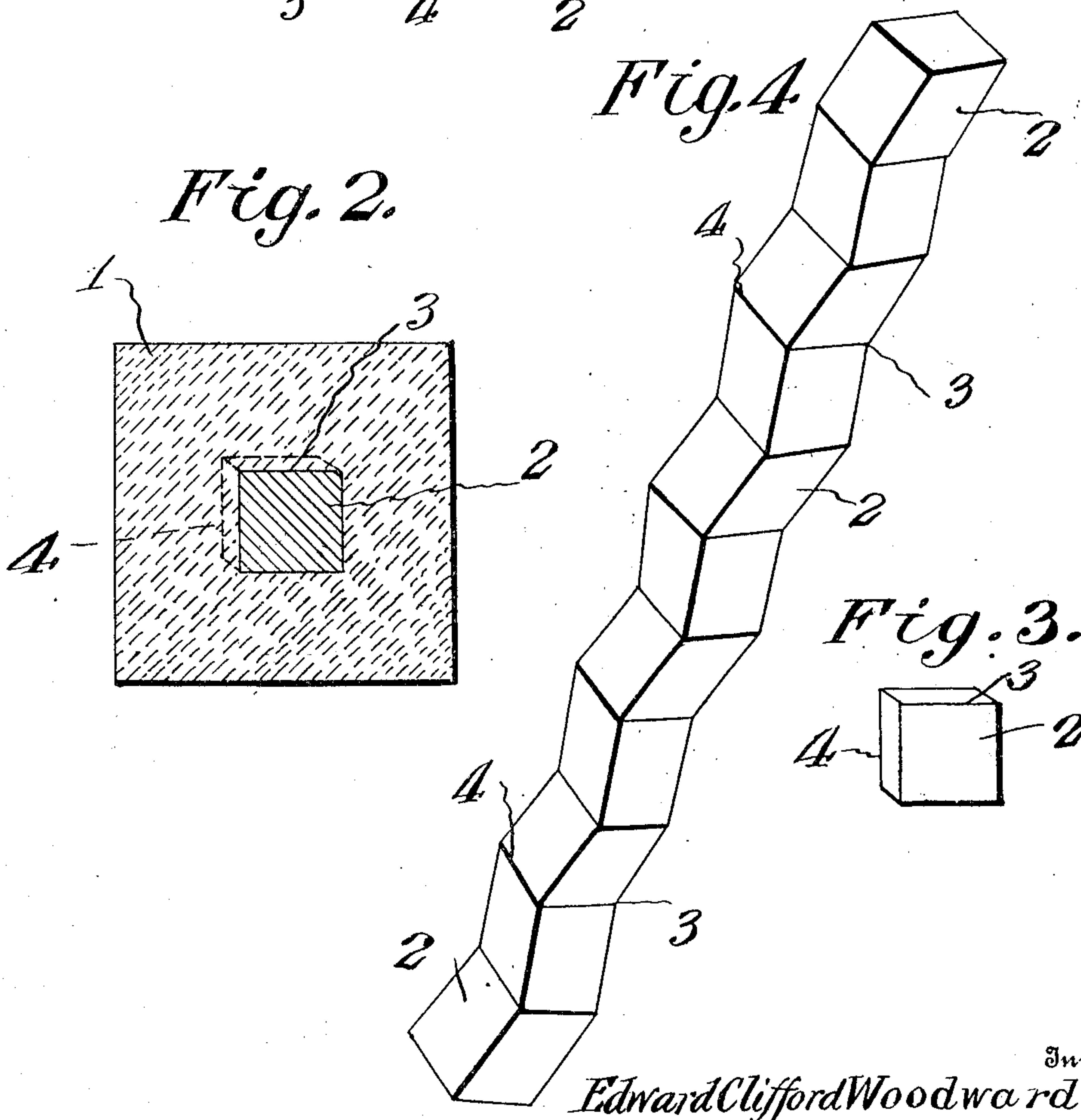
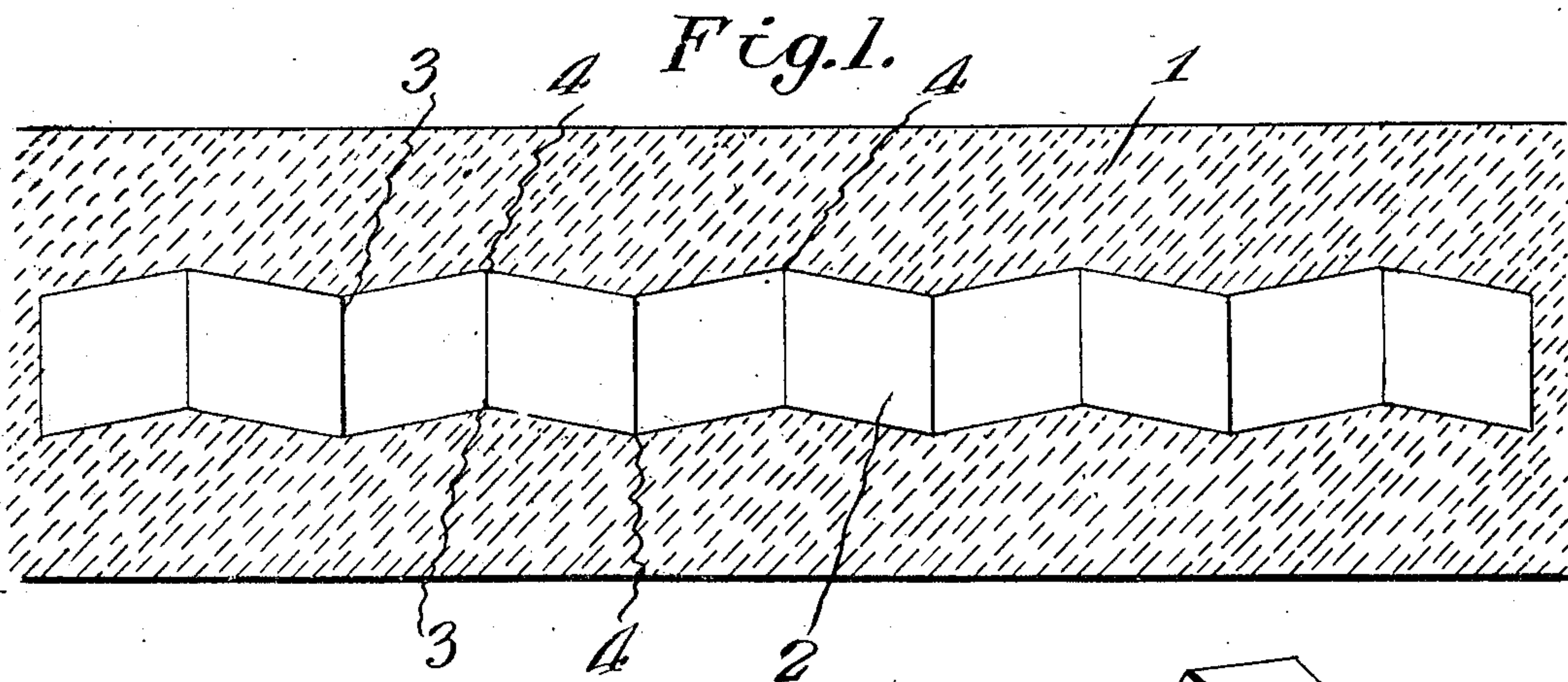


