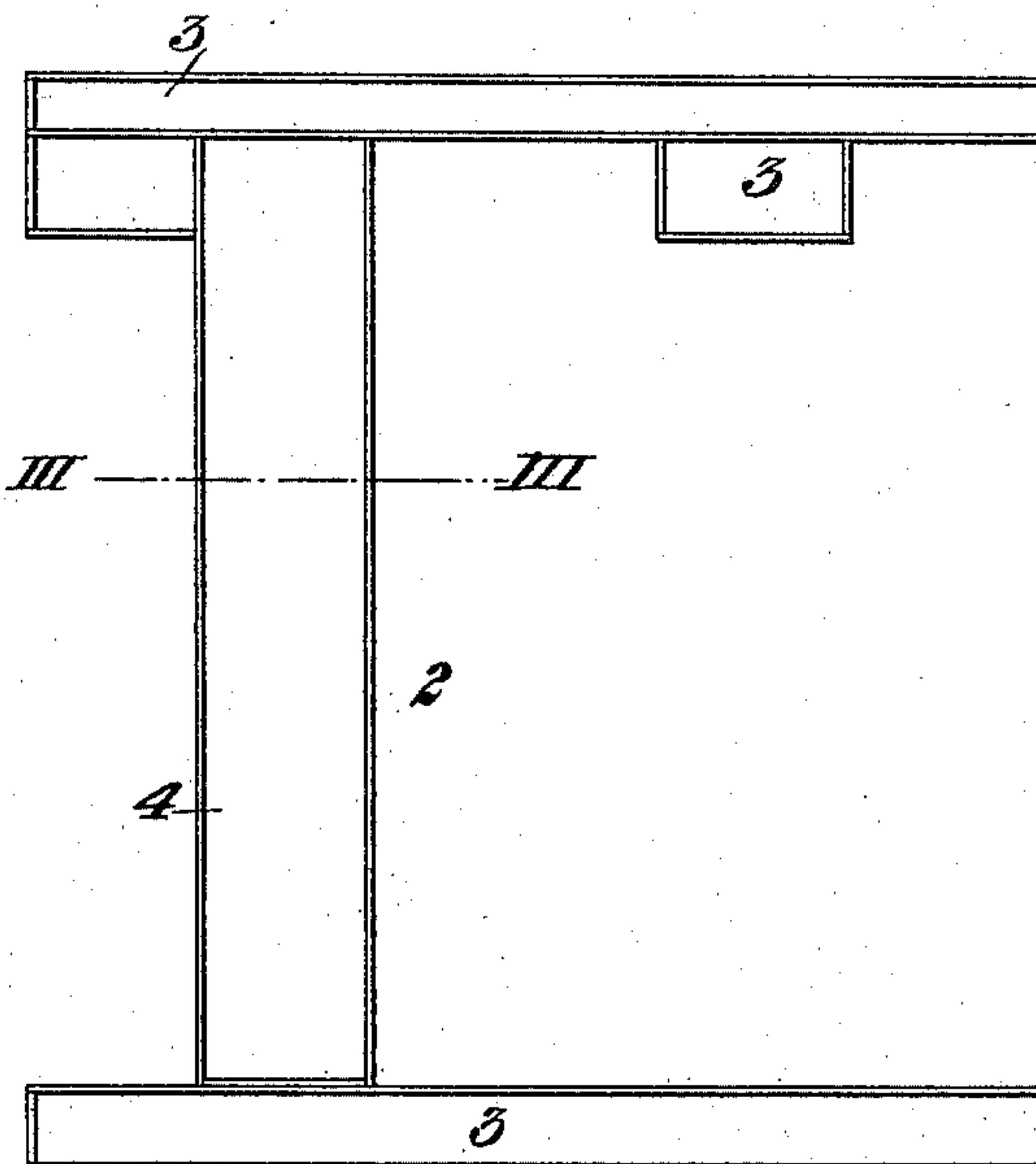
No. 584,672.

Patented June 15, 1897.

