

No. 694,575.

Patented Mar. 4, 1902.

E. L. RANSOME.
CONCRETE MIXER.

(Application filed July 13, 1901.)

(No Model.)

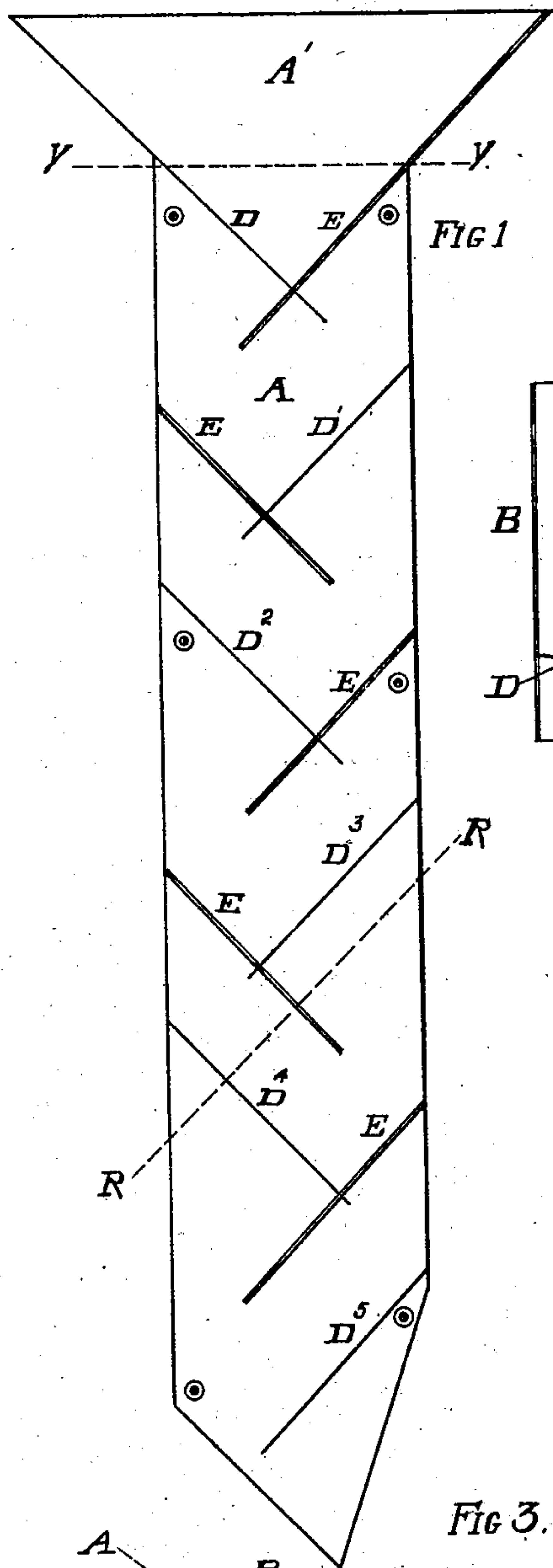


FIG. 1

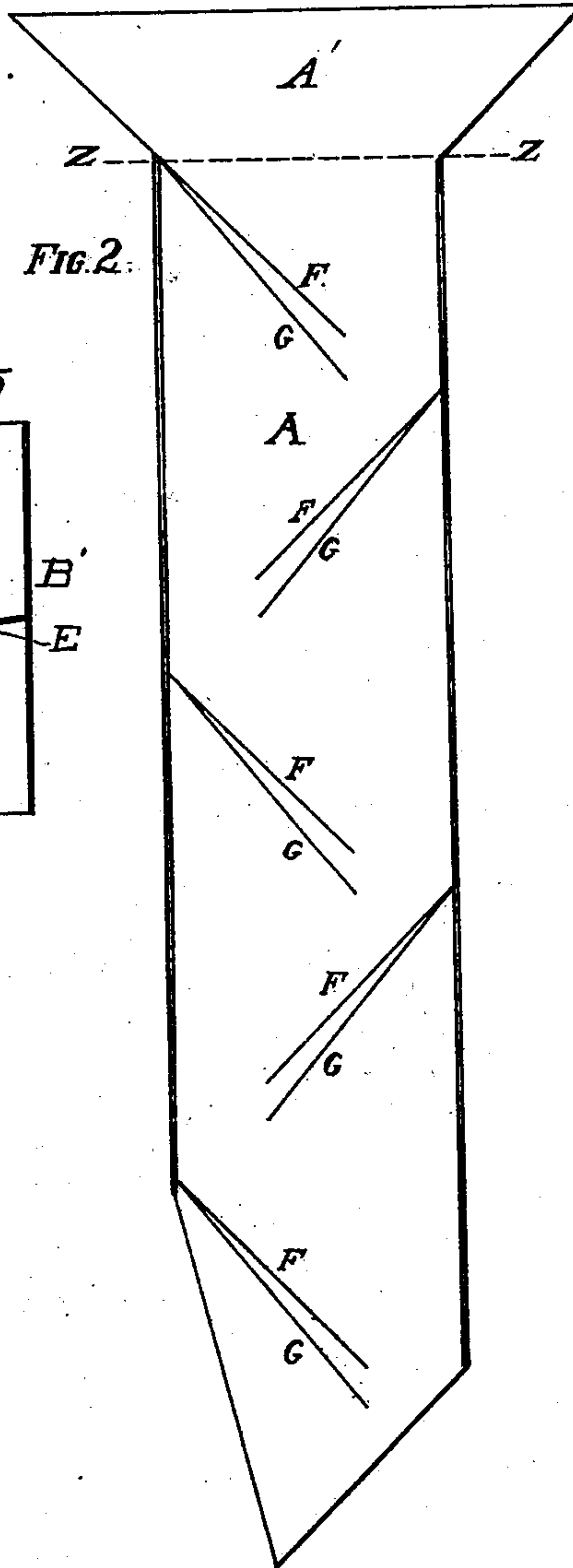


FIG. 2

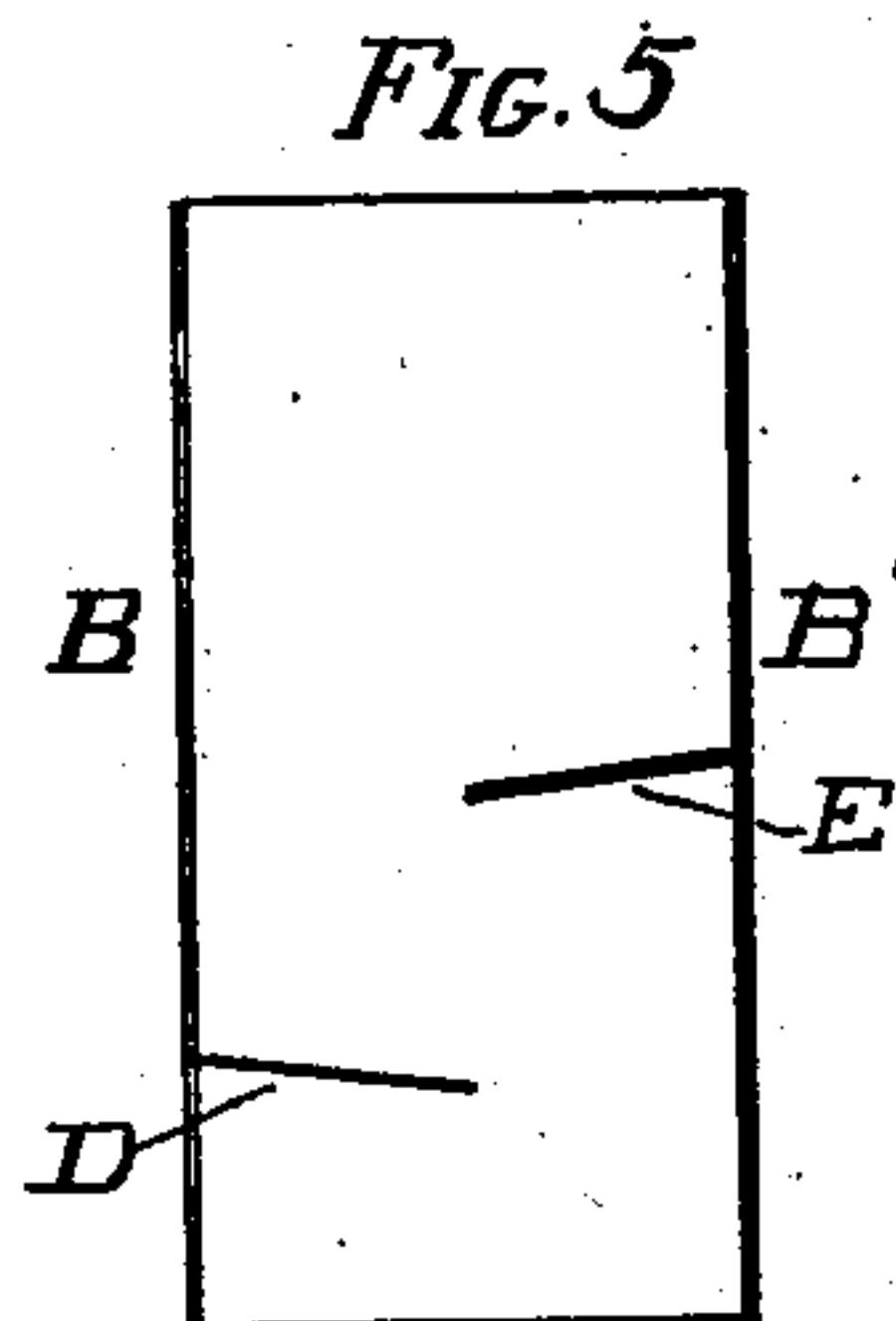


FIG. 5

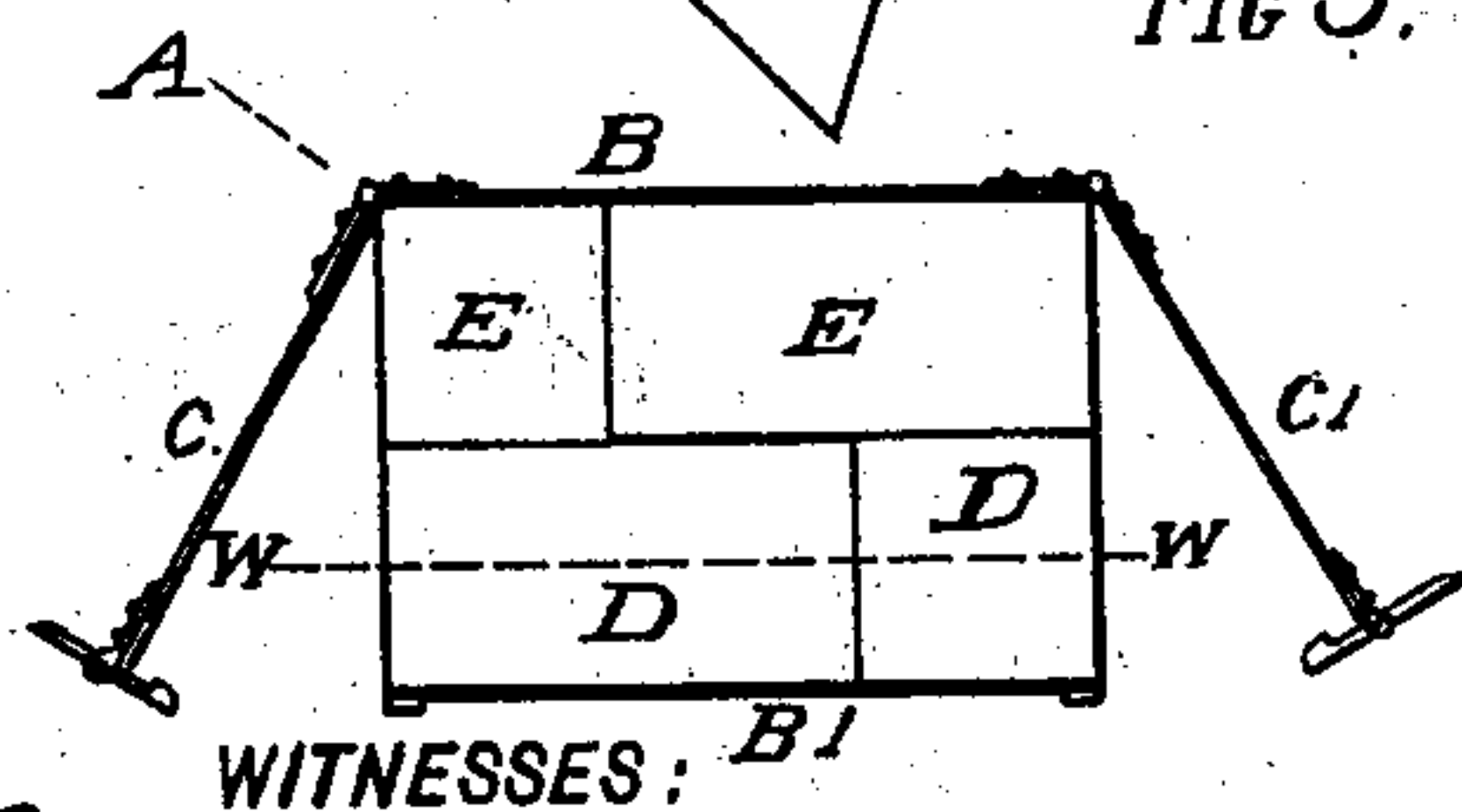


FIG. 3

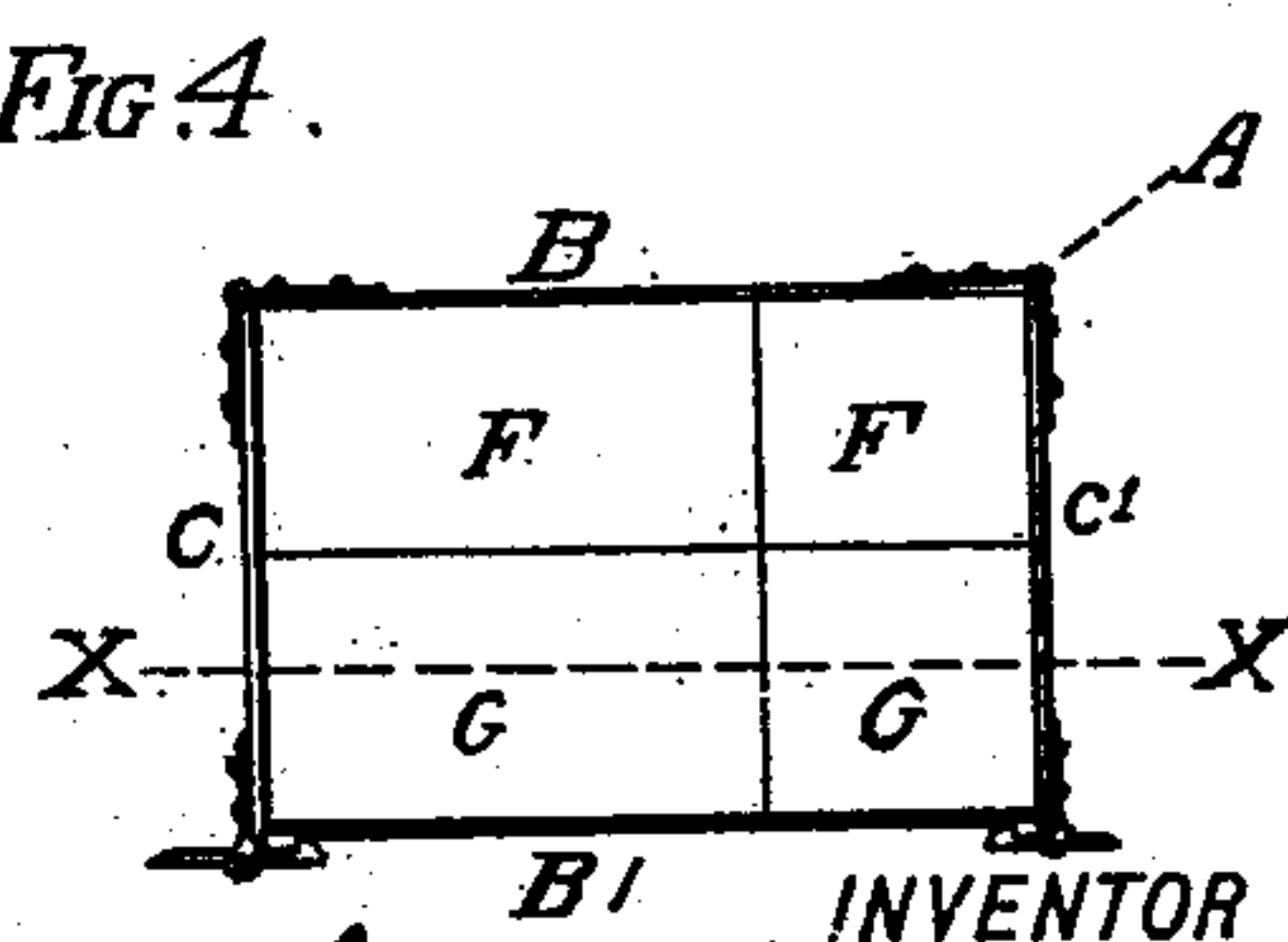


