

(No Model.)

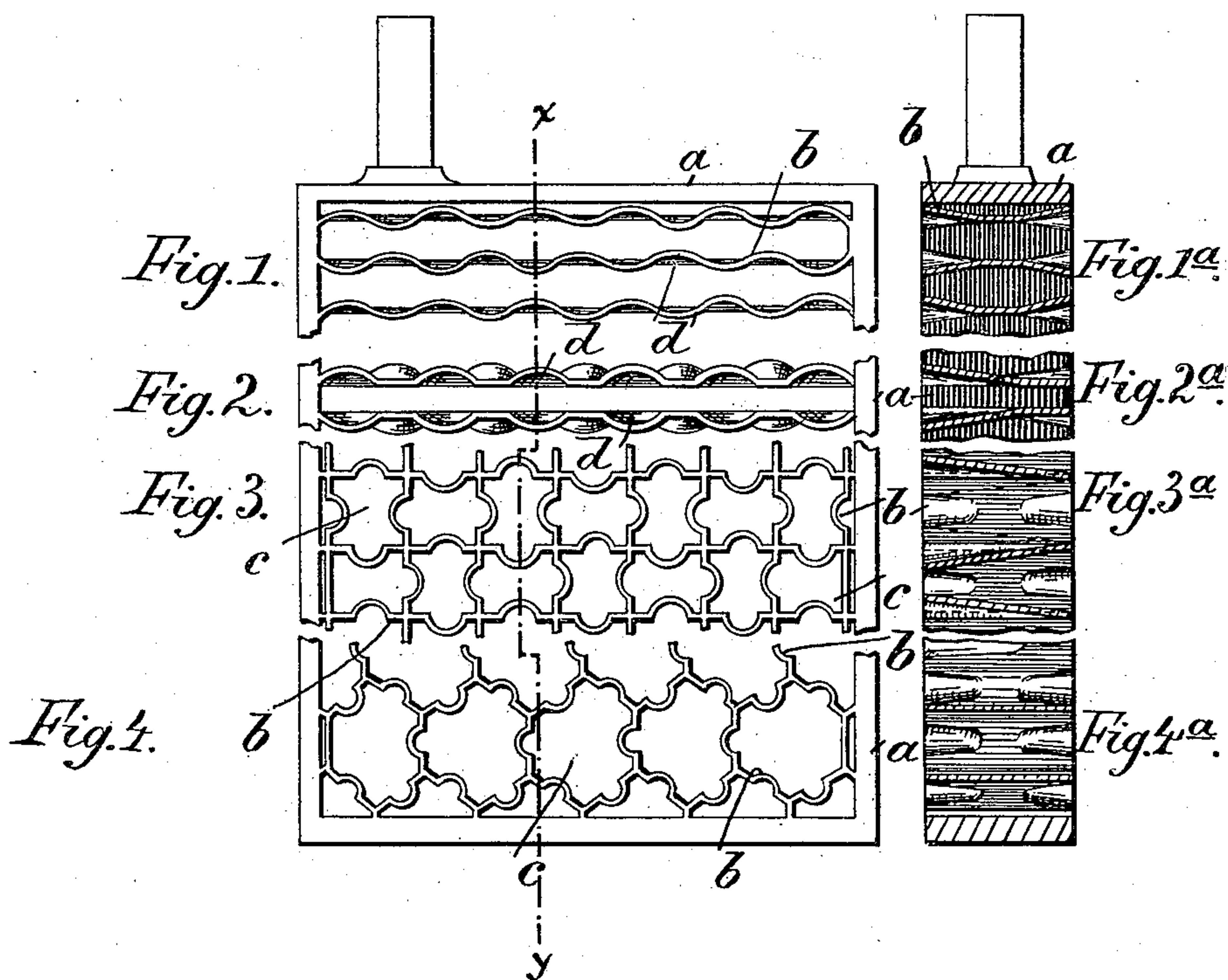
