No. 875,396. PATENTED DEC. 31, 1907.

H. E. WHITE.

CLAMP FOR USE IN BUILDING CONSTRUCTION.

APPLICATION FILED JUNE 19, 1907.

FIG. 1

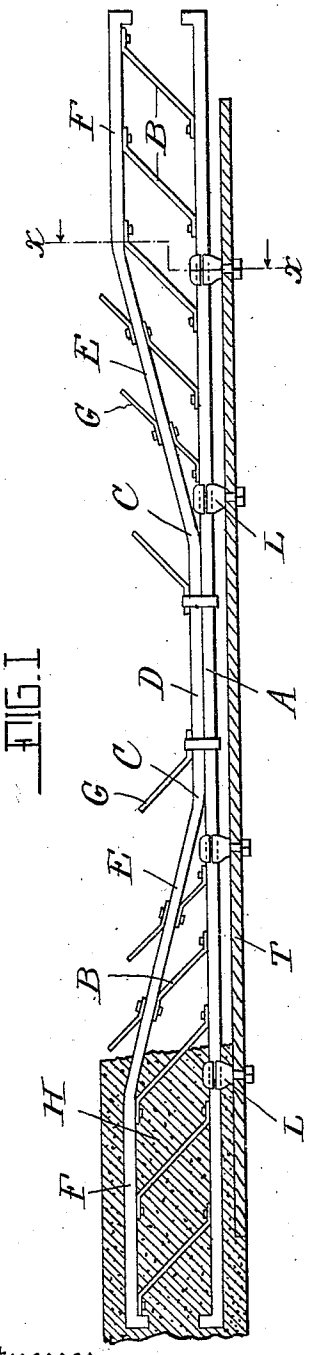


FIG. 4

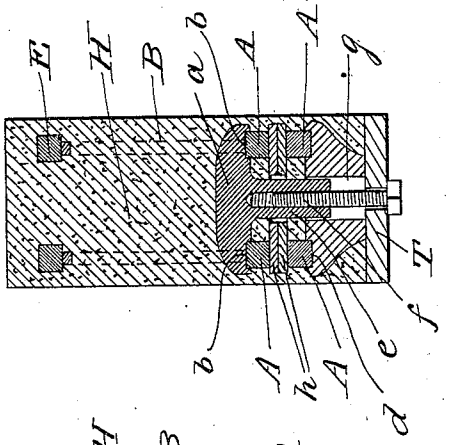


FIG. 3

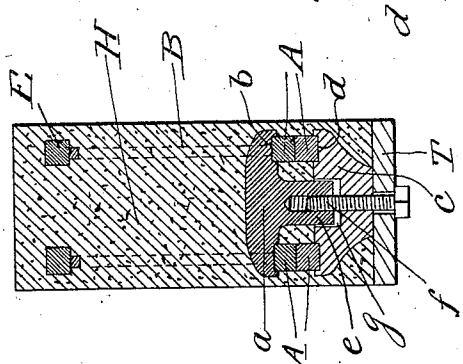
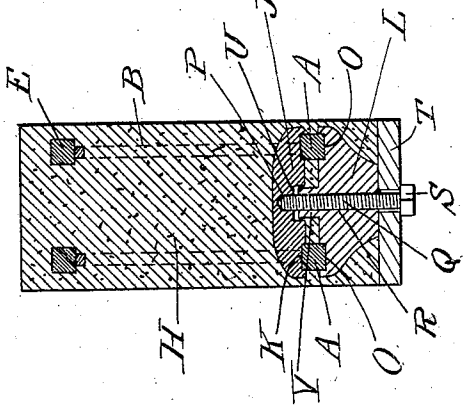


FIG. 2



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CLAMP FOR USE IN BUILDING CONSTRUCTION.

No. 875,396. Specification of Letters Patent. Patented Dec. 31, 1907.

Application filed June 19, 1907. Serial No. 379,706.

To all whom it may concern:

Be it known that I, HERBERT E. WHITE, a citizen of the United States, and a resident of Youngstown, Ohio, have invented certain new and useful Improvements in Clamps for Use in Building Construction, of which the following is a specification, accompanied by drawings.

This invention relates to a clamp for use in building construction, and is adapted to be used more particularly in concrete building construction.

The invention has for its object the providing of a simple means for making an anchorage in ceilings from which to suspend heavy weights, as hanging shafting and pulleys.

The invention is also used for holding in place the reinforcing metallic members in concrete construction.

