(No Model.)

A. MATTICE.

DEVICE FOR CONSTRUCTING BRICK FLOORS AND ARCHES.

No. 271,346. Patented Jan. 30, 1883.

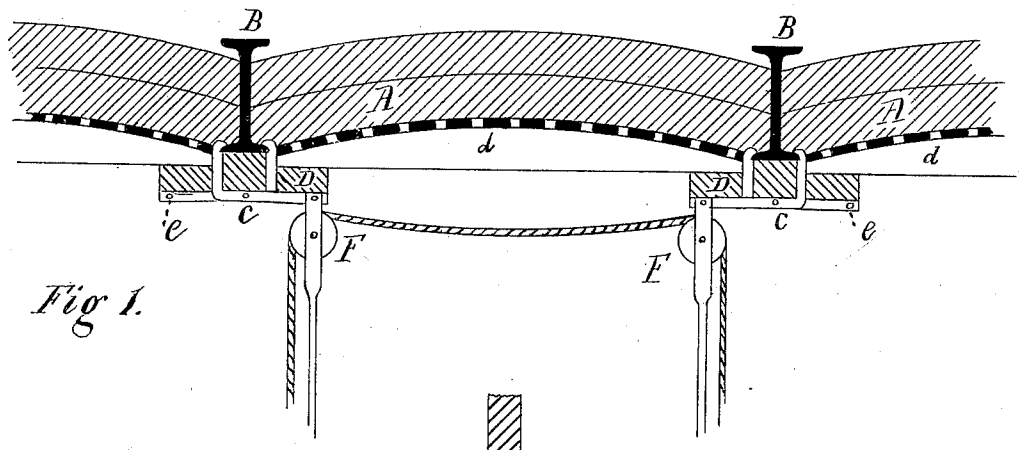


Fig 1.

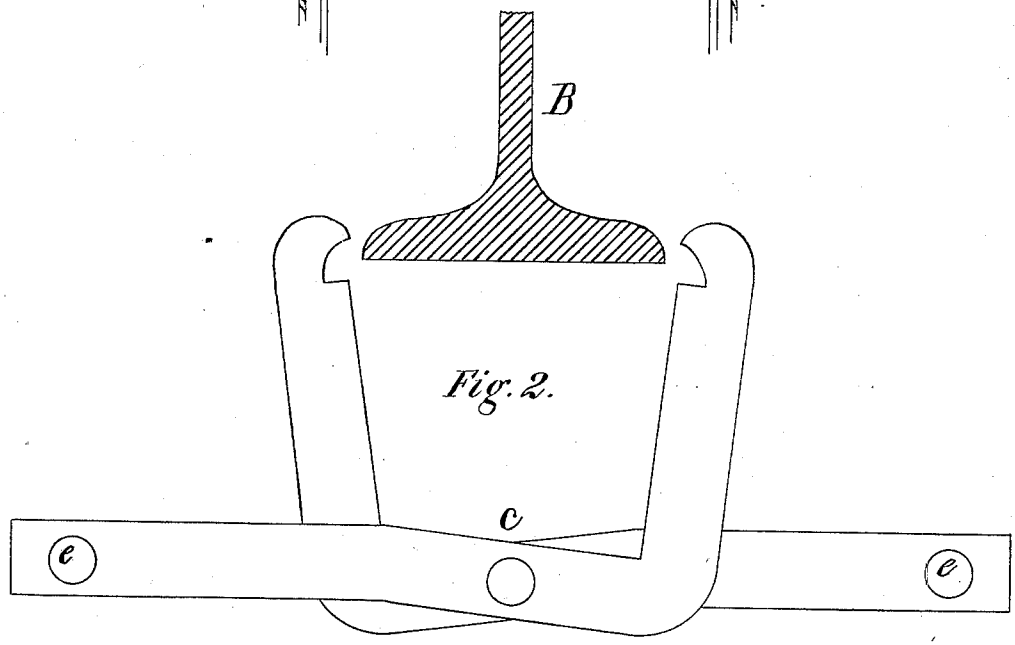


Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

ASA MATTICE, OF CLEVELAND, OHIO.

