

No. 878,488.

PATENTED FEB. 4, 1908.

J. W. TOBIN.
GRAIN TANK AND ELEVATOR.

APPLICATION FILED APR. 28, 1906.

4 SHEETS—SHEET 1.

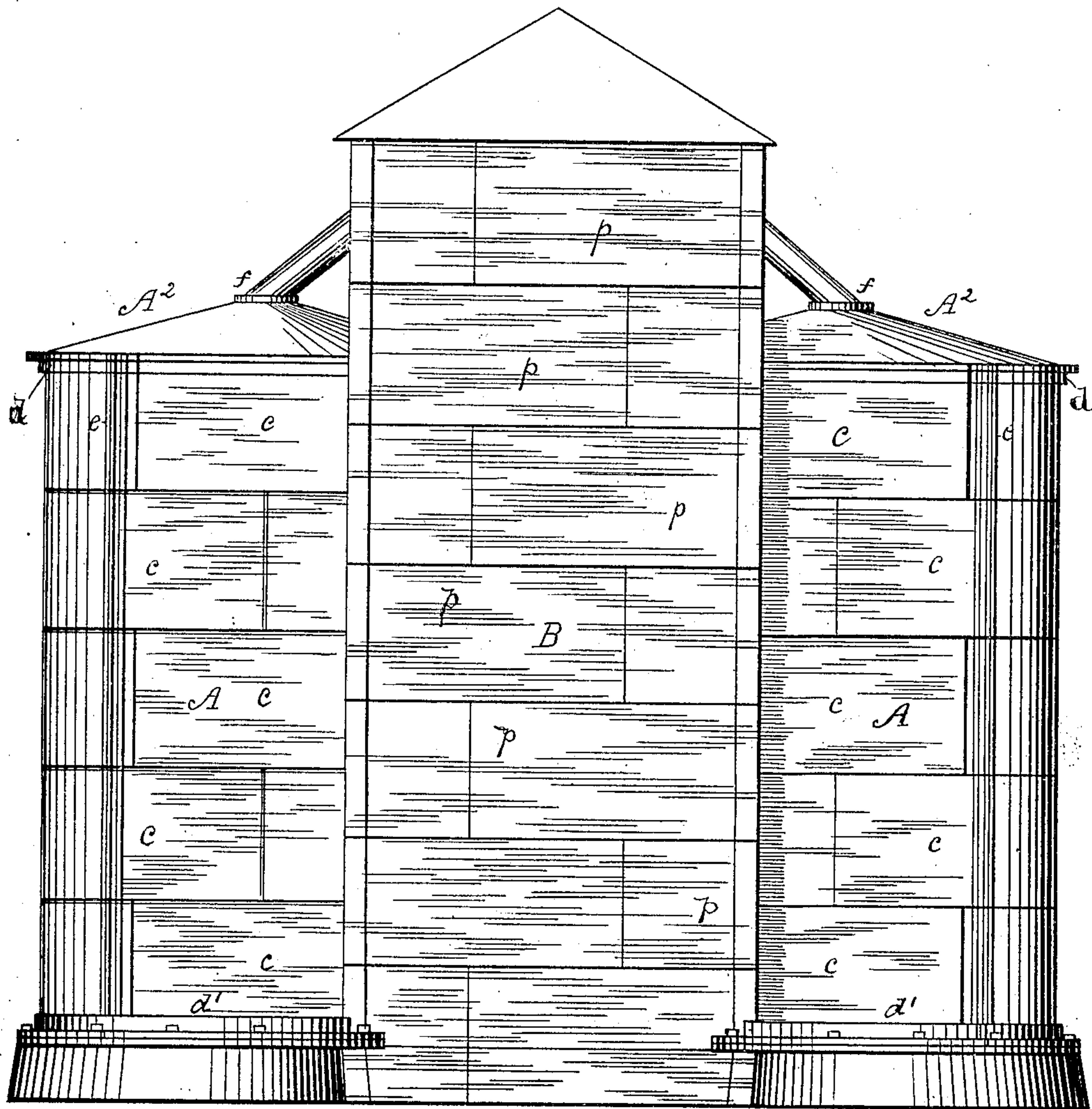


Fig. 1

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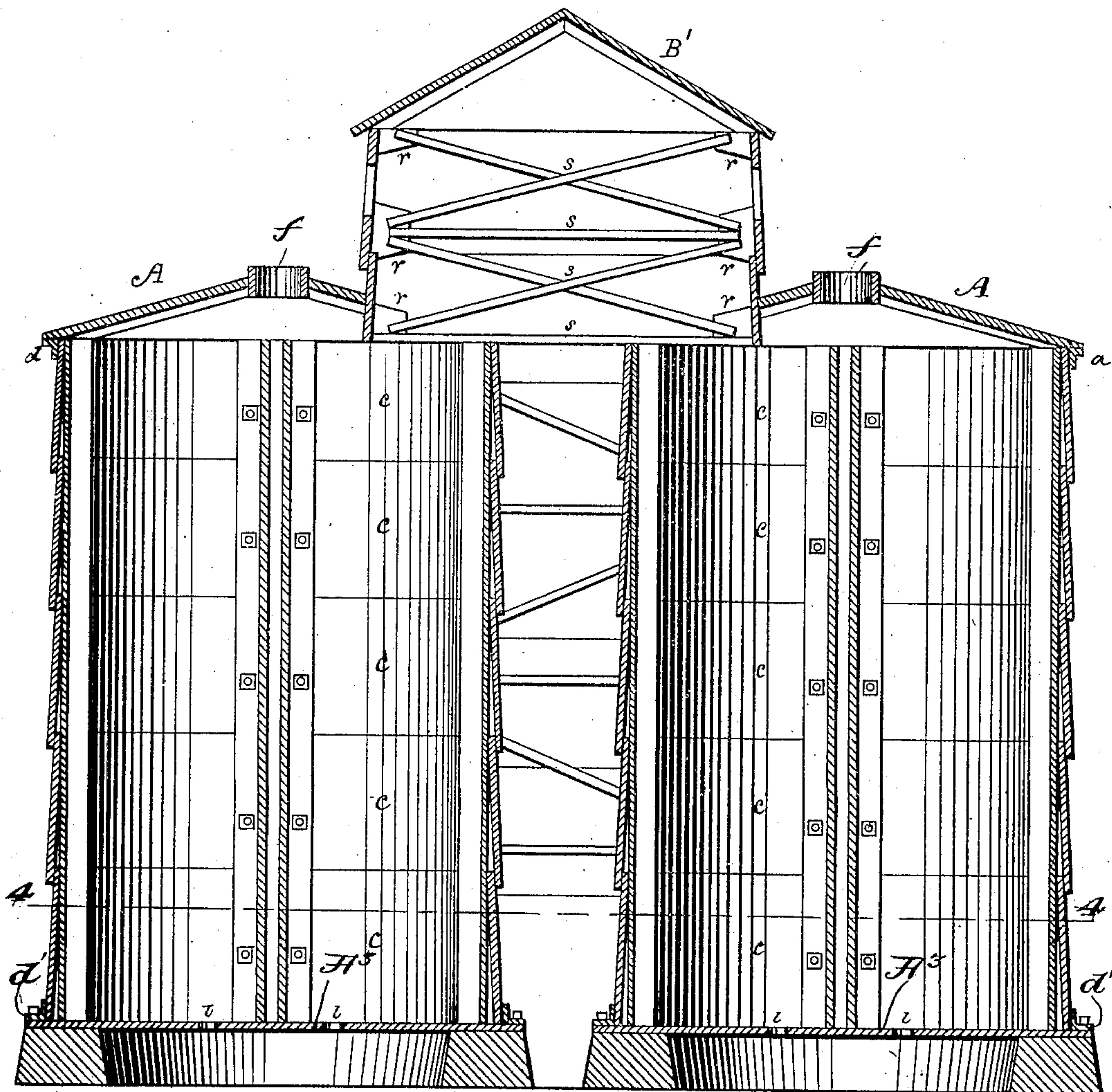


Fig. 2.

