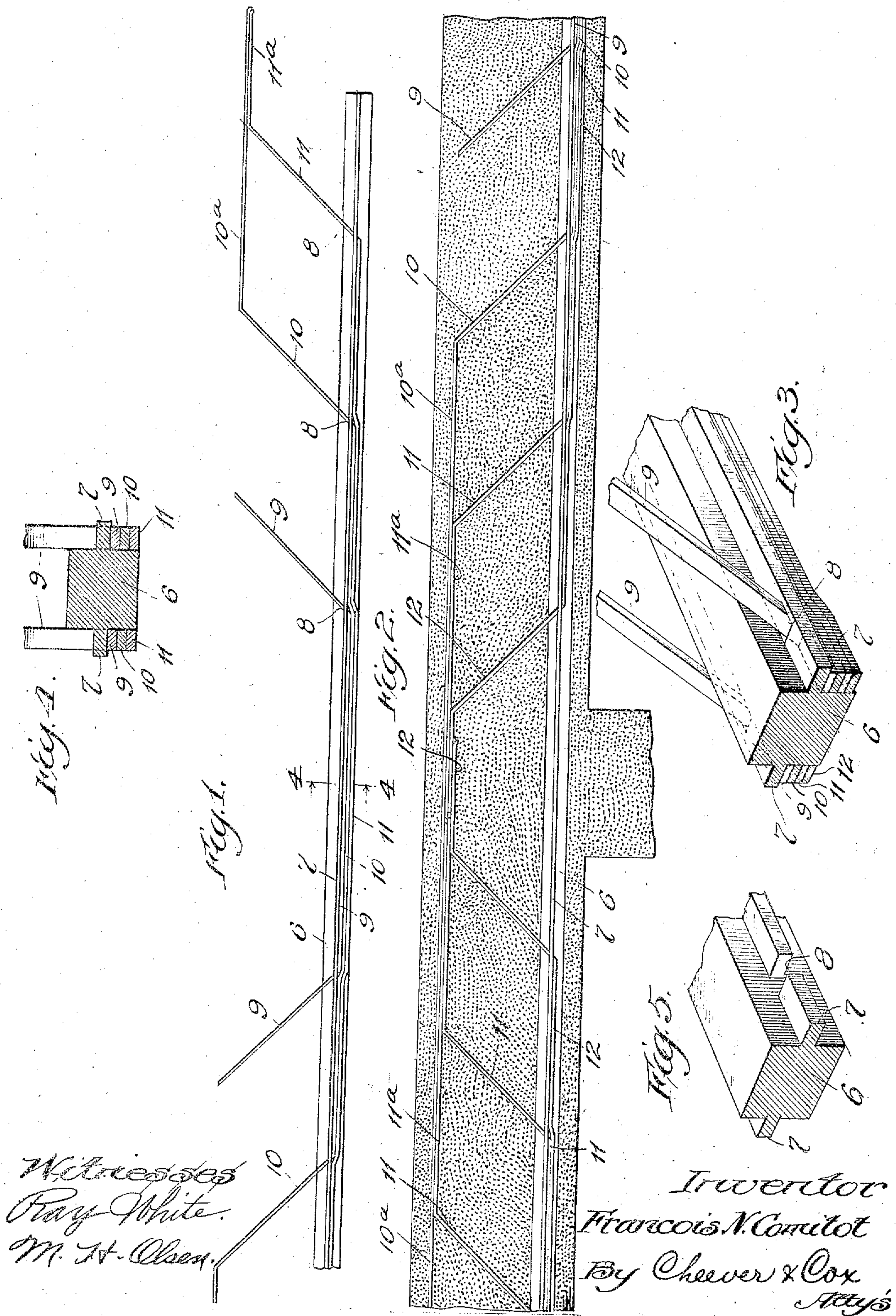


No. 876,694.

PATENTED JAN. 14, 1908.

F. N. COMITOT.
REINFORCED CONCRETE CONSTRUCTION.

APPLICATION FILED NOV. 3, 1906.



UNITED STATES PATENT OFFICE.

FRANÇOIS N. COMITOT, OF CHICAGO, ILLINOIS.

REINFORCED CONCRETE CONSTRUCTION.

No. 876,694.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed November 3, 1906. Serial No. 341,945.

To all whom it may concern:

Be it known that I, FRANÇOIS N. COMITOT, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Reinforced Concrete Construction, of which the following is a specification.

My invention relates to reinforced concrete construction and to means whereby concrete structures may be reinforced, and the object of the invention is to provide a bar which may become universal or typical so that a bar of any given size and shape may be used under various conditions of load and dimensions by merely varying the length of the bar.

It may be stated in general that this object is accomplished by providing a bar with two flanges on opposite sides and extending the entire length thereof through apertures in which a number of anchor rods may be passed for knitting the structure together.

A secondary object is to provide anchor members or prongs which may be easily adjusted or slipped into connection with the main reinforcing bar.

It is also a general object of the invention to provide a simple but effective method of reinforcing concrete.

