No. 803,089. PATENTED OCT. 31, 1905.

C. H. BIGELOW, Jr.

HANGER FOR BUILDING PURPOSES.

APPLICATION FILED APR. 15, 1905.

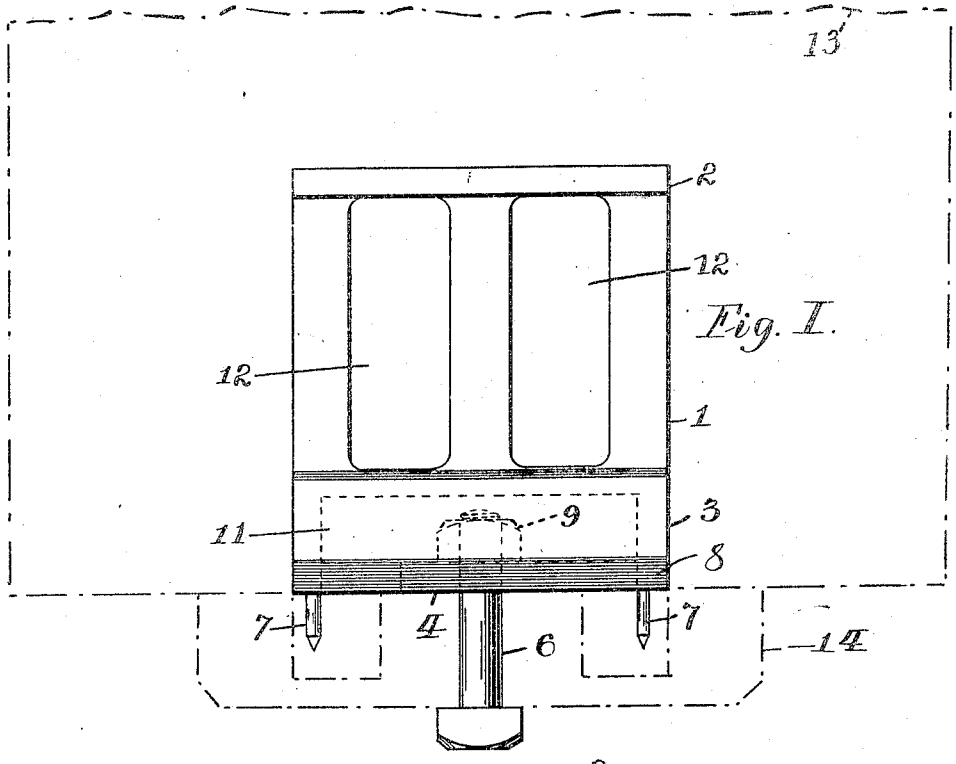


Fig. I.

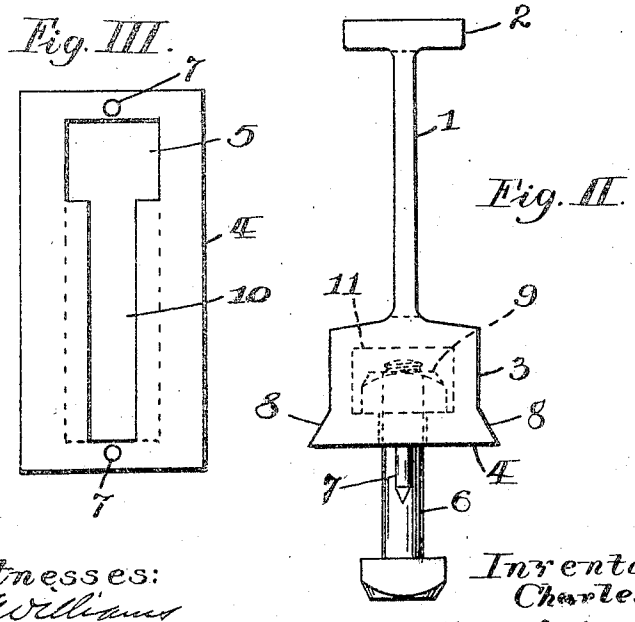


Fig. II.

Fig. III.

Witnesses:
A. H. Williams
Elsie M. Boul.

Inventor:
Charles H. Bigelow, Jr.
by John E. Styker
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES H. BIGELOW, JR., OF ST. PAUL, MINNESOTA.

HANGER FOR BUILDING PURPOSES.

No. 803,089. Specification of Letters Patent. Patented Oct. 31, 1905.

Application filed April 15, 1905. Serial No. 255,706.