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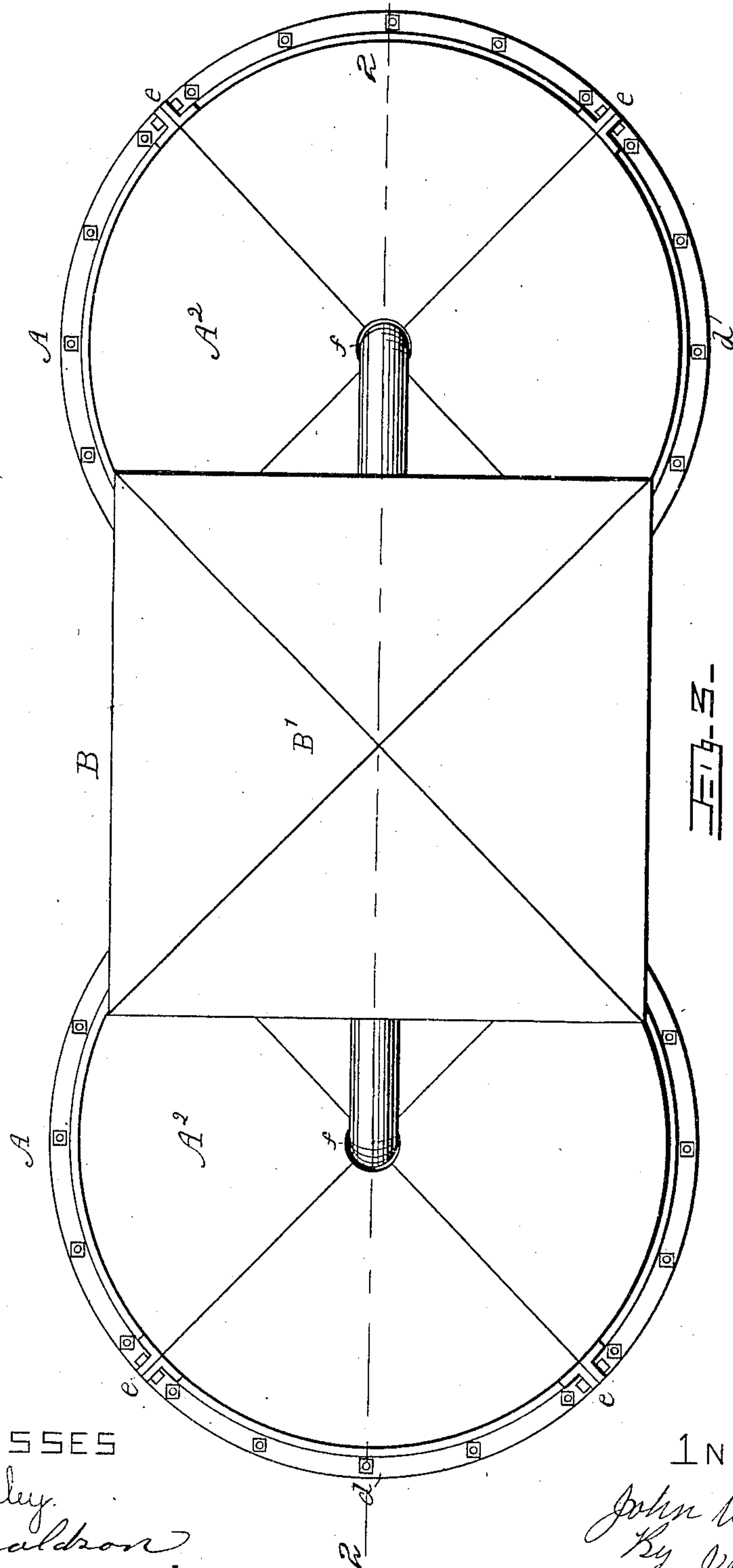
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4 SHEETS—SHEET 3.



