

(No Model.)

J. H. BELL.
RIDDLE FOR GRAIN SEPARATORS.

No. 280,007.

Patented June 26, 1883.

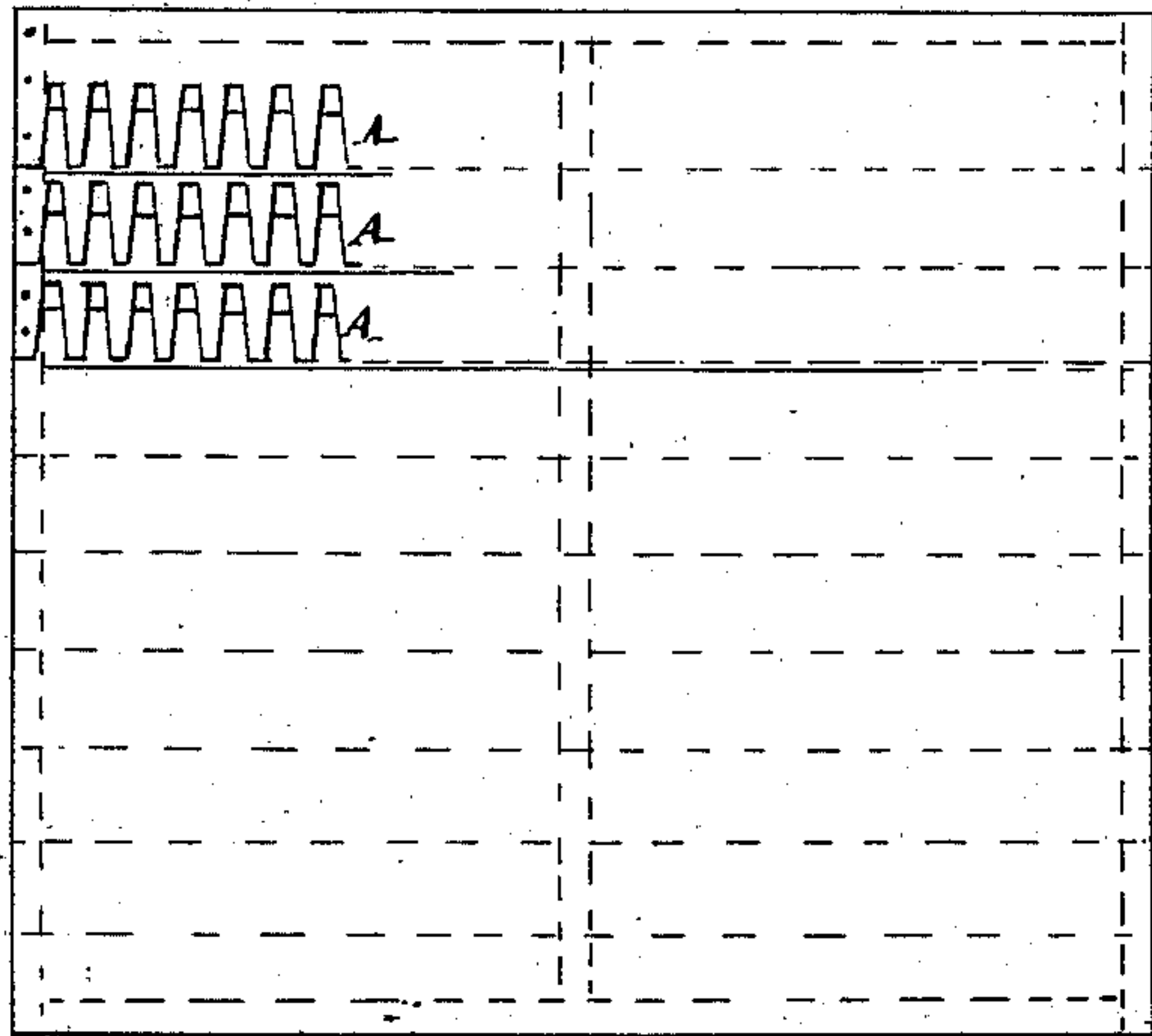


Fig. 1

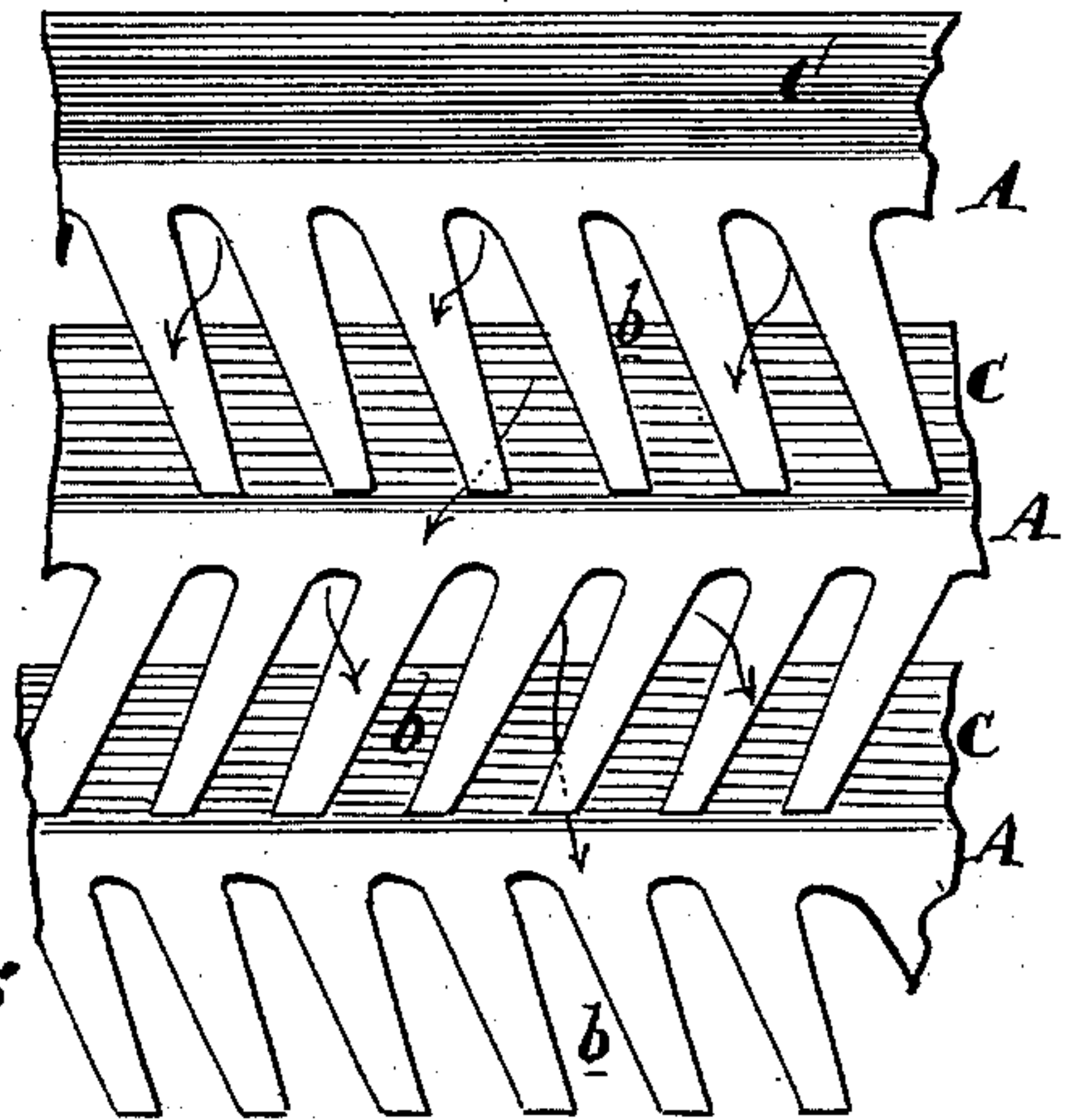
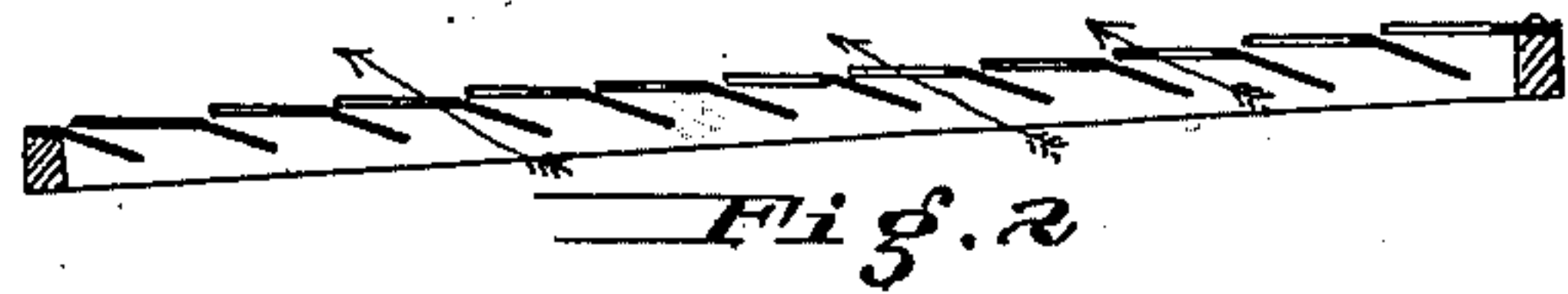