I attain my objects in the manner illustrated in the accompanying drawings in which:

Figure 1 is a general side view of a bar and anchor rods assembled. Fig. 2 is a side view showing bars and rods in actual use. Fig. 3 is a fragmentary perspective view indicating the manner of assembling the main bar and the anchor rods. Fig. 4 is an enlarged transverse sectional view taken on line 4, 4 Fig. 1. Fig. 5 is a fragmentary perspective analogous to Fig. 3 but showing one of the flange apertures open at the side.

Referring to the drawings which form a part of this specification, the main bar 6 is provided with two flanges 7 centrally located between the top and bottom of the said bar and formed thereon by the usual rolling process. By having the flanges 7 central on the bar 6 the tie rods rest upon each other under said flange without projecting below the lower surface of said bar. The side surfaces of the bar 6 above and below the said flanges 7 also serve to hold the tie rods in their proper positions while the concrete is being put in place. At frequent intervals in these flanges are punched apertures 8. Said aper-

tures are designed to receive the anchor or tie rods, 9, 10, 11, 12. These rods may have ends 10^a, 11^a, etc. upon them for further anchoring them in the concrete if desired.

The method of using and assembling the parts is as follows: At the central portion of the bar or beam 6 is laid the first rod 9. The main portion of this rod lies below the flange 7 but the ends of the rod project up through the first pair of apertures 8. In other words the rod for a considerable portion of its length lies below the flange 7 but at the end extends up through the flange so that the extremities of the rod may become embedded in the concrete above. In an analogous manner the next rod 10 is laid beneath the flange and beneath the adjacent portion of the rod 9; but its extremities extend beyond the rod 9 and pass up through the apertures just beyond those through which the rod 9 projects. Rod 11 is adjusted to place in a similar manner, the central portion lying beneath the central portions of rods 9 and 10 and the extremities passing up through the apertures just beyond those through which the rod 10 projects. As a result when the bar 6 and the different rods are assembled the effect is to produce a member having a series of tie rods extending from it at various intervals so that when the concrete is poured around the assembled bar and rods the concrete holds the bar and rods together and is in turn reinforced by them. If the ends of the rod are turned over or hooked as indicated in Figs. 1 and 2 there will be an additional strengthening and binding effect. At a point where two bars meet the bent ends of the rods may overlap each other as shown in the middle portion of Fig. 2, thus also enhancing the binding effect. The advantage in this construction is that the bar 6 may be kept in standard sizes and be adapted to various conditions of size and load of the building by cutting the bars to proper length and employing the proper number of anchor or tie rods. It is obvious that the flanges 7 may have apertures located close together which will have the advantage of affording the designer of the building an opportunity to locate the rods as near together or far apart as desired without weakening the bar and without calling for special construction.

Although it is desirable that the apertures 8 in flanges 7 be laterally surrounded by metal it is not necessary that these apertures be closed at the side. An aperture which is

open at the side is indicated in Fig. 5. With such construction the rods may be assembled by laying them in position from the side without actually passing the ends up through the apertures.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. Means for reinforcing concrete consisting of a bar having two flanges centrally located between the top and bottom thereof on opposite sides and extending the entire length thereof, each provided with a row of apertures, and a row of rods on each side of the said bar having their central portions lying under the said flange and their ends projecting up through said apertures the portion of rods above and below the said flange lie adjacent the sides of the bar.

2. Means for reinforcing concrete consisting of a metal bar having flanges on opposite sides centrally located between the top and bottom thereof and extending the entire length thereof, having apertures therein, and rods on each side of said bar having their central portions lying one upon the other below the said flanges and their ends projecting up through the said apertures and above the said bar, the portion of the rods below the top of the bar impinging against the sides of the latter and the parts above the bar forming tie rods adapted to be embedded in the concrete for the purpose described.

3. Means for reinforcing concrete consisting of a metal bar having flanges on opposite sides centrally located between the top and bottom thereof and extending the entire length thereof with apertures therein, and rods lying partially below and partially

above said flanges, the portion of the rods below the top of the bar impinging against the sides of the latter the parts above the flanges forming tie rods adapted to be embedded in the concrete, and bends or crooks near the ends of said rods for increasing their binding effect.

4. A concrete construction consisting of a bar having longitudinal flanges on opposite sides centrally located between the top and bottom thereof and extending the entire length thereof with apertures therein, two rows of rods having their central portions lying below the flanges and their ends projecting up through said apertures to form tie rods, the portion of the rods below the top of the bar impinging against the sides of the latter and concrete inclosing the whole.

5. Means for reinforcing concrete consisting of a bar having two flanges on opposite sides centrally located between the top and bottom thereof and extending the entire length thereof, each provided with a row of apertures, and a row of rods on each side of said bar having their central portions lying under the said flange and their ends projecting up through the apertures on an incline and then bent parallel with the said bar, the said upper ends overlapping each other the portion of the rods below the top of the bar impinge against the sides of the latter.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

FRANÇOIS N. COMITOT.

Witnesses:

HOWARD M. COX,
C. J. CHRISTOFFEL.