E. C. WOODWARD.
 REINFORCING BAR FOR CONCRETE WORK.
 APPLICATION FILED JAN. 25, 1908.

913,603.

Patented Feb. 23, 1909.



Inventor,
 Edward Clifford Woodward.

Witnesses:

Joe. P. Walker,
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UNITED STATES PATENT OFFICE.

EDWARD CLIFFORD WOODWARD, OF RALEIGH, NORTH CAROLINA.

REINFORCING-BAR FOR CONCRETE-WORK.

No. 913,603.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed January 25, 1908. Serial No. 412,614.

To all whom it may concern:

Be it known that I, EDWARD CLIFFORD WOODWARD, a citizen of the United States of America, residing at Raleigh, in the county of Wake and State of North Carolina, have invented new and useful Improvements in Reinforcing-Bars for Concrete-Work, of which the following is a specification.

This invention relates to reinforcing bars for concrete work, and one of the principal objects of the same is to provide a bar of such contour as will prevent the concrete from creeping or becoming detached from the bar under the effects of heat and cold.

Another object of the invention is to provide a reinforcing bar to be embedded within the concrete and to become intimately united therewith and prevented from movement by irregularities in the bar.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which,—

Figure 1 is a longitudinal section of a concrete post or sill and showing the reinforcing bar in elevation embedded therein. Fig. 2 is a vertical sectional view of the same. Fig. 3 is an end view of the reinforcing bar. Fig. 4 is a perspective view of the same detached from the concrete.

Referring to the drawing for a more specific description of my invention the numeral 1 designates a concrete post, sill, flooring or other concrete work within which the reinforcing bar is embedded.

A plurality of cube shaped elements 2 are provided to form the bar 2^a, and are preferably arranged in pairs, each pair forming one section of the bar 2^a, and as shown, one element of each section is disposed at an angle with respect to its adjacent element, the alternate elements throughout the entire length of the bar being disposed at a common angle, as clearly illustrated. The construction is such that a plurality of con-

caved portions 3, and a plurality of convexed portions 4 are formed throughout the entire length of the said bar and upon all sides thereof, and it may be mentioned that each section forms two concaved portions and an equal number of convexed portions. The construction is also such as presents scalloped faces upon all sides of the said bar.

A bar such as has been described may be very readily rolled into shape or otherwise produced at comparatively slight cost.

From the foregoing it will be obvious that a reinforcing bar made in accordance with my invention and embedded within concrete work will give extraordinary tensile strength and will also brace the work transversely, while the cost of production is not greater than ordinary braced or reinforced concrete work.

Having thus described the invention, what is claimed as new, is:—

1. A cross sectionally angular reinforcing bar so distorted that each face comprises two alternating series of rectangular surfaces reversely inclined both laterally and longitudinally of the bar, each corner of the bar composed of straight lines zigzag both longitudinally and vertically, substantially as shown and described.

2. A square reinforcing bar so distorted that each face comprises two alternating series of rectangular surfaces reversely inclined both laterally and longitudinally of the bar, each corner of the bar composed of straight lines zigzag both longitudinally and vertically, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD CLIFFORD WOODWARD.

Witnesses:

H. R. JONES,
L. T. PENNY.