Fig. 5

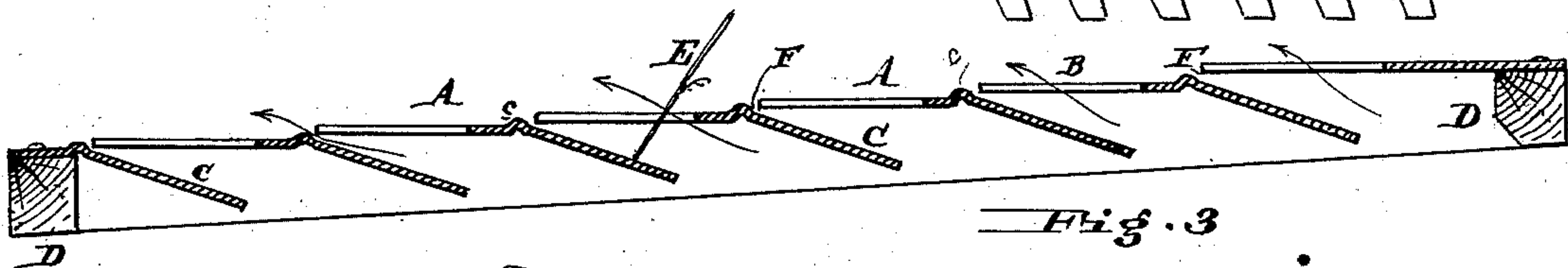


Fig. 3

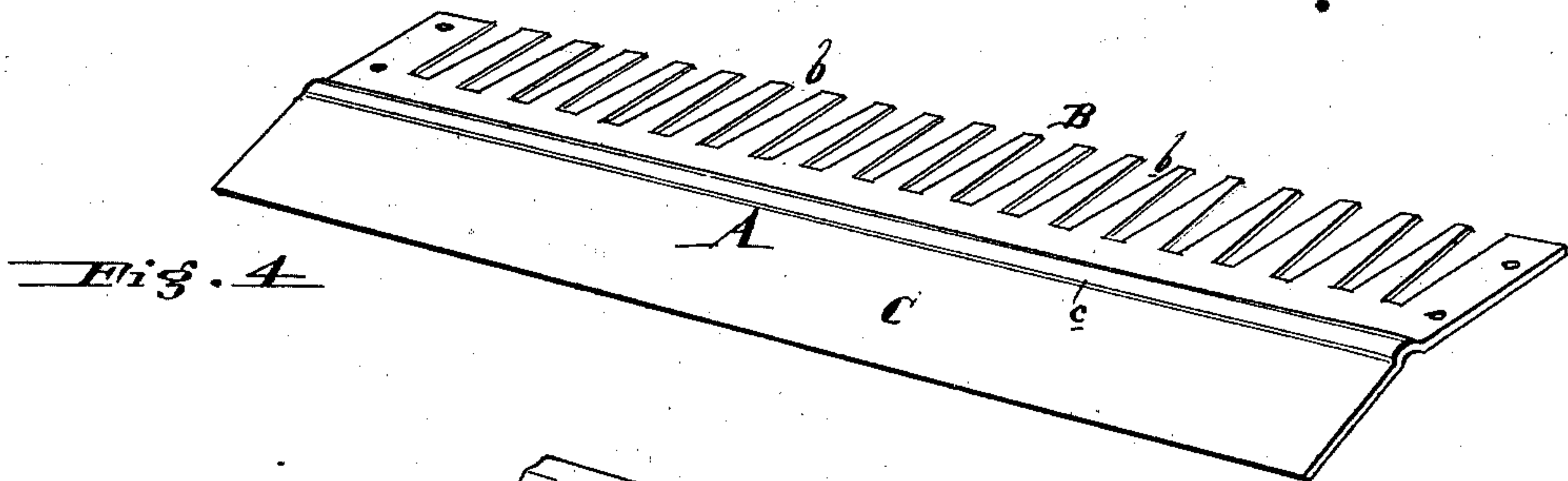


Fig. 4

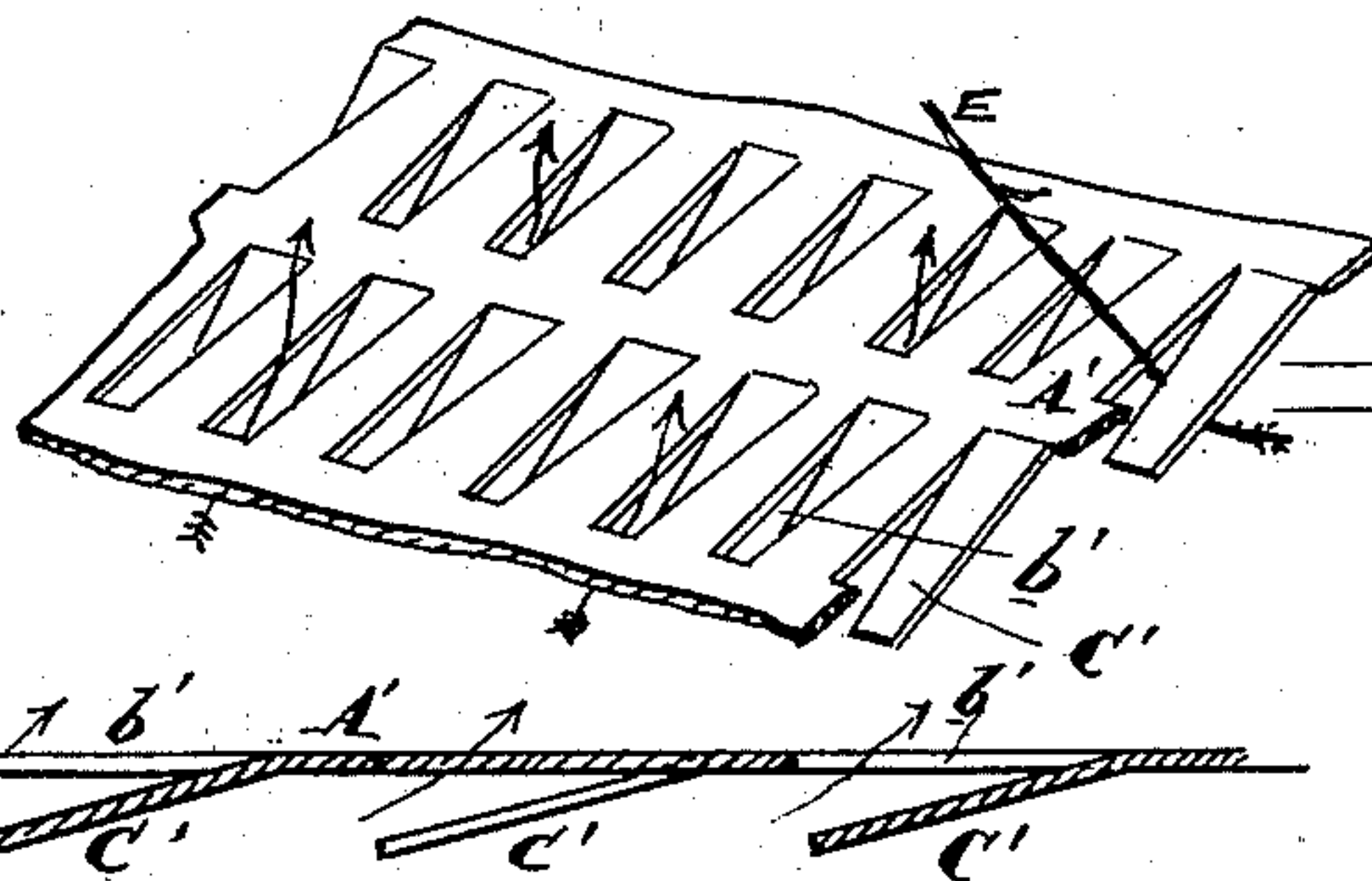


Fig. 6

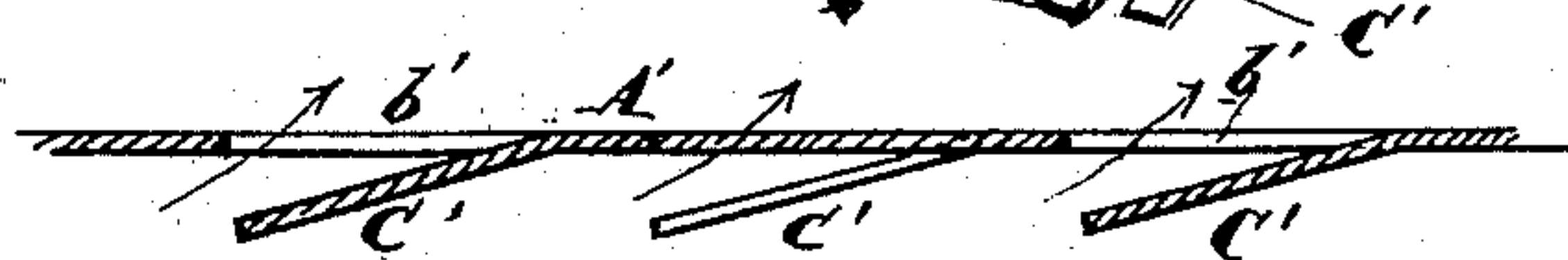


Fig. 7

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UNITED STATES PATENT OFFICE.

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RIDDLE FOR GRAIN-SEPARATORS.

SPECIFICATION forming part of Letters Patent No. 280,007, dated June 26, 1883.

Application filed March 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BELL, of Mount Ephraim, Camden county, and State of New Jersey, have invented an Improvement in Riddles for Grain-Separators, of which the following is a specification.

My invention has reference to separators, but particularly to the riddles used therein; and it consists in the usual frame, with a series of comb-plates of peculiar construction arranged thereon, as fully set forth in the following specification, shown in the accompanying drawings, and referred to in the claims.

The object of my invention is to so form the riddle that it is self-cleaning under all ordinary circumstances, thereby enabling much more work to be done in a given time with less trouble and annoyance.

In the drawings, Figure 1 is a plan view of my improved riddle, only part of the comb-plates being shown. Fig. 2 is a cross-section of same on line *x x*. Fig. 3 is a similar view, only greatly enlarged. Fig. 4 shows a perspective view of one of the comb-plates removed. Fig. 5 shows a plan view of part of a series of comb-plates with the teeth arranged at an angle. Fig. 6 represents a perspective view, and Fig. 7 a section, of a riddle as heretofore constructed.

