

G. J. SCHADE.
METAL REINFORCEMENT FOR METAL REINFORCED COLUMNS, POSTS, AND THE LIKE.
APPLICATION FILED MAR. 5, 1909.

943,469.

Patented Dec. 14, 1909.

Fig. 1.

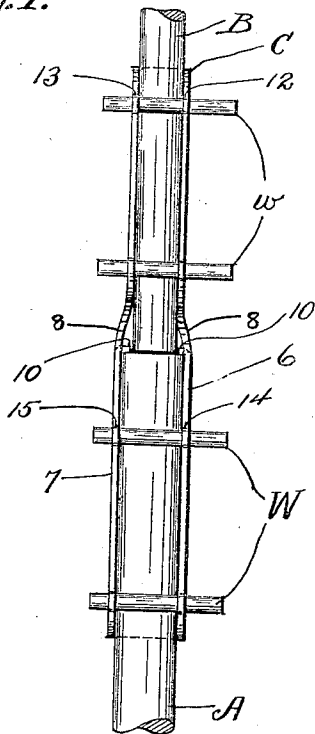


Fig. 2.

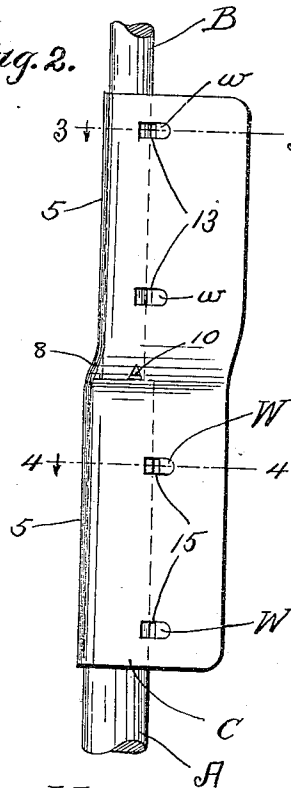


Fig. 3.

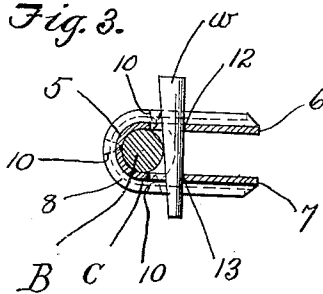
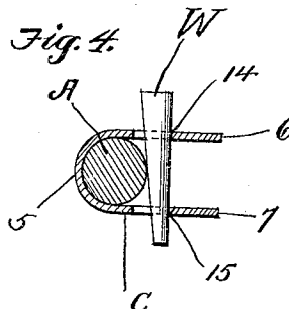


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE J. SCHADE, OF SANDUSKY, OHIO.

METAL REINFORCEMENT FOR METAL-REINFORCED COLUMNS, POSTS, AND THE LIKE.

943,469.

Specification of Letters Patent.

Patented Dec. 14, 1909.

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To all whom it may concern:

Be it known that I, GEORGE J. SCHADE, a citizen of the United States of America, residing at Sandusky, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Metal Reinforcement for Metal-Reinforced-Concrete Columns, Posts, and the Like; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to an improved metal reinforcement for metal-reinforced concrete columns, posts and the like, and pertains more especially to a metal reinforcement for upwardly tapering posts or poles and for continuous columns extending through or into adjacent stories of a building.

My improved metal reinforcement comprises more especially two substantially vertically arranged metal rods mounted the one upon the upper end of the other.

The primary object of this invention is to provide simple and efficient means whereby the said rods are rigidly secured together.

Another object is to secure the said rods together by means comprising a strong metal clip which extends up and down the adjacent portion of the rods and is looped or bent about and clamped to the said portions of the rods and positively prevented from slipping downwardly.

Another object is to have the clip properly fit an upper rod which is smaller in cross section than the lower rod by the provision of the clip with a lateral and inward offset over the upper end of the lower rod so that the upper portion of the clip above the said offset and the lower portion of the clip below the said offset embrace the upper rod and lower rod respectively.

Another object is to most efficiently secure the clip and the rods together by providing means whereby the upper rod and the clip are clamped together at a plurality of vertically spaced points above the joint between the rods, and means whereby the lower rod and the clip are clamped together at a plurality of vertically spaced points below the said joint.

With these objects in view, and to the end of realizing other advantages hereinafter appearing, this invention consists in certain features of construction, and combinations

of parts, hereinafter described, pointed out in the claims, and illustrated in the accompanying drawings.

In the said drawings, Figure 1 is a side elevation of two substantially vertical metal rods arranged the one upon the upper end of the other and secured together by means embodying my invention. Fig. 2 is a left hand side elevation relative to Fig. 1. Figs. 3 and 4 are horizontal sections on lines 3—3, and 4—4, respectively, Fig. 1, looking downwardly.

Referring to the drawings, A represents a substantially vertically arranged metal rod.

B indicates a substantially vertically arranged metal rod which is mounted or rests upon the upper end of the rod A.

Both rods A and B are shown circular in cross section. The upper rod B is smaller in cross section than the lower rod A and as shown arranged centrally of the upper end of the lower rod. The rods A and B form a portion of a metal-reinforcement for reinforcing concrete columns, posts and the like in metal-reinforced concrete construction.

A not uncommon way of using the metal reinforcement formed by the rods A and B in metal-reinforced concrete construction is to have the lower rod A extend through one story of the building into the next upper story and employed in supporting the floor between the said stories, and to have the upper rod B extend through the upper of the said stories and instrumental in supporting the floor or roof at the top of the said upper story.