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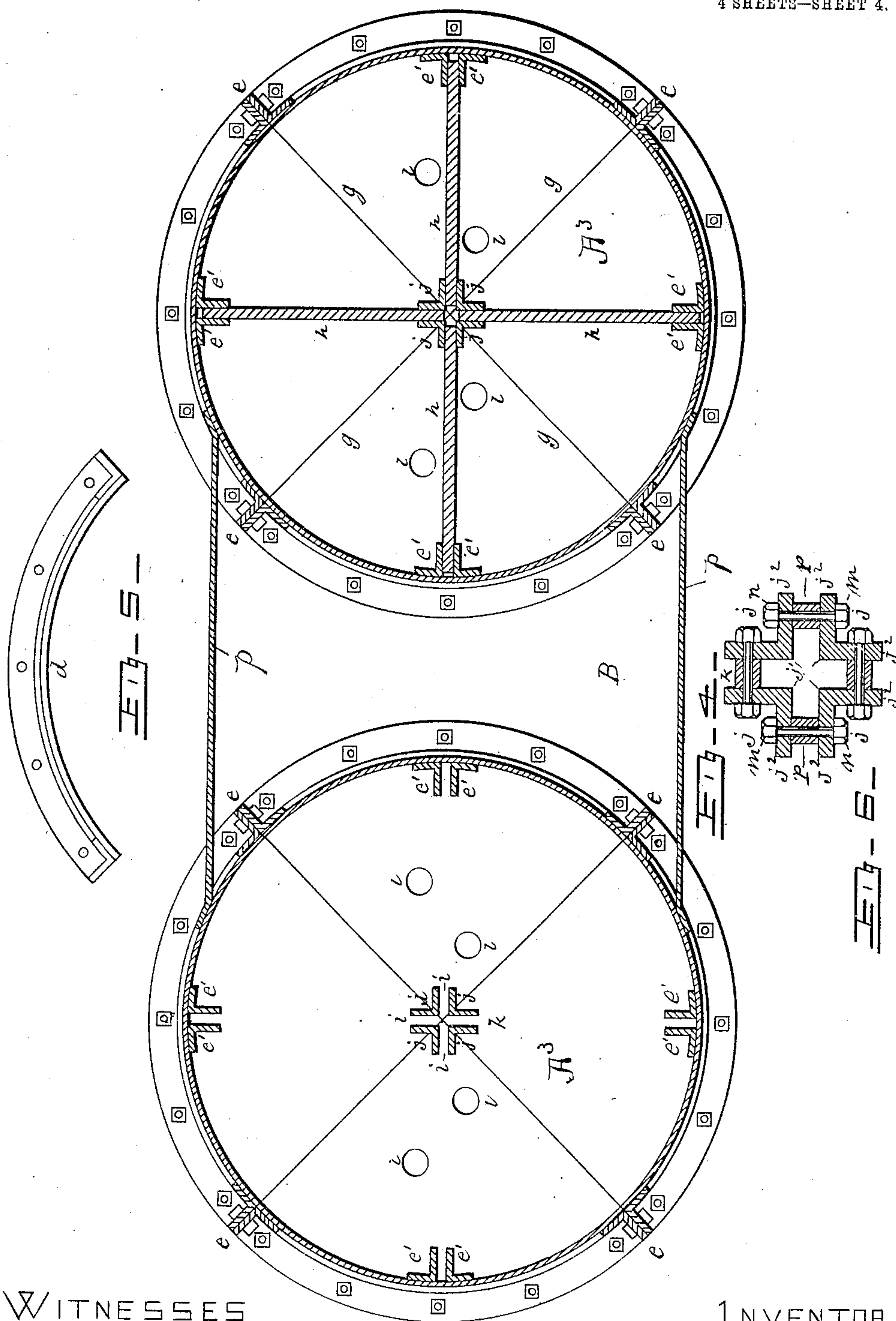
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4 SHEETS—SHEET 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN W. TOBIN, OF MINNEAPOLIS, MINNESOTA.

GRAIN TANK AND ELEVATOR.

No. 878,488.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed April 28, 1906. Serial No. 314,303.

To all whom it may concern:

Be it known that I, JOHN W. TOBIN, of Minneapolis, county of Hennepin, and State of Minnesota, have invented new and useful
5 Improvements in Grain Tanks and Elevators, of which the following is a specification.

My invention relates to the elevating, storing and shipping of grain in bulk, and it
10 consists in constructing grain tanks with separable parts or sections, which parts or sections may be fabricated at the factory where the skilled workmen have the comforts and conveniences of a workshop,
15 wherein the work may be carried on during the winter months, and the parts or sections shipped to the chosen location and erected by unskilled workmen during the summer months when the erection work can be per-
20 formed most comfortably and expeditiously, thus reducing the cost of my grain tanks and elevators to the minimum.

My invention is clearly illustrated in the accompanying drawing, fully described in
25 the following paragraphs of this specification and particularly referred to in the subjoined claims.

In the drawing Figure 1 is a front elevation of my improved grain tank and elevator. Fig. 2 is a vertical section thereof, being a view taken on line 2—2, of Fig. 3. Fig. 3 a top view of my invention. Fig. 4 a horizontal section, thereof, being a view taken on the line 4—4, of Fig. 1. Fig. 5 a detail,
35 being an end view of the quadrantal section of one of my tanks, and Fig. 6 another detail, being a cross section of my composite column and wall support.

Similar letters refer to similar parts
40 throughout the several views.

The tanks A are preferably cylindrical in form, and are respectively composed of four sections of equal size and shape, which sections are adapted to be separated, trans-
45 ported and reunited thus providing grain tanks adapted to be moved from one locality to another at small cost, should circumstances so require. As these cylindrical tanks are of identically the same construction, a detailed description of one of
50 them, will suffice for both.