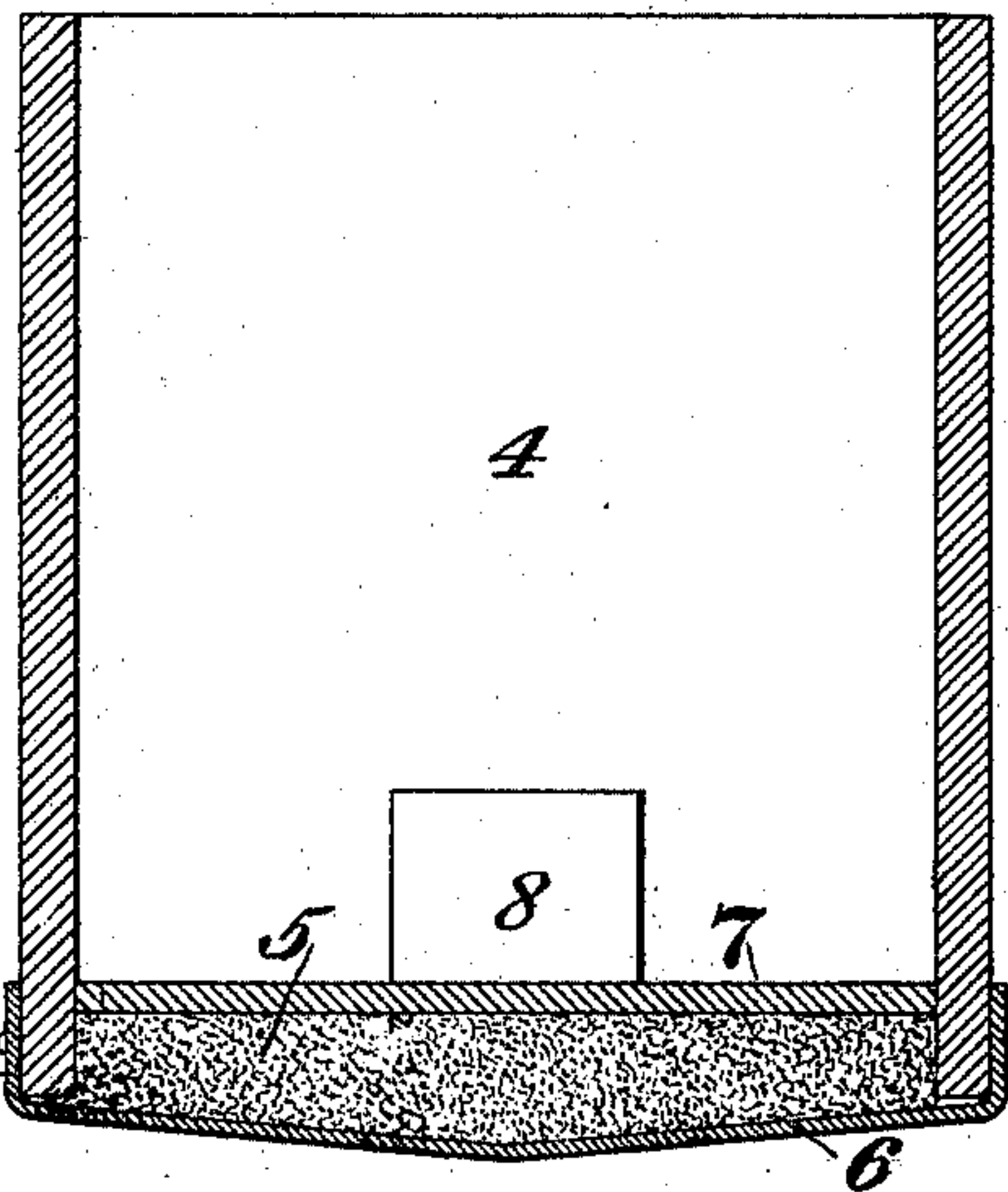
*Fig. 1*



*Fig. 2*



*Fig. 3*



WITNESSES

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INVENTOR

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# UNITED STATES PATENT OFFICE.

WILLIAM E. COREY, OF MUNHALL, PENNSYLVANIA, ASSIGNOR TO THE CARNEGIE STEEL COMPANY, LIMITED, OF PITTSBURG, PENNSYLVANIA.

## APPARATUS FOR TREATING ARMOR-PLATES.

SPECIFICATION forming part of Letters Patent No. 584,672, dated June 15, 1897.

