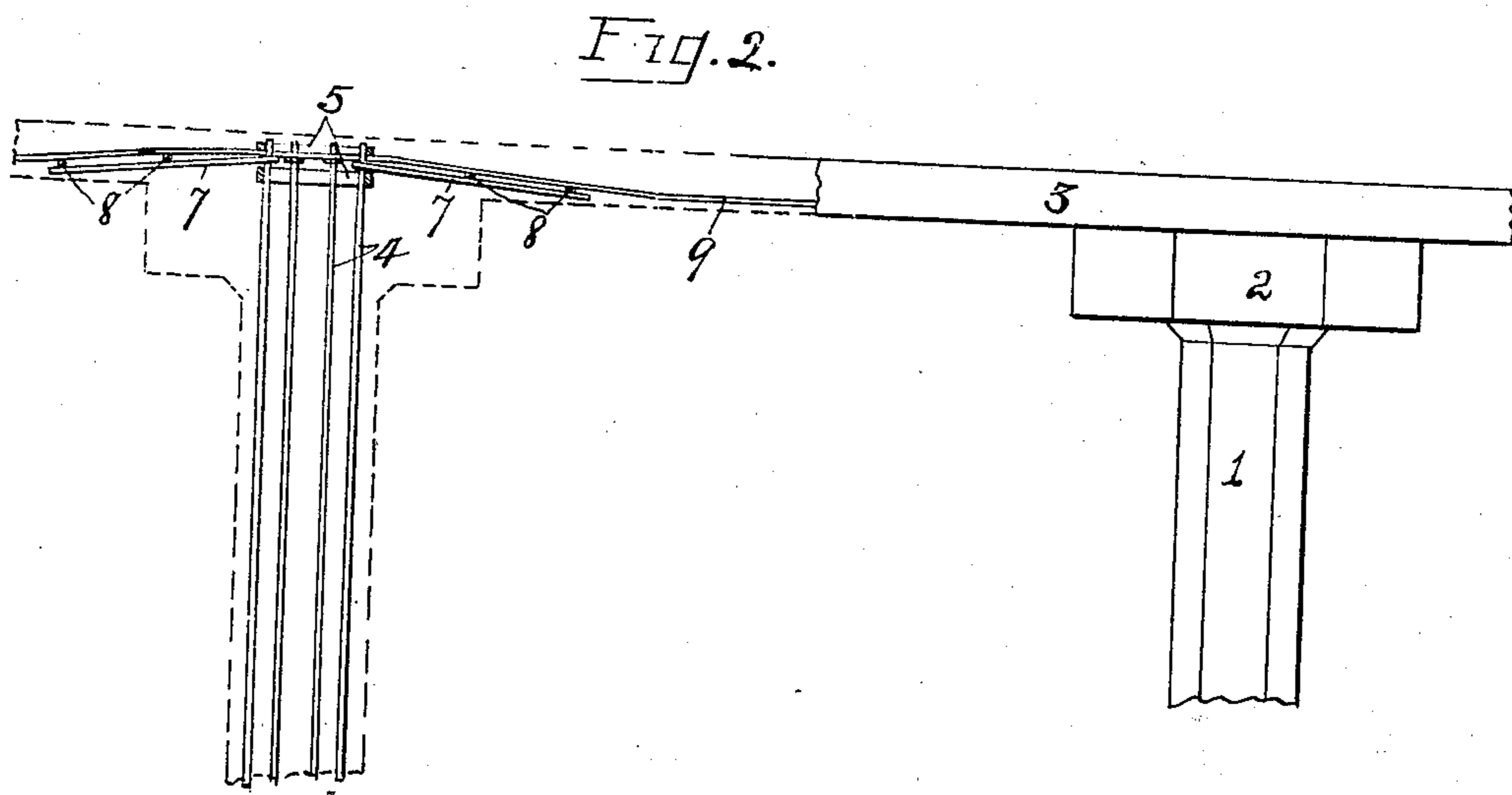
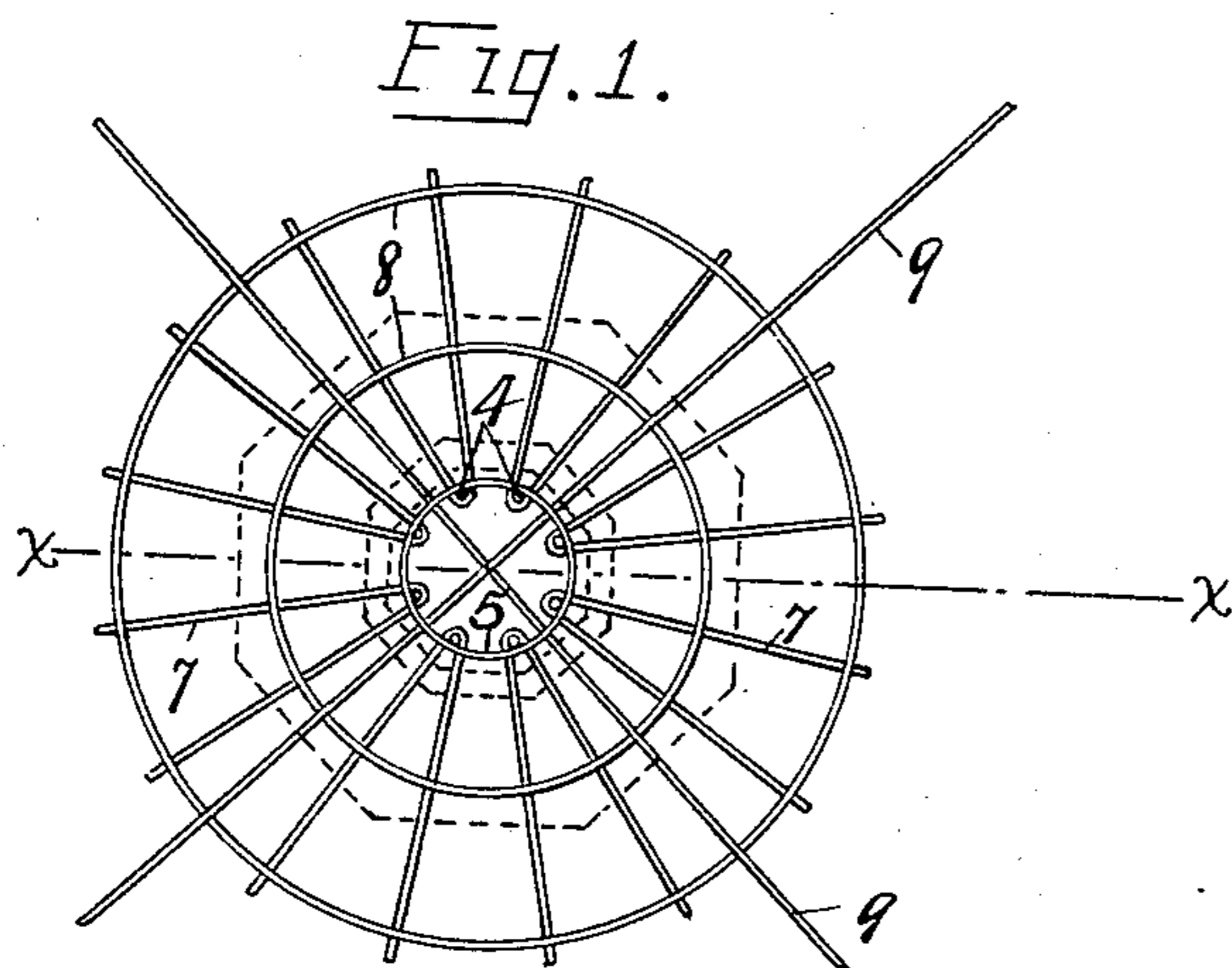