The tank A consists of four quadrantal sections A' of identically the same construction. These segments I construct as fol-
55 lows. Taking a suitable number of scarfed and pierced steel plates *c*, I pass them be-

tween three properly disposed rolls to give them a curve, the radius of which is equal to the semi-diameter of my tank. These plates I rivet together and form a section, which
60 section constitutes a quarter part of the circumferential wall of one of my grain tanks. To the ends of this segment I rivet the outwardly extending curved angle irons *d* and *d'*, the upper one (*d*) of which serves as a
65 flange to which I bolt a section, (the one fourth part) of the roof A² hereinafter described; and the lower one (*d'*) of which serves as a similar flange, and to which I bolt a section, (the one fourth part) of the floor
70 A³ hereinafter described.

To the outer (convex) face of this segment I rivet the outwardly extending oppositely faced vertical angle irons *e*, the laterally extending portions of which are arranged
75 flush or even with the parallel vertical edges thereof, and to the inside (concave) face of the same, I rivet the inwardly extending oppositely faced angle irons *e'*, the purpose of which will hereinafter be set forth. 80

The roof A² of my tank A, consists of four sections of identically the same configuration and construction, which sections are so configured, that when joined at their edges they will unitedly form a conical roof of low
85 pitch. This roof (A²) is provided with a central opening *f*, through which the grain is spouted in, as will hereinafter be set forth.

The floor A³ of my tank A (like the roof A²) consists of four sections, of identically the
90 same configuration and construction; which sections are so configured that when joined at their edges they will unitedly form a circular plane.

My tanks are respectively divided into four
95 apartments or bins *g* of equal size and configuration. These compartments or bins (*g*) are formed by the transversely arranged partitions *h*, which partitions consist of horizontally arranged planks placed edge to edge,
100 one above another, the outer ends of which are supported between the oppositely faced inwardly extending angle irons *e'*, and the inner ends of which are supported by lying within the vertical grooves *i* formed by inter-
105 mediate angle irons *j*, which angle irons constitute the composite column *k* shown by cross section in Fig. 6, and hereinafter described. These compartments or bins are
110 open at the top and may all be filled through the same swing spout, (not shown), and their floors are respectively provided with open-

ings l through which the grain may be withdrawn in the usual manner.

The composite column k consists of four angle irons j having their apexes j' inwardly arranged, and their flange portions j^2 connected by means of the clamping bolts m and clamping nuts n , but are held a predetermined distance apart by means of the intervening collars p , thereby providing the before mentioned vertical grooves i adapted to receive the inner ends of the partition walls h above described.

The work-house B, lying between, and extending above my tanks A consists of a steel structure embodying sheeting plates p connected together by means of bolts and nuts to form parallel side walls the height of my tanks A, and side and end walls above the same, gusset plates q affixed thereto, horizontal and diagonal members s bolted to the said gusset plates q , and a roof B' bolted to the upper sheeting plates p , to the upper horizontal members r , or to both, the spring plates p , and the horizontal member r as the builder may elect. This roof (B') is an important feature of my invention, as the portability of my grain tank and elevator depends in part thereon. It is constructed substantially the same as the roofs A² of the tanks A, being composed of four sections, of identically the same construction. This work-house (B) is adapted to house the machinery employed in elevating the grain when filling the tanks A, but as such machinery is now in use for like purposes, and is not my invention, I do not deem it necessary to show or describe it herein.

My grain tanks are filled and emptied in identically the same manner as other grain tanks of similar construction, and a description thereof is unnecessary herein.

The objects sought and attained in my invention are, economy of construction, rigid-

ity and portability. The first of these objects I attain through doing the greater part of the work at the factory or work-shop where it can be done most conveniently, field work being most expensive: The second object I attain through having multiple grain tanks, and having my work-house or elevator located between and resting upon them; as the tanks (when there are two) form two of the side walls thereof, and, (through their configuration) give great strength thereto; and the third object I attain through having my grain tanks and elevator fashioned in sections adapted to be disunited, transported in separate parts, and reunited in some other locality, should circumstances so require.

What I claim as new and desire to secure by Letters Patent is:

In a grain elevator, the combination of multiple tanks, and a work-house or elevator lying between them; said tanks consisting respectively of separable sections adapted to be bolted together to form the side walls thereof; of other separable sections adapted to form the roofs thereof, and of still other separable sections adapted to be bolted together to form the floors or bottoms thereof; and said intervening work-house consisting of a frame and covering therefor, said frame being composed of separable vertical horizontal and diagonal members, bolted to and supported by the said tanks, said covering being composed of pierced metal sheets or plates bolted together, and gussets or angle irons connecting the said vertical horizontal and diagonal members of said covering, substantially as shown and described.

JOHN W. TOBIN.

Witnesses:

H. J. WATERS,
H. M. REILEY.