In the erection of buildings of this character it is necessary to maintain the steel members in a certain relative position so as to insure their proper location in the concrete body. It is also desirable to fasten them together and this invention is used to perform at the same time the office of holding the steel parts in place with respect to their position in the concrete body, of fastening these parts together and of maintaining the members at the required distance apart. The clamp also serves to hold the bottom mold boards in position while the concrete is being formed about the reinforcing frames or members.

The invention is fully illustrated in the accompanying drawings, in which,—

Figure 1 is a longitudinal elevation partly in section of a reinforced concrete beam or girder embodying the invention; Fig. 2 is a transverse sectional view of Fig. 1 on the line *x x;* Fig. 3 is a transverse sectional view of a modification of the invention. Fig. 4 is a transverse sectional view of another way of using the clamp shown in Fig. 3.

Referring to the drawings A represents the longitudinal base members of a pair of metallic reinforcing frames or members, and in this instance the members A comprise metallic rods or bars shown rectangular in cross section, although they may be any desired cross section. Connected to the base members A by means of slats or tie pieces B are the upper longitudinal members C, which, as shown, comprise central portions D, outwardly extending portions E which extend from each end of the central portions D and diverge from the base members A, so that the distance between the base members and the portions E continuously increases as the outer ends of the reinforcing frames are approached. Preferably the extreme ends F of the upper member C extend substantially parallel to the base A. In constructing the beam the central portion D of the member C is placed upon the central portion of the base member A and the two members are tied together in any suitable manner. The slats B may be secured to the longitudinal members in any desired manner. If desired, additional reinforcing slats or ribs G may be provided extending outwardly from the upper members C and suitably secured thereto in any desired manner. The reinforcing frames are preferably arranged side by side and secured together by means of the clamps which form the object of the present invention.

In Fig. 2 one form of clamp is shown, comprising the upper jaw or clamping member J provided with grooves K adapted to receive the longitudinal members A of the frames, and the lower clamping member L also provided with grooves O adapted to receive the longitudinal members A. The grooves K and O are constructed to substantially register with each other and coöperate to tightly clamp the members A in defined position when the clamp it tightened up. The upper member J is provided with a screw threaded socket P adapted to receive the end of the screw threaded bolt Q, which passes through a screw-threaded aperture R in the lower or main clamping member L. The bolt is provided with a head S by means of which it may be tightened, and between the head and the member L is adapted to be secured the mold board T. Preferably the upper clamping member or jaw J is recessed at U to receive the projecting head portion V of the main clamp member L with a small clearance to prevent concrete from getting down around the screw-threaded bolt. It should not be necessary to make any closer fit than can be made in ordinary foundry practice. It will be seen that the projection V forms a protecting collar for the bolt, which also prevents the concrete from coming in contact therewith.

In Fig. 3 a modified form of clamp is

shown adapted to be used in connection with reinforcing frames having two or more main members located one above the other. In this instance, the clamp is shown in connection with two reinforcing frames each having the two longitudinal members A. The upper clamping member *a* is provided with the grooves *b* to receive the upper base members A of the frames, while the lower clamping member or main member *c* is provided with grooves *d* to receive the lower longitudinal members A of the frames. The upper member *a* is provided with an interiorly screw-threaded sleeve *e* adapted to receive the screw-threaded bolt *f*. This sleeve *e* is adapted to extend down into the central aperture *g* in the member *d* with a small amount of clearance, and this construction protects the bolt from the concrete and prevents the concrete from getting down around the screw. If the longitudinal base members A of each frame are apart as shown in Fig. 4, they can be held in position when in the clamps by inserting between them any pieces of metal *h* of the desired thickness, as waste ends of bars from the scrap heap.

According to this construction, after the concrete, cement, or other cementitious material is hardened sufficiently to firmly unite all the parts, the bolts and mold boards may be removed and the clamps form screw-threaded sockets for the reception of fastenings for heavy weights or for ceilings.

I claim and desire to obtain by Letters Patent the following:—

1. A clamp for concrete constructions comprising the upper and lower members, one of said members having a socket, the other member having a projection fitting into the socket to form a closure therefor and prevent access of concrete to the socket, and a bolt passing centrally through said projection and socket, and screwing into the upper member, the lower member being constructed to prevent access of concrete to the bolt.

2. A clamp for concrete constructions comprising the upper and lower members, each provided with spaced grooves for engaging the bars or rods to be clamped, one of said members having a socket, the other member having a projection fitting into the socket to form a closure therefor and prevent access of concrete to the socket, and a bolt passing centrally through said projection and socket, and screwing into the upper member, the lower member being constructed to prevent access of concrete to the bolt.

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

HERBERT E. WHITE.

Witnesses:
ORSON D. KAISER,
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