To all whom it may concern:

Be it known that I, CHARLES H. BIGELOW, Jr., a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Hanger for Building Purposes, of which the following is a specification.

My invention relates to improvements in hangers for building purposes, and particularly to a hanger adapted to be embedded in concrete and to furnish means for attaching fixtures to beams, walls, or other surfaces of such material after the same has set or hardened.

The purpose of the invention is to avoid the necessity of drilling into the set concrete for the insertion of expanding bolts or other forms of attachment.

In the drawings, Figure I is a front elevation of my hanger. Fig. II is an end view of the hanger, and Fig. III is a view looking at the same from below.

The hanger proper consists of an openwork frame 1, which is provided with wings 2 at the top and a hollow casing 3 at the base. The lower face 4 of the base is perforated with a keyhole-opening 5, adapted to receive and hold a bolt 6. A hook, screw, or other attachment may be used in place of the usual bolt if the connection requires it. The base is also furnished with pins or nails 7, cast in the hanger. The purpose of these pins is to permit the hanger to be centered in the form and fastened during the process of embedding it in the concrete, and after the concrete has set they may be cut away. The lower part of the base flares outwardly at 8, so that when it is embedded in the concrete suitable surfaces will be presented for the union of the hanger and concrete. The keyhole-opening 5 permits the use of stock sizes of machine-bolts and is of sufficient length to allow a shifting of the position of the bolts, and thus secure perfect alinement of a series of them when the hangers are in position. By placing a nut 9 in the opening a rigid connection can be made at any point along the slot 10. When the device is embedded in the concrete, its lower face 4 is flush with the surface of the beam or wall in which it is inserted. In Fig. I the hanger is thus embedded in a concrete beam 13 (shown in broken lines) and carries an electric-wire molding 14, (also shown in broken lines.)

It is obvious that a hanger of this character is specially adapted to fasten heating or automatic-sprinkling pipes, electric-wire moldings, or other similar devices to ceilings or to attach shelving or other fixtures to walls.

This device may be inserted in the concrete without injury to either the hanger or the concrete, and the upper flanges or wings 2 are sufficiently distant from the surface of the concrete so that the strain is carried above or beyond the metal reinforcements which are usual in such construction. The form of the lower portion of the hanger adapts it to unite with the concrete without the possibility of getting the latter into the recess 11 in the base. The pins 7 hold the hanger rigidly, so that the pouring of the concrete around the hanger and tamping will not displace it.

The apertures 12 in the frame 1 serve the double purpose of making the device lighter for shipment and of furnishing better surfaces for union with the concrete.

It is obvious that the hanger, if it is desired to have two adjacent series of attachments for fixtures, may be made double with two keyhole-openings and corresponding recesses for bolts. The faces of the hanger which are in contact with the concrete are without abrupt angles, so that sharp corners, and consequently weak edges of concrete, are avoided.

While I have termed my device a "hanger," (because it will perhaps be most often used for making attachments to ceilings,) yet it is equally efficient for making connections with concrete in any position.

In practice my device is rigidly attached to the concrete form or mold by means of the pins or nails 7. The concrete is then poured about it with the lower surface of the hanger (shown in Fig. III) flush with one of the concrete surfaces. When the concrete has set, the pins 7 may be cut off and any desired fixture may be attached to the hanger (now embedded in the concrete) by means of the bolt 6. This attachment may be made with either the head or threaded end of the bolt in the recess 11. In the latter case absolute rigidity is assured by screwing the bolt through the nut until the threaded end bears against the upper surface of the recess 11. As has been seen, alinement of a series of fixtures or of one having several points of attachment is secured by moving the bolt in the slot before the final adjustment.

Having described my invention, what I

claim as new, and desire to protect by Letters Patent, is—

1. A hanger, consisting of an insert for concrete construction, comprising a flanged top and hollow base, the latter being perforated by a keyhole-opening and provided with pins, in combination with a bolt, for the purposes specified.

2. A device of the class described, comprising a body portion provided with a flanged top and hollow base, and means for connecting said base with a fixture.

3. A device of the class described, comprising, in combination, a suitable frame consisting of a single casting, a fixture-support, and means for adjusting said fixture-support and locking it in said frame.

4. A hanger, consisting of an insert for concrete construction, comprising a flanged top and hollow base, the latter being perforated by a keyhole-opening, in combination with a bolt, for the purposes specified.

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

CHARLES H. BIGELOW, JR.

Witnesses:
E. M. BOESEL,
F. G. BRADBURY.