

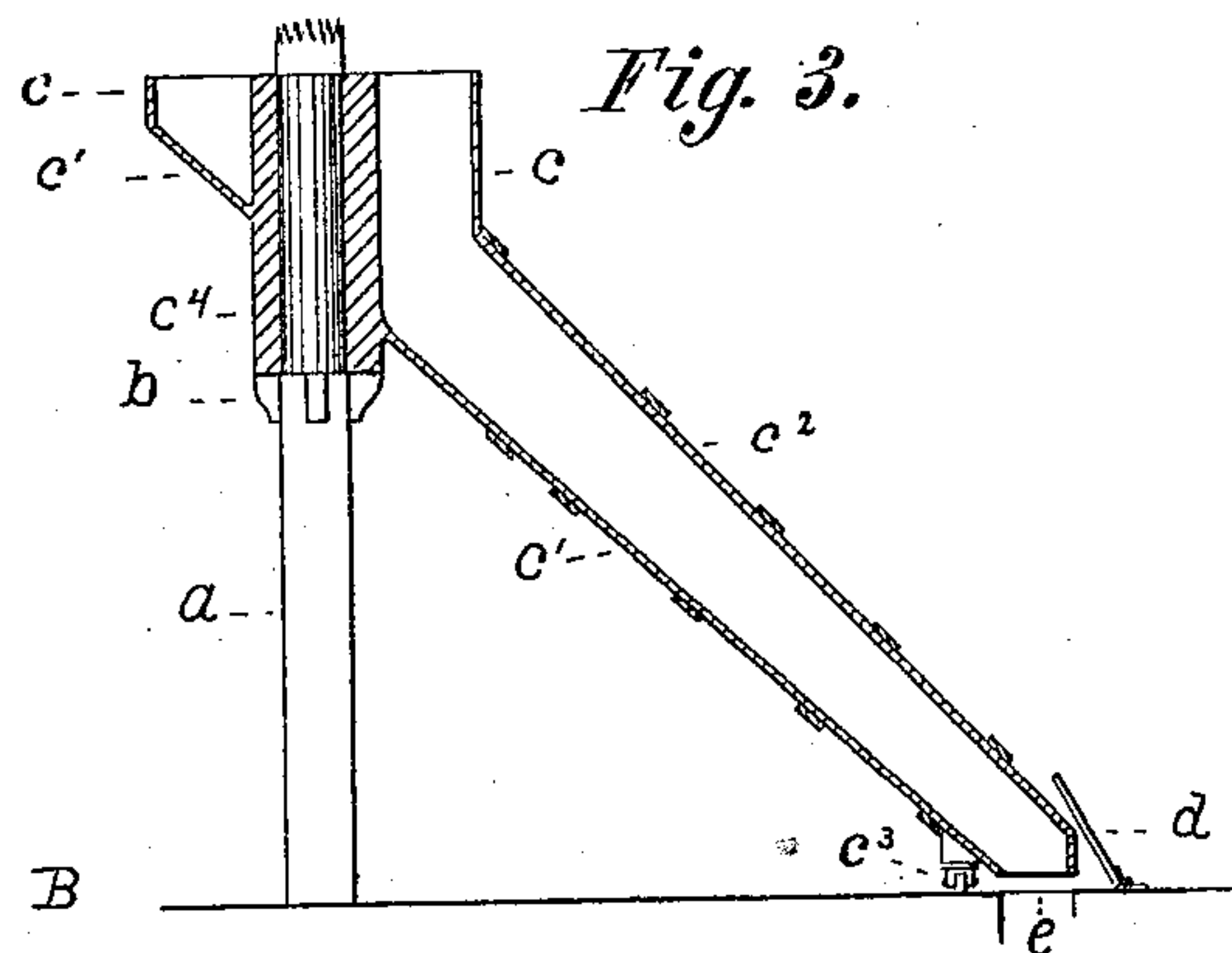