DEVICE FOR CONSTRUCTING BRICK FLOORS AND ARCHES.

SPECIFICATION forming part of Letters Patent No. 271,346, dated January 30, 1883.

Application filed March 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, ASA MATTICE, of Cleveland, county of Cuyahoga, and State of Ohio, have invented a new Improvement in Devices for Constructing Brick Floors and Arches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to letters of reference marked thereon.

My invention relates to certain improvements in devices for constructing arches between iron girders in fire-proof floors.

The object of the improvement is to do away with the construction of scaffolding as commonly employed, and make the construction of such arches much more simple and economical than by any other means.

The manner of using my improved device is to provide a grapple of such size and form that it will grasp the lower flanges of the girder. Upon this I construct what timber-supports are required, as will be seen in the accompanying drawings, in which Figure 1 is a section of flooring, showing the manner in which the grapples and their attachments are placed.

In Fig. 1, A A is the arch; B B, the girders; C C, the grapples attached to the girders. When it is desired to construct the arch the grapples are placed as shown and the timbers D D set in position, the blocks E E being put between the jaws of the grapple to prevent its tilting or moving from its place. The timber next to the wall of a building is supported by pegs or wedges driven into the wall, there being no girder in that place. The grapples being in place and the timbers placed on them, as shown, the former *d* is laid from one to the other and the arch constructed upon it. After this is completed and the arch is set the timbers are removed in the following manner: The sheave-rods F are hooked into the holes provided in the ends of the grapples *e e*, and the blocks, timbers, &c., being driven out of their places by knocking or prying, fall into the rope, and are lowered at pleasure by one person holding the ends of the ropes.

The grapples are made in several sizes as required for different girders, and may be of any suitable material and form, provided the general construction set forth herein is embodied, my object being to make a grapple which will grasp the girder and, affording a support for the "former," do away with constructing expensive and cumbersome scaffolding.

Fig. 2 is an enlarged view of my invention, which consists, in part, of two right-angled levers, pivoted at *c*, and armed with hooks on their upright or upper ends, the other arms lying horizontally and having holes in their outer extremities. By suspending weights to these outer ends the others are made to close and firmly clasp anything placed between them. The mode of applying these clamps is clearly shown in Figs. 1 and 2. In use these clamps are attached to the flanges of the iron beams or girders between which it is proposed to build brick arches, and used for supports for "formers" or "centering," as the temporary wood-work or framing for the construction of vaulted work is called, the ends of said centers or formers resting upon the supports D, as shown in Fig. 1. The outer ends of these levers are fitted with pulleys F, which may be used for the purpose of raising or lowering materials for the construction of arches between the girders, as shown in Fig. 1, A. These levers or clamps act in the nature of ice-tongs, and the greater the weight upon the outer ends of the levers the stronger the grip, and all, too, without bolts or other complicated contrivances. It will readily be understood that these clamps can be as readily detached as placed and transferred to other girders without the use of any tools save the hands of the workmen.

Having fully described my device and its mode of application, I will state what I claim as my invention and wish to secure by Letters Patent:

1. An automatic or self-acting clamp or hanger for supporting the former or centering used in the construction of brick arches between iron girders or beams, consisting of right-angled or bell-crank levers crossing each other, and centered or pivoted at *c*, the upright end armed with hooks, and the horizontal end fitted with pulleys F, in combination with timbers or supports D, constructed and arranged substantially as described, and for the purpose named.

2. The pieces of timber D and the center one, E, made to fit the space inclosed by arms of right-angled and crossed levers and the bottom flanges of girders, the others lying on the top of the horizontal arms of said levers, combined with said levers, for a support for the former or center for constructing brick arches, constructed and arranged substantially as shown, and for the purpose stated.

3. The grapple C, constructed and operated in the manner and for the purposes set forth and described.

4. In combination with the grapples C C, the sheaves F F, as and for the purposes set forth and described.

This specification signed and witnessed this 12th day of December, 1881.

ASA MATTICE.

Witnesses:
GEO. C. TRACY,
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