A are the comb-plates, which, when placed in position, form the slotted surface over the frame D. These plates A are provided with the comb B, the teeth of which leave apertures or slots *b*. The front part of the plate is bent down obliquely, as at C, and the junction of the comb part B with oblique plate C may be strengthened by a rib or bead, *e*. These comb-plates are placed upon the frame D, as shown in Fig. 3, the oblique plate C projecting under the teeth of the comb B of the comb-plate in the front, the ends of the teeth being in line or overlapping the bead *e*. The comb-plate next to the feeding end of the frame D has no oblique plate C, and the oblique plate C on the discharging end has no teeth. This frame may be vibrated laterally or longitudinally by the usual means.

The operation may be described as follows: The riddle being vibrated and air-currents being forced from below upward and forward, as indicated by arrows, and as the grain is fed upon it, it passes down through the slots *b*, and the straw and dirt pass over the riddle and are discharged. Should any straw pass

through the slots, as indicated at E, it is arrested by the plate C and immediately blown out by air-currents. If the obstruction should get under a tooth of the comb B, it is blown out by the aperture F. It is therefore evident that under ordinary circumstances this construction of riddle cannot readily become clogged or obstructed, and if in time it should need cleaning this is readily done by simply combing out the obstructions; and, if desired, the teeth of the comb may be made oblique to the line of the machine, as shown in Fig. 5.

Sheet metal has been punched, as shown in Figs. 6 and 7, the pieces cut to form the holes being severed on three sides and bent down to form the slots *b'* and plates C'; but in this construction the straw and dirt clog the holes and become caught, so as to necessitate frequent stopping of the machine for cleaning purposes.

Riddles have also been made with the oblique plate and wire teeth; but the said parts were not integral or formed from sheet metal, as set forth in this application.

The teeth of my combs B may be arranged in line with the spaces or slots *b* of the next adjacent comb.

I am aware of United States Patents No. 152,291, of 1874, No. 49,876, of 1865, and No. 14,517, of 1856, and claim nothing therein shown or described, the said patents substantially illustrating the state of the art.

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

1. A riddle which consists of a frame covered with sheet-metal plates A, consisting of integral combs B and oblique plates C, stamped from sheet metal, the said oblique plates C being arranged under the combs next in front, and leaving small apertures F, substantially as and for the purpose specified.

2. A riddle-plate, A, consisting of an integral comb, B, and oblique plate C, stamped from sheet metal, and having their line of junction reinforced by a beading, *e*, substantially as shown.

In testimony of which invention I hereunto set my hand.

JOHN H. BELL.

Witnesses:

R. M. HUNTER,
R. S. CHILD, Jr.