My invention consists essentially in the provision of means for inexpensively but very efficiently securing the rods A and B together, which means comprise a metal clip C which preferably consists of a steel plate which extends up and down the adjacent portions of the rods and is looped or bent, as at 5, about the said portions of the rods at one and the same side of my improved metal reinforcement and has substantially parallel side portions 6 and 7 arranged at opposite sides respectively of the rods and projecting outwardly from opposite ends respectively of the loop or bend 5. The upper rod B obviously does not cover the entire upper end surface of the lower rod A but is arranged centrally of the said surface, as already indicated, and the plate or clip C is offset laterally and inwardly, as at 8, over the upper end of the lower rod and has its

upper portion and lower portion embracing the upper rod and lower rod respectively. That is the upper part and lower part of the loop or bend 5 fit and embrace the upper rod and lower rod respectively, and the offset 8 also materially strengthens the clip. The offset 8 of the clip coöperates with the upper end of the lower rod to prevent downward slipping of the clip, but the clip is preferably provided with laterally and inwardly projecting lugs 10 which directly rest upon the upper end of the lower rod A and are spaced circumferentially of the lower end of the upper rod B and positively prevent downward displacement of the clip. The upper rod B is clamped above the joint between the two rods against the inner side of the loop or bend 5 of the upper part of the clip preferably by two vertically spaced wedges *w* which are supported from the said part of the clip and respectively extend substantially horizontally through two holes or perforations 12 and 13 formed in the side portions 6 and 7 respectively of the said part of the clip, which holes or perforations have their side walls which face laterally in the direction of the said loop or bend engaged by the said wedges, and the said holes or perforations extend far enough in the direction of the said loop or bend to accommodate the driving of the wedges tightly between the said walls and the upper rod and thereby efficiently secure the clip to the said rod. The lower rod A is clamped below the joint between two rods against the inner side of the loop or bend of the upper part of the clip preferably by two vertically spaced wedges *W* which are supported from the said part of the clip and respectively extend horizontally through two holes or perforations 14 and 15 formed in the side portions 6 and 7 of the said part of the clip, which holes or perforations have their side walls which face laterally in the direction of the said loop or bend engaged by the said wedges, and the said holes or perforations extend far enough in the said direction to accommodate the driving of the wedges tightly between the said walls and the lower rod and thereby effectively secure the clip to the said rod.

What I claim is:—

1. In a metal reinforcement for metal-reinforced concrete construction, the combination, with two substantially vertically arranged rods mounted the one upon the upper end of the other, and the upper rod being smaller in cross section than the lower rod, of means securing the said rods together and comprising the following:—a metal clip which extends up and down the adjacent portions of the rods and is looped about the said portions of the rods, said clip being offset laterally and inwardly over the upper end of the lower rod and has the upper por-

tion and lower portion of its loop or bend embracing the upper rod and lower rod respectively, means whereby the upper rod and the upper portion of the loop or bend of the clip are clamped together, and means whereby the lower rod and the lower portion of the loop or bend of the clip are clamped together.

2. In metal reinforcement for metal-reinforced concrete construction, the combination, with two substantially vertically arranged rods mounted the one upon the upper end of the other, and the upper rod being smaller in cross section than the lower rod, of means securing the said rods together and comprising the following:—a metal clip which extends up and down the adjacent portions of the rods and is offset laterally and inwardly over the upper end of the lower rod and has its upper portion and lower portion embracing the upper rod and lower rod respectively, said clip being provided with inwardly projecting lugs resting upon the upper end of the lower rod; means whereby the upper rod and the upper portion of the clip are clamped together, and means whereby the lower rod and the lower portion of the clip are clamped together.

3. In metal reinforcement for metal-reinforced concrete construction, the combination, with two substantially vertically arranged rods mounted the one upon and centrally of the upper end of the other, both rods being circular in cross section and the upper rod being smaller in cross section than the lower rod, of means securing the said rods together and comprising the following:—a metal clip which extends up and down the adjacent portions of the rods and is looped or bent about the said portions of the rods at one and the same side, said clip being offset laterally and inwardly over the upper end of the lower rod and having its upper portion and lower portion embracing the upper rod and lower rod respectively, means whereby the upper rod and the upper portion of the loop or bend of the clip are clamped together, and means whereby the lower rod and the lower portion of the loop or bend of the clip are clamped together.

4. In metal reinforcement for metal-reinforced concrete construction, the combination, with two substantially vertically arranged rods mounted the one upon and centrally of the upper end of the other, both rods being circular in cross section and the upper rod being smaller in cross section than the lower rod, of means securing the said rods together and comprising the following:—a metal clip which extends up and down the adjacent portions of the rods and is looped or bent about the said portions of the rods, said clip being offset laterally and inwardly over the upper end of the lower

rod and having its upper portion and lower portion embracing the upper rod and lower rod respectively and provided with inwardly projecting lugs spaced circumferentially of the lower end of the upper rod and resting upon the upper end of the lower rod; means whereby the upper rod and the upper portion of the loop or bend of the clip are clamped together, and means whereby the lower portion of the loop or bend of the clip and the lower rod are clamped together.

5. In metal reinforcement for metal-reinforced concrete construction, the combination, with two substantially vertically arranged rods mounted the one upon the upper end of the other, of means securing the said rods together and comprising the following:—a metal clip which extends up and down the adjacent portions of the rods and is looped or bent about the said portions of

the rods at one and the same side and has perforated side portions arranged at opposite sides respectively of the rods and projecting from opposite ends respectively of the loop or bend of the clip, a wedge extending through the perforations of said side portions of the clip above the joint between the rods and clamping the upper rod and the upper portion of the loop or bend of the clip together, and a wedge extending through the side portions of the clip below the said joint and clamping the lower rod and the lower portion of the loop or bend of the clip together.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

GEORGE J. SCHADE.

Witnesses:

C. H. DORER,
B. C. BROWN.