A. V. ROWE.

ANCHOR.

APPLICATION FILED APR. 6, 1916.

1,218,211.

Patented Mar. 6, 1917.

FIG. 1.

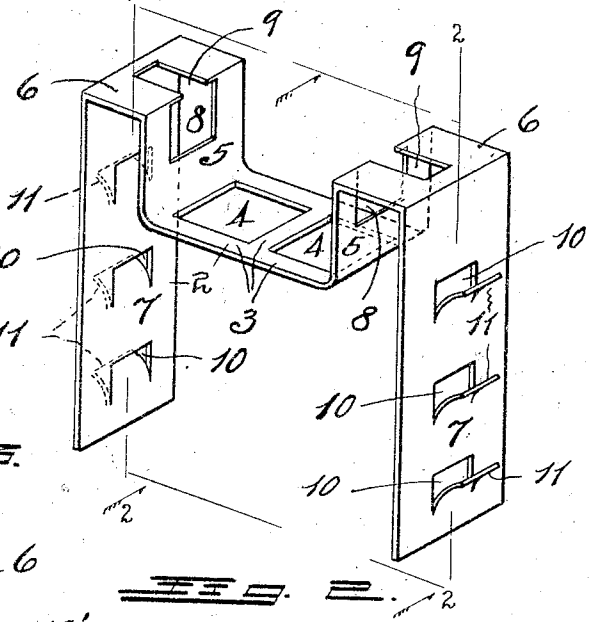


FIG. 3.

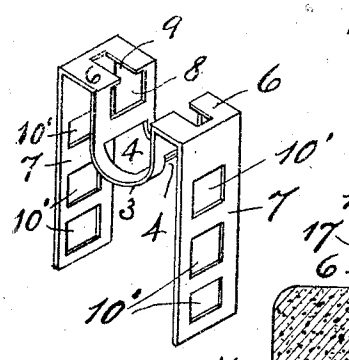
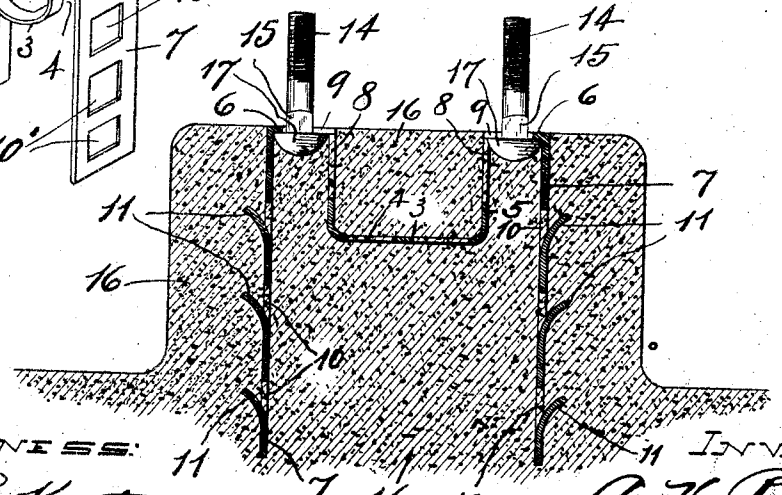


FIG. 2.



WITNESS:

A. O. Knutson.

INVENTOR

A. V. Rowe,

By H. M. Richards,

Atty.

UNITED STATES PATENT OFFICE.

ALVIN V. ROWE, OF GALESBURG, ILLINOIS, ASSIGNOR TO ROWE MANUFACTURING CO., OF GALESBURG, ILLINOIS, A CORPORATION OF ILLINOIS.

ANCHOR.

1,218,211. Specification of Letters Patent. Patented Mar. 6, 1917.

Application filed April 6, 1916. Serial No. 89,327.

To all whom it may concern:

Be it known that I, ALVIN V. ROWE, a citizen of the United States, and a resident of Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Anchor, of which the following is a specification.

My invention relates to that type of anchors which are adapted to be embedded in concrete and which are adapted to receive, engage or retain bolts, clips, supports, or other co-acting elements.

One of the objects of the invention is to provide an anchor which is so constructed that it will withstand the maximum of draft that the metal will bear without even the slightest movement of the anchor in its bed.

Another object consists in so forming and arranging the structural features of the anchor that a bolt or other co-acting element may with facility and ease be engaged therewith and rigidly held thereby.

Minor objects will presently appear.

In the accompanying drawings:

Figure 1 is a perspective view of an anchor embodying my improvements;

Fig. 2, a sectional view of the anchor as it appears in use, the plane of the section being taken substantially in the line 2—2 in Fig. 1, but with the bolts shown in full lines.

Fig. 3, a perspective of an anchor embodying most of the structural features of the one shown in Fig. 1, the tongues however being omitted.

Considering the drawings in detail and Fig. 1 in particular, 2 indicates a strip of metal bent or otherwise formed to comprise a median depressed portion 3 preferably having openings 4, the adjacent portions being then bent upwardly as shown by 5, thence horizontally and outwardly as shown by 6 and thence downward to form legs 7. 8, 8 indicate relatively large openings in the vertically arranged portions 5, and 9, 9 indicate smaller openings in the floor members 6, communicating with the openings 8. A suitable number of slits are made in each leg, whereby to provide openings 10 and tongues 11, the latter formed by bending outwardly the free edge of the piece formed by the slitting operation.