FIG. 4

WITNESSES: B1

George T. Allen.
John Ellcutt.

INVENTOR
E. L. RANSOME.

UNITED STATES PATENT OFFICE.

ERNEST LESLIE RANSOME, OF NEW YORK, N. Y.

CONCRETE-MIXER.

SPECIFICATION forming part of Letters Patent No. 694,575, dated March 4, 1902.

Application filed July 13, 1901. Serial No. 68,252. (No model.)

To all whom it may concern:

Be it known that I, ERNEST LESLIE RANSOME, a citizen of the United States, residing at New York city, in the State of New York, have invented certain Improvements in Concrete-Mixers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of mixers known as "gravity-mixers" and to that division in which the material in mixing falls by its own gravity through a series of baffle-plates placed alternately on opposite sides of the mixer, the plates being placed at an obtuse angle greater than the angle of repose of the materials to be mixed.

My invention consists in an improvement in the shaft or case of the mixer and in the use of a multiple series of tiers of baffle-plates placed at varying angles.

The accompanying drawing illustrates my invention, in which—

Figures 1 and 2 are vertical sections of the mixers on lines W-W and X-X, respectively. Figs. 3 and 4 are cross-sections of the mixers on lines Y-Y and Z-Z, respectively.

A is the case or shaft of the mixer, which is open top and bottom and has by preference a hopper A' on top with closed sides B and B' and movable sides C and C'.

D E F G are series of baffle-plates.