G. V. RHINES.
CONCRETE REINFORCEMENT.
APPLICATION FILED MAR. 24, 1909.

968,982.

Patented Aug. 30, 1910.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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CONCRETE REINFORCEMENT.

968,982.

Specification of Letters Patent. Patented Aug. 30, 1910.

Application filed March 24, 1909. Serial No. 485,361.

To all whom it may concern:

Be it known that I, GEORGE V. RHINES, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Concrete Reinforcement; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to the construction of floors or the like of reinforced concrete; and it has for its object the provision of simple and improved means for reinforcing the floors or other slab structures at the heads of supporting columns, whereby to materially strengthen the floor or other slab at such points in an economical and efficient manner.

The construction and arrangement of the parts of the invention are fully described in the following specification, and illustrated in the accompanying drawings, in which,—

Figure 1 is a plan view of the reinforcing structure, and Fig. 2 is a side elevation of a floor and supporting columns with a portion of the concrete broken away to disclose the reinforcing structure.

Referring to the drawings, 1 designates a supporting column having its upper end preferably formed with an enlargement or cap 2, and 3 the floor or other superstructure supported by the column. The columns are reinforced by a plurality of longitudinally-disposed rods 4, which are arranged around a common point and have their upper ends projected to near the surface of the floor 3 or the like if there is no column placed above the slabs, and if so the rods may be continued into the same. The upper ends of these rods are held in position by the vertically spaced encircling rings or hoops 5, 5, as shown.

The reinforcing structure over the column heads comprises a plurality of rods 7, one of which is bent around each column rod 4 intermediate the rings or hoops 5, 5 with its legs radiating from such rings in diverging

or V-form, as shown. Resting on the legs of the rods 7 preferably in substantially concentric relation to each other and to the column axis are two or more rings 8 of different diameters, thus combining with the rods 7 to form a net-work over the columns.

The rods 9 are the reinforcing rods of the floor slabs. These rods run in groups from one thick section of floor or column head to another on both rectilinear and diagonal axes and preferably cross the column cap reinforcement over the rings 8 and between or on top of the hoops 5. Only two of such rods are shown in the drawings.

It is thus apparent that by arranging the reinforcing rods in the manner shown, a very strong and rigid structure is provided over the column heads.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts, except in so far as such limitations are specified in the claims.

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

1. A reinforcing structure for column slabs, comprising, in combination, a plurality of vertical column rods, a hoop embracing such rods near their upper ends, rods bent around the column rods above such hoop in a common plane and having their legs radiating therefrom, and a ring-like member resting on the legs of said bent rods.

2. A reinforcing structure for column slabs, comprising, in combination, a plurality of vertical column rods, a hoop embracing said rods near their upper ends, rods bent around the column rods above said hoop and having their legs radiating therefrom in diverging form, such legs being substantially equidistantly spaced, and a plurality of rings of different diameter disposed around the column rods and resting upon said legs.

3. A reinforcing structure for column supported floors or the like, comprising in combination, a set of vertical column rods, a pair of hoops encircling the upper ends of said rods, a plurality of rods bent into V-shape with the looped end of each hooked around a column rod intermediate said hoops in a common plane and having their legs

radiating outwardly, a plurality of rings
of different diameter encircling the column
rods and supported by the V-shaped rods,
and a plurality of floor rods crossing such
5 column head reinforcement and supported
thereby.

In testimony whereof, I have hereunto

signed my name to this specification in the
presence of two subscribing witnesses.

GEORGE V. RHINES.

Witnesses:

C. W. OWEN,
D. C. WALTER.