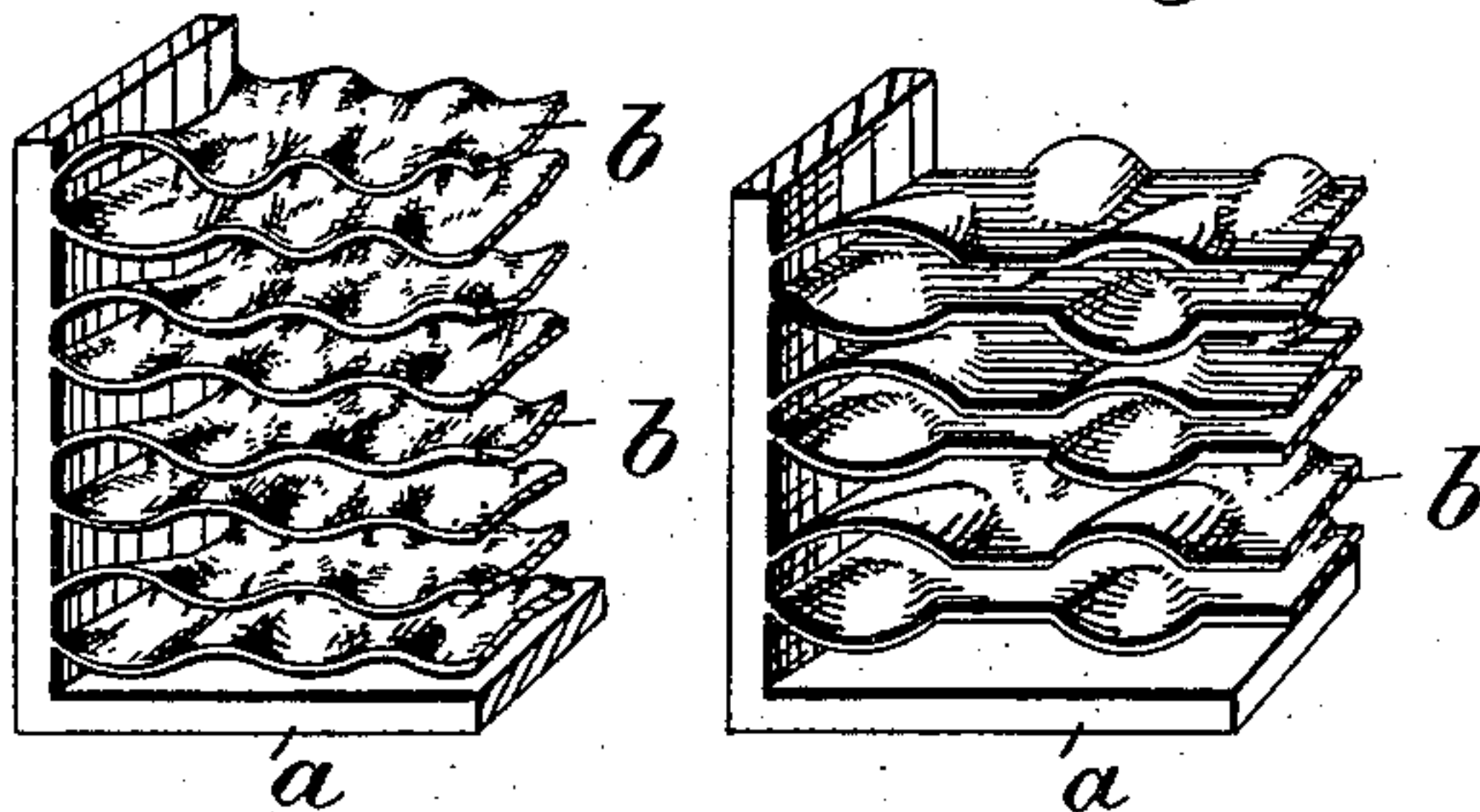
W. MAJERT.
PLATE FOR ACCUMULATORS.