I carry out my invention as follows: I make the case of the mixer of any desired dimensions. It has the usual hopper A' and two closed sides B B'. The sides C C' are made movable, so that the interior of the mixer can be exposed at will or can be inclosed to prevent the escape of any of the materials during the process of mixing. Instead of the usual single series of baffle-plates alternating from side to side I use a multiple series. These can be so placed as to travel in opposite directions, as in Fig. 1, where series D travels in opposite direction to series E, or they can travel in the same direction, as in Fig. 2, where series F travels in the same direction as series G. An important feature of my invention is placing each series at a different angle to the adjoining series. Thus series E is at a greater angle than series D and series G is at a greater angle than series F. By preference I slope the plates down-

ward, not only lengthwise, but also sidewise, toward the center of the mixer, as shown in Fig. 5. Furthermore, by preference I cause the blades of each series to be placed each at a slightly-greater angle than the one above it or some at a greater angle than those above them—as, for example, D' is at a greater angle than D, D² is at a greater angle than D', and so on.

The object of the multiple series of plates and of placing the adjoining series at different angles is to prevent the materials from passing through the mixer in the same order as that in which they enter it and to cause a greater intermixture and intermingling of the various substances and pieces of the different shovelfuls that are thrown in, for with only a single series of plates each shovelful as thrown in would to a great extent travel behind that which preceded it and would not be overtaken by that which followed it. Hence if one shovelful was largely sand and lime and the next mostly cement the first would come from the mixer without properly mixing with the cement; but with a multiple series of blades placed at different angles some of each shovelful would fall upon the blades of greatest slope and would overtake and intermingle with whatever had immediately preceded it and fallen upon the blades of lesser slope, while that portion which fell upon the last series would before it subsided upon the mixed material below be in turn overtaken by a portion of that which immediately followed it. This intermingling is further increased by giving the plates a slight downward slope in the other direction from the main slope, as shown in Fig. 3, for so placed the materials will in part fall from one series and intermingle with the material upon the adjoining series several times over during the journey through the mixer.

By making the angle of each blade greater than the one above it I prevent the mill choking and cause a better and quicker delivery.

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

1. A mixer, containing a multiple series of baffle-plates, each series of which consists of two tiers of plates the plates of one tier al-

ternating in height with those of the other tier, substantially as described.

2. A mixer, containing a multiple series of baffle-plates, each series of which consists of
5 two tiers of plates the plates of one tier alternating in height with those of the other tier, and the plates of one series being at a different slope to the plates of the adjoining series, substantially as described.

10 3. A mixer, containing a multiple series of baffle-plates, each series of which consists of two tiers of plates, the plates of one tier alternating in height with those of the other tier, and the plates of one series being at a different slope to the plates of the adjoining series, and sloping toward them as well as
15 toward the plates of the other tier in their own series, substantially as described.

4. A mixer, containing a multiple series of
20 baffle-plates, each series of which consists of two tiers of plates the plates of one tier alternating in height with those of the other tier, and the plates of one series being at a different slope to the plates of the adjoining series, and sloping toward them as well as
25 toward the plates of the other tier in their own series; together with two sides having movable shutters, substantially as described.

5. A mixer, containing a multiple series of
30 baffle-plates, each series of which consists of

two tiers of plates the plates of one tier alternating in height with those of the other tier, and the plates of one series being at a different slope to the plates of the adjoining series and sloping toward them as well as
35 toward the plates of the other tier in their own series, and with the plates in one or all tiers gradually increasing in slope as they are further from the top; together with two sides having movable shutters, substantially
40 as described.

6. A mixer, containing a multiple series of baffle-plates, each series of which consists of two tiers of plates the plates of one tier alternating in height with the plates of the
45 other tier, and the plates of one series sloping toward the plates of the adjoining series as well as toward the plates of the other tier in their own series, substantially as described.

7. A mixer, containing a series of baffle-
50 plates which consists of two tiers of plates, the plates of one tier alternating in height with those of the other tier, in combination with two sides having movable shutters, substantially as described.

ERNEST LESLIE RANSOME.

Witnesses:

JOHN ELLENDT,

GEORGE T. ALLEN.