No. 693,059. Patented Feb. 11, 1902.

G. PASCALE.

PIER FOR THE SUPPORT OF BRIDGES.

(Application filed June 6, 1901.)

(No Model.)

Fig. 1.

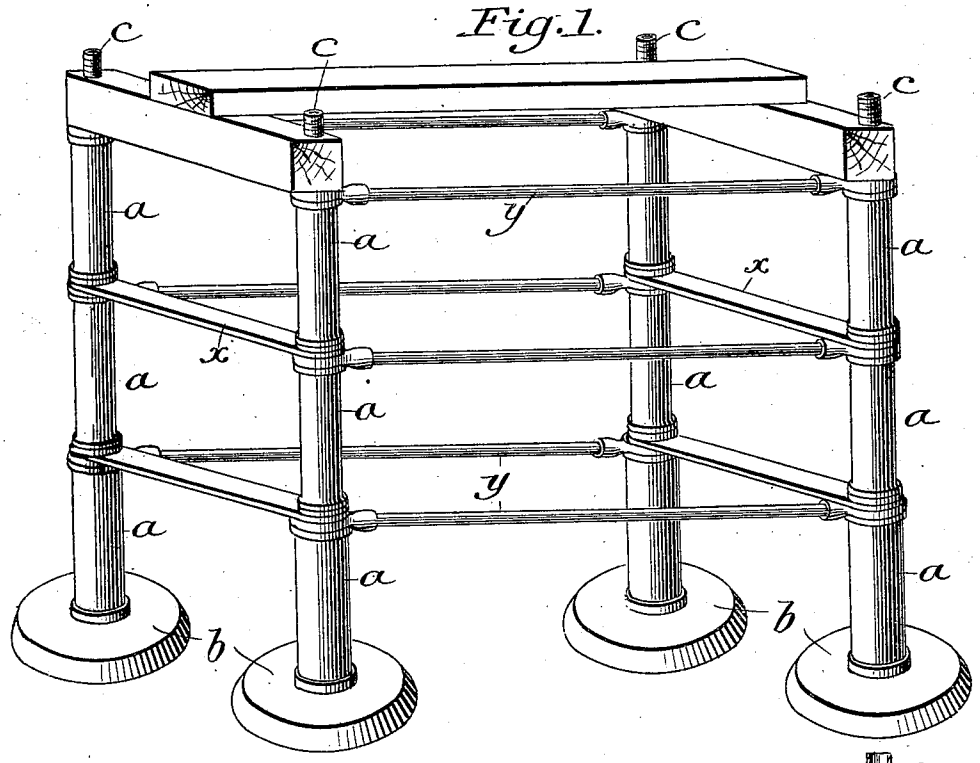


Fig. 2.



Fig. 4.

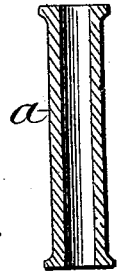


Fig. 6.

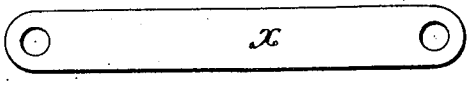


Fig. 3.

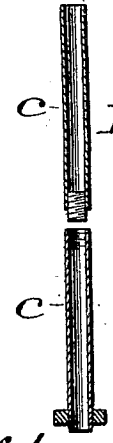


Fig. 7.

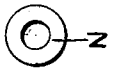


Fig. 5.

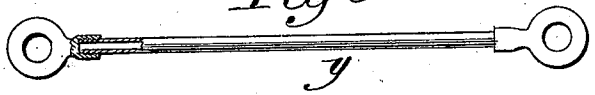
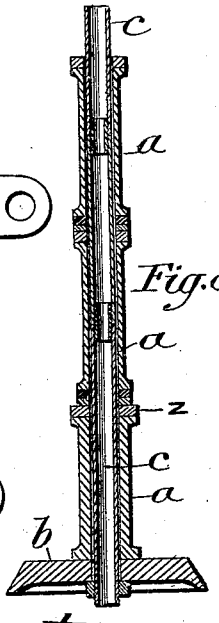


Fig. 8.



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UNITED STATES PATENT OFFICE.

GERARDO PASCALE, OF SOMERVILLE, NEW JERSEY.

PIER FOR THE SUPPORT OF BRIDGES.

SPECIFICATION forming part of Letters Patent No. 693,059, dated February 11, 1902.

Application filed June 6, 1901. Serial No. 63,485. (No model.)

To all whom it may concern:

Be it known that I, GERARDO PASCALE, a citizen of the United States, residing at Somerville, in the county of Somerset and State of New Jersey, have invented a new and useful Pier for the Support of Bridges, of which the following is a specification.

The object of my invention is to provide a pier for the support of bridges that can be quickly and easily constructed in any waters without the use of caissons or the usual cofer-dams.

Referring to the drawings which accompany and make part of this specification, Figure 1 is a perspective; Fig. 2, a vertical section of a base-plate; Fig. 3, a vertical section of tubing; Fig. 4, a vertical section of a column-section; Fig. 5, a horizontal section of an eye-bar; Fig. 6, a plan of an eyebar; Fig. 7, a plan of a lead gasket. Fig. 8 is a vertical section through a column.

Similar letters refer to similar parts throughout the several views.

To erect my pier, I use decked scows and begin by permanently securing one end of a convenient length of inside connected tubing *c*, as seen on Fig. 1 and in section on Figs. 3 and 8, in the center of a base-plate *b*, Fig. 1, and in section, Fig. 2, by which I lower said base-plate to rest on bottom. I then attach a pump to upper end of tubing (call it "tube") *c* by means of a convenient length of flexible tubing or hose to permit of lateral motion for moving base-plate *b* to its exact position, with the tube *c* kept truly vertical. By means of a pump I exhaust the sand and mud or other soft materials from under base-plate. I next serve cement or "beton" through tube *c* under said base-plate to solidly seat same and proceed to set each base-plate in the same manner. I secure a level height for first set of four eyebars. (See *x x* and *y y*, Fig. 1 and Figs. 5 and 6.) I prefer to use the flat wide bar shown in Fig. 6 against strong currents of water. Otherwise either pattern will do. I next drop a gasket *z* (see Figs. 1 and 7) over tubes *c c* and pass down over said tubes a proper length of column-sections to give a level height and next a gasket over each, then a pair of eyebars, again a gasket over each tube, and four more gaskets, one at each column, and continue in this manner to the desired height, using tubes *c c* to hold down the girders, trusses, or beams of a superstructure. (See Fig. 1, which, with the aid of vertical section, Fig. 8, plainly shows the disposal of the elements that compose my pier for the support of bridges.)

The drawings explain my invention very fully, with this exception: I do not show cement in interstices of the columns and under base-plates, because on so small a scale this would be confusing regarding the columns. I will say I use cement in all openings in the columns for purpose of preventing lateral movement and also to retard oxidation. I also use the gaskets in all horizontal joints to better retain the cement and to shut off waves of vibration through the structure.

I am aware that prior to my invention piers for the support of bridges have been composed of metallic piles and settled in place from the surface of the water. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A column for bridge-piers composed of separate pipe-sections, and a base-plate strung on a central pipe, said pipe being threaded below the base-plate and above the column, whereby nuts may be applied to draw the columns together, substantially as set forth.

2. In a pier for the support of bridges, the combination of lead or soft-metal gaskets in each horizontal joint, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GERARDO PASCALE.

Witnesses:

JAMES LUSARDI,

JOHN PISTACHIO.