No. 599,718.

Patented Mar. 1, 1898.

Fig. 5.

Fig. 6.



Witnesses:

E. H. Bolton
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UNITED STATES PATENT OFFICE.

WILHELM MAJERT, OF GRUNAU, GERMANY.

PLATE FOR ACCUMULATORS.

SPECIFICATION forming part of Letters Patent No. 599,718, dated March 1, 1898.

Application filed August 19, 1897. Serial No. 648,804. (No model.)

To all whom it may concern:

Be it known that I, WILHELM MAJERT, a citizen of the German Empire, residing at Grunau, near Berlin, in the Kingdom of Prussia, Germany, have invented a new and useful Improvement in Plates for Accumulators, of which the following is a specification.

The nature of my invention will be understood by the following description.

Figure 1 is an elevation of a portion of one form of grating, and Fig. 1^a is a section on line xy thereof. Fig. 2 is a view similar to Fig. 1 of another form, and Fig. 2^a a section on line xy thereof. Fig. 3 is an elevation of a portion of still another form, and Fig. 3^a a section on line xy thereof. Fig. 4 is an elevation of a portion of still another modification, and Fig. 4^a a section on line xy thereof; and Figs. 5 and 6 are perspective views of a portion of the form of plates shown in Figs. 1 and 2.

The same letters of reference in all the figures indicate the same parts.

In accumulator-plates it is of importance that the mass should be firmly held but without hindering expansion. The mass should always remain in continual and intimate contact with the metal that conducts the electricity, and this contact should not cease during the expansion or during the contraction of the mass. Further, it is desirable that there should be the greatest possible surface for contact between the core and the mass without, however, covering the mass too much from the electrolyte, while the weight should be as small as possible. Now the construction of plates and gratings according to the present invention fulfils these requirements by the fact that the ribs or grating-walls are bent out in the manner of corrugations either on one side only or on both sides, so that the rods or bars remain straight in the center and the corrugations have the form of semicones. The corrugations may also be alternately arranged on both sides, so as to be intermittent or alternating at top and bottom. This alternate arrangement is shown in Figs. 2 and 6, and it will be seen also that each semiconical corrugation x or y extends about half-way across the bar or plate b , and this leaves the center of the bar or plate at z practically straight or without corrugations. In Fig. 2 the straight line z shows the line of this straight center. In Figs. 2 and 6 the conical corrugations on adjacent

bars b' b^2 are arranged with their concavities facing each other to provide the pocket for the mass at b^3 . In Figs. 1 and 5 the semiconical corrugations, instead of being formed all on one side of a horizontal plane, as in Figs. 2 and 6, passing along the plate or bar, are formed first on one side and then upon the other side of said horizontal plane. By means of this arrangement the surface of the active mass is not diminished and a firm hold is afforded to the latter in the inclined surfaces of the corrugations.

Transverse bars b I employ to divide the interior of the frame into correspondingly-wide divisions. These transverse bars b are corrugated either directly in the mold or after casting by means of special stamps, the arrangement being such that the corrugations of each two bars form together one. The semiconical corrugations may also be employed with ribbed plates. The ribs of a plate of this kind then form on the outside a corrugated line, while they form a straight line at the base. The corrugations may also be arranged alternately. These corrugations may also be employed with a rectangular or polygonal form of grating, as shown in Figs. 3 and 4, in which it will be observed that the plates are arranged to cross or join each other at right angles, as in Fig. 3, or at obtuse angles, as in Fig. 4. In this case the corrugations are arranged opposite to each other, as shown at c and d .

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. An accumulator-plate comprising the plate or bar having corrugations therein of substantially the shape of the half of a cone when divided on the line of its axis, substantially as described.

2. In an accumulator-plate, the plate or bar having a plurality of corrugations of substantially the shape of half of a cone divided on the line of its axis, with the apices of the cones arranged intermediate the edges of the plate, substantially as described.

In witness whereof I have hereunto signed my name, in the presence of two subscribing witnesses, this 20th day of May, 1897.

WILHELM MAJERT.

Witnesses:

O. KRUEGER,
H. HEIMAN.