Application filed December 7, 1894. Serial No. 531,114. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. COREY, of Munhall, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Treating Armor-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view of an armor-plate having the portions which it is desired to remain unhardened marked by shaded lines. Fig. 2 is a plan view of one form of my improved frame or support, and Fig. 3 is a vertical section of the same on the line III III of Fig. 2.

It has been customary to harden armor-plates by subjecting them to the action of water, which is sprayed over the surface of the plate while the plate is at a suitable hardening-heat, and after such hardening to soften a portion or portions of such plates by electricity or otherwise, so as to permit of the drilling or tapping of holes for the reception of bolts or rivets.

It is the object of my invention to do away with the step of softening and to produce face-hardened plates by the spraying operation, in which a portion or portions of their surfaces remain soft and unhardened, so as to permit of the drilling or tapping of the holes for the reception of the bolts or rivets; and it consists in a frame or support having a heat-resisting sealing-bottom, which frame is set upon the upper face of the plate and conforms to its surface.

In carrying out my invention I prefer to employ the device shown in the accompanying drawings, which consists of a framework, of asbestos boards or any other suitable material, of a shape to cover and inclose those portions of the plate which it is desired to preserve unhardened.

In the drawings, Figs. 2 and 3, 2 represents the frame, consisting of the side portions 3 and middle portion 4. Underneath the bottom of the frame is placed a packing 5, of asbestos, which is held in place by transverse strips 6, of asbestos cloth, which are nailed

to the sides of the frame, thus forming at the bottom of the frame or casing a slightly compressible and protecting cushion, which will conform to any irregularities in the surface of the plate.

7 is plate, preferably of metal, which fits within the frame upon the asbestos, and is designed to protect the same and prevent the water from soaking thereinto. In using these frames or casings the plate A, having the portions B to be protected from the action of the water, is taken from the furnace and placed on the bars of the spraying-pit with the face to be hardened upward. This face is then swept clean, and the frame is placed in its proper position on the plate and held securely by weights 8, which may be placed within the casing. The water for hardening the plate is then turned on, so as to strike all portions of the plate except those covered by the asbestos bottom of the protecting frame or casing. It will be noticed that, as shown in the drawings, the upper portion of the frame or casing is uncovered, so that the water will fill the casing and hold the asbestos frame upon the plate.

I am aware that it is old, in Patent No. 450,713, to Brustlein, to pack grooves or channels in an armor-plate with asbestos or refractory clay which is held in by exterior cross-bars; but in such case no easily-removable frame is set upon the face of the plate as in my invention, and hence the process is much more tedious and costly.

I do not desire to limit myself to the use of asbestos or any particular material in the construction of the frame or casing nor to any particular style or shape for the casing, nor do I desire to limit the use of my invention to hardening any special type of armor-plate, since

What I claim is—

1. In apparatus for hardening armor-plate and other articles, a frame or support having a heat-resisting sealing-bottom arranged to conform to the surface of the plate, and adapted to be set upon its upper face.

2. In apparatus for hardening armor-plate and other articles, a hollow framework or cas-

ing, having a heat-resisting sealing-bottom adapted to conform to the surface of the plate, and adapted to be set upon its upper face.

3. In apparatus for hardening armor-plate  
5 and other articles, a frame or support having a heat-resisting sealing-bottom of flexible material adapted to conform to the surface of the plate, said frame having a plate to protect the bottom from water and being arranged  
10 to be set upon the upper face of the armor-plate.

4. In apparatus for hardening armor-plate and other articles, a frame or support having a heat-resisting sealing-bottom of flexible material adapted to conform to the surface of  
15 the plate, said frame having a plate to protect the bottom from water and being arranged

to be set upon the upper face of the plate, and weights adapted to hold the frame in place.

5. In apparatus for hardening armor-plate and other articles, a hollow framework or casing having a heat-resisting bottom of flexible material adapted to conform to the surface of the plate, and a plate within the frame arranged to protect the said bottom from the water, said casing being arranged to be set upon the upper face of the armor-plate.

In testimony whereof I have hereunto set my hand.

WILLIAM E. COREY.

Witnesses:

W. B. CORWIN,

H. M. CORWIN.