

UNITED STATES PATENT OFFICE.

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FIREPROOF BEAM.

SPECIFICATION forming part of Letters Patent No. 527,232, dated October 9, 1894.

Application filed May 26, 1894. Serial No. 512,503. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. BALPH and ELISHA P. S. WRIGHT, residents of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Fireproof Beams; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to fire-proof beams.

To enable others skilled in the art to make and use our invention we will describe the same with reference to the accompanying drawings, in which—

Figure 1. is a cross section of a beam illustrating our invention. Fig. 2. is a like view with the temporary structure removed.

In carrying out our invention we first pass hangers or stirrups *i* around the I-beam *h* at suitable intervals, said stirrups being supported by the base *k*, resting upon the said beam. We protect the bottom flange of the I-beam by means of the plaster board slab, *l*, said slab being held in place by means of the clamps *m*. Supported upon the lower flange of the I-beam, and resting against the stirrups, *i*, are the side slabs, *n*, said side slabs being secured to the stirrups, *i*, in any suitable manner. In order to form a mold around the side slabs *n* and plaster board slab *l* for the reception of the concrete we employ stirrups *o* which are suspended from the wooden beams *p*, resting on the upper flange of the I-beam *h*. Supported within the said stirrups *o* is the mold *r*, composed of the bottom board *s*, and side-boards *s'* properly held together. Within the space formed by the mold *r* is packed the concrete *f*. When the concrete has been filled in said mold, up to the top of the side slabs *n*, the top slabs *u* are then fitted into place whereupon more concrete is filled in on top of side slabs *u*, until the upper part of the beam is enveloped. The slabs may be formed of plaster of paris or any such material which is a good non-conductor of heat. When the concrete has been packed in the manner described, the stirrups *o* removed, and

the slabs *s'* withdrawn, the beam is left entirely enveloped by the concrete, as shown in Fig. 2, and with an air space surrounding the greater portion of the beam.

The bars *v* and stirrups *w* form part of the invention for which we filed an application for Letters Patent on the 23d day of February, 1894, Serial No. 501,106.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The method of forming a protecting covering for beams consisting in suspending therefrom a protecting conduit, encircling the greater portion of said beam, suspending a second conduit from said beam inclosing said first mentioned conduit, and filling in the space between said conduits with concrete, and also embedding the portion of the beam not encircled by the said first mentioned conduit with concrete, substantially as and for the reasons set forth.

2. The combination with the beam of a closed protecting conduit inclosing same, and concrete completely embedding said conduit, substantially as and for the purposes set forth.

3. The combination with the beam, of stirrups suspended therefrom, a closed protecting conduit inclosing said beam and supported within said stirrups, and concrete completely embeddingsaid conduit, substantially as and for the purposes set forth.

4. The combination with the beam, of stirrups suspended therefrom, a protective slab on the bottom flange of said beam, side and top slabs inclosing said beam, all said slabs being supported by said stirrups, and concrete completely embedding said slabs, substantially as and for the purposes set forth.

In testimony whereof we, the said CHARLES A. BALPH and ELISHA P. S. WRIGHT, have hereunto set our hands.

CHARLES A. BALPH.
ELISHA P. S. WRIGHT.

Witnesses:

ROBT. D. TOTTEN,
ROBERT C. TOTTEN.