14, 14 indicate bolts each of which has a square shank 15 which snugly fits the adjacent slot 9, its head 17 being of a size greater in cross section than the width of the slot and preferably just sufficient to pass freely through the slot 8. 16 designates concrete.

The parts of the structure shown in Fig. 3 are numbered identically with the enumeration of like parts of the structure shown in Figs. 1 and 2. However, the tongues 11 are not shown, and the openings in the legs are numbered 10′.

The anchor may be embedded in the concrete in various ways. For instance, it may be forced down into a freshly poured batch thereof, the soft material flowing or creeping through the openings 9 and 10 and lodging on the now embedded portion 3 and said tongues. Or the soft concrete may be poured over the anchor after it has been positioned. In either case it is preferred that the top of the concrete lie flush with the top 6.

The preferred placement of the bolts 14 is shown in Fig. 3, wherein the shank 15 is resting squarely in the channel 9 and the head 17 resting on the concrete and restrained from both upward or inclining movements by the top 6. If it be desired, the concrete may be scooped out adjacent the openings 8 and 9, whereby to provide a pocket in which the bolt head may seat and from which it may be removed at any time, but I have found these pockets objectionable in that they collect hairs, dust and other unsanitary matter.

One of the chief advantages of the invention is that the depressed horizontal member 3 is embedded deeply in the concrete, The strain or stress of the parts to which the bolts are connected will cause the strain of the bolt-heads to be on the floor-sections 6. The double set of vertically arranged resistance members 5 and 7 effectually resist the tendency of the top to yield, thus providing a more resistant bolt-lock than has been had in prior devices of similar nature.

The concrete will of course flow into the openings 8 and 10 and it will be evident that in order to cause either of the perpendicular members 5 or 7 to be displaced the upward draft on the anchor would have to be sufficient to cause the cross bars (which afford the lower edges of said openings) to cut through the concrete—a manifestly impossible thing.

The invention shown is primarily intended as an anchor for posts, plates, joists,

etc., and is especially adapted for use in connection with the vertically arranged stall-posts of the modern cattle-barn equipment.

Having thus described the nature, purposes and operation, and having set forth a few of the numerous advantages of my invention, I claim as new and desire to secure by Letters Patent the following, to-wit:

1. A metallic anchor having a centrally arranged horizontal portion adapted to be embedded in concrete and having oppositely arranged floor-level portions connected thereto by perpendicular portions, the latter portions provided each with a relatively wide opening and the floor-level portions provided each with a relatively narrow slot-like opening communicating therewith.

2. The combination with a fresh concrete bed, of an anchor comprising a pair of relatively outer horizontally arranged top portions and a centrally arranged horizontal portion having an opening through which the soft concrete is adapted to pass, and having legs each of which is provided with a transversely arranged opening into which the concrete is adapted to flow, the upper portion of the anchor provided in each side with an opening formed partly in one of the said top portions and partly in a vertical portion adjacent it.

3. The combination with a concrete bed, of an anchor having a substantially U-shaped central portion embedded in the concrete, the terminals of said portion bent thence horizontally to constitute floor-level portions the ends of which are bent downward and embedded in the concrete, the limbs of the U-shaped portion and the adjacent floor-level portions provided each with an aperture formed by cutting away portions of both, said apertures adapted each for the passage of the stem and head of a bolt, and each floor-level portion restraining its coacting bolt.

4. An anchor formed of a single strip of metal and comprising elongated parallel legs each of which is provided with a transverse aperture, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of a bolt-head through the vertical part thereof, the horizontal cutaway portion being narrower than the vertical cutaway portion.

5. An anchor formed of a single strip of metal and comprising elongated parallel legs, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of a bolt-head through the vertical part thereof, the horizontal cutaway portion being narrower than the vertical cutaway portion.

6. The combination with bolts, of an anchor formed of a single strip of metal and comprising elongated parallel legs, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral but not the vertical sliding of one of said bolt heads therethrough.

7. An anchor formed of a single strip of metal and comprising parallel legs, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of a bolt-head through the vertical part thereof, the horizontal cutaway portion being narrower than the vertical cutaway portion.

8. An anchor formed of a single strip of metal and comprising parallel legs, each of which is provided with an aperture, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of a bolt-head through the vertical part thereof, the horizontal cutaway portion being narrower than the vertical cutaway portion.

9. The combination with inverted bolt-like elements, of an anchor formed of a strip of metal and comprising parallel legs, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of the head of one of said bolt-like elements therethrough, and the horizontal cutaway portion being narrower than the head but wider than the shank of said bolt-like element.

10. The combination with inverted bolt-like elements, of an anchor formed of a strip of metal and comprising parallel legs, each of which is provided with a transverse aperture, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of the head of one of said bolt-like elements therethrough, and the horizontal cutaway portion being narrower than the head but wider than the shank of said bolt-like element.

11. The combination with inverted bolt-like elements, of an anchor formed of a strip of metal and comprising parallel legs, each

of which is provided with a transverse aperture, the metal at the upper end of each leg directed horizontally inwardly and the middle portion bent to form a depending U, the angle at each of said inwardly directed portions and the U being cut away to permit the lateral sliding of the head of one of said bolt-like elements therethrough, and the horizontal cutaway portion being narrower than the head but wider than the shank of said bolt-like element, the anchor being provided with an opening into which cement may flow.

In testimony that I claim the foregoing as my invention I hereunto subscribe my name, at Galesburg, Illinois, this 3d day of April, 1916.

ALVIN V. ROWE.