T. Schofield.

Bridge Pier.

No. 27,571. Patented Mar. 20, 1860.

Fig: 1.

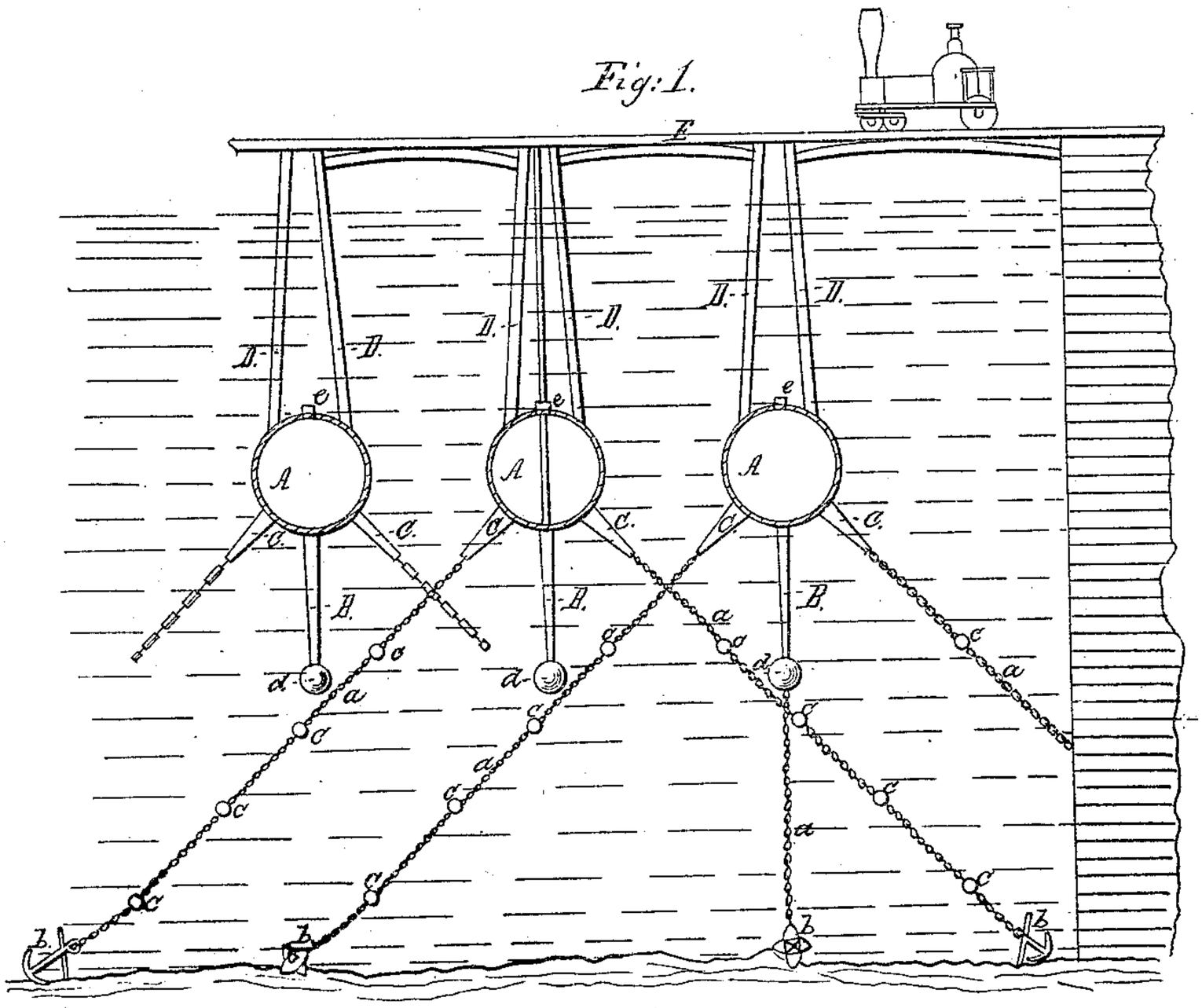

Fig: 2.

Witnesses.

O. W. Sargent Jr. P.

Jasper Hodkin.

Inventor.

Thomas Schofield.

UNITED STATES PATENT OFFICE.

THOMAS SCHOFIELD, OF GRASS VALLEY, CALIFORNIA.

FLOATING BRIDGE.

Specification of Letters Patent No. 27,571, dated March 20, 1860.

To all whom it may concern:

Be it known that I, THOMAS SCHOFIELD, of Grass Valley, in the county of Nevada and State of California, have invented a new and Improved Method of Supporting Bridges; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 represents a vertical longitudinal section of this invention. Fig. 2 is a transverse vertical section of the same.

The object of this invention is to support bridges, light-houses or other structures above water in places where the depth of the water does not allow of the application of pillars commonly used for supporting such structures; and my invention consists in arranging a series of hollow globes or cylinders made of iron or other suitable material several fathoms below the surface of the water where they are retained by chains secured to anchors, or other heavy pieces of metal suitable to hold the globes or cylinders steady. Each of the said globes is furnished with four standards which reach above the surface of the water and which serve to support the bridge or other structure; and each of the globes or cylinders is further steadied in its position by a balance weight on its under side. Each of the cylinders is also furnished with a valve which may be connected with a pump on the bridge for the purpose of keeping the interior of the globes or cylinders free from bilge water.

To enable those skilled in the art to make and use my invention I will proceed to describe it.

A series of hollow globes or cylinders, A, are firmly moored to the ground by means of chains, *a*, which are secured to anchors, *b*, or to other heavy bodies capable of retaining the cylinders in the required spots. The chains are secured to arms, C, extending from the under sides of the cylinders, said arms to be made of considerable length so that they assist in steadying the cylinders. The cylinders must be made perfectly water tight and filled with air to give them sufficient buoyancy to sustain a portion of the weight of the bridge or other structure to be supported by the same. The chains are so arranged that they do not hang as dead weights on the cylinders, either by attaching to each of the chains a series of buoys, *c*, which reduce the specific gravity of the whole chain to that of the water, or by constructing the chains with hollow links which would be able to sustain themselves.

Each of the globes or cylinders is provided with a steadying or ballast rod, B, which however should not be made heavier than water, with the exception of their lower ends, to which heavy balls, *d*, are secured, the weight of which of course depends entirely upon the size of the cylinders to which they are attached.

Secured to the upper sides of each of the cylinders, are the standards, D, which extend above the surface of the water and which serve to support the rails of a railroad bridge, E, or any other structure to be erected above the surface of the water. Each of the cylinders is also provided with a valve, *e*, which may be connected with a pump on the bridge, and which serves to remove the water which may find its way into the interior of the cylinders.

Where heavy structures are to be supported the cylinders or globes are arranged in pairs and close together, but for lighter structures single cylinders will be sufficient, arranged as represented in the drawing, and by placing them several fathoms below the surface of the water they are not exposed to the influence of the waves, and bridges or light-houses, or other structures may thus be erected in the deepest water and at a cost much below what it would cost to build pillars even in water of lesser depth.

What I claim as new, and desire to secure by Letters Patent, is:—

The arrangement of the cylinders, A, or their equivalents, with arms, C, steadying rods, B, standards, D, and valves, *e*, substantially as and for the purpose specified.

THOMAS SCHOFIELD.

Witnesses:

E. W. SPOFFARD,

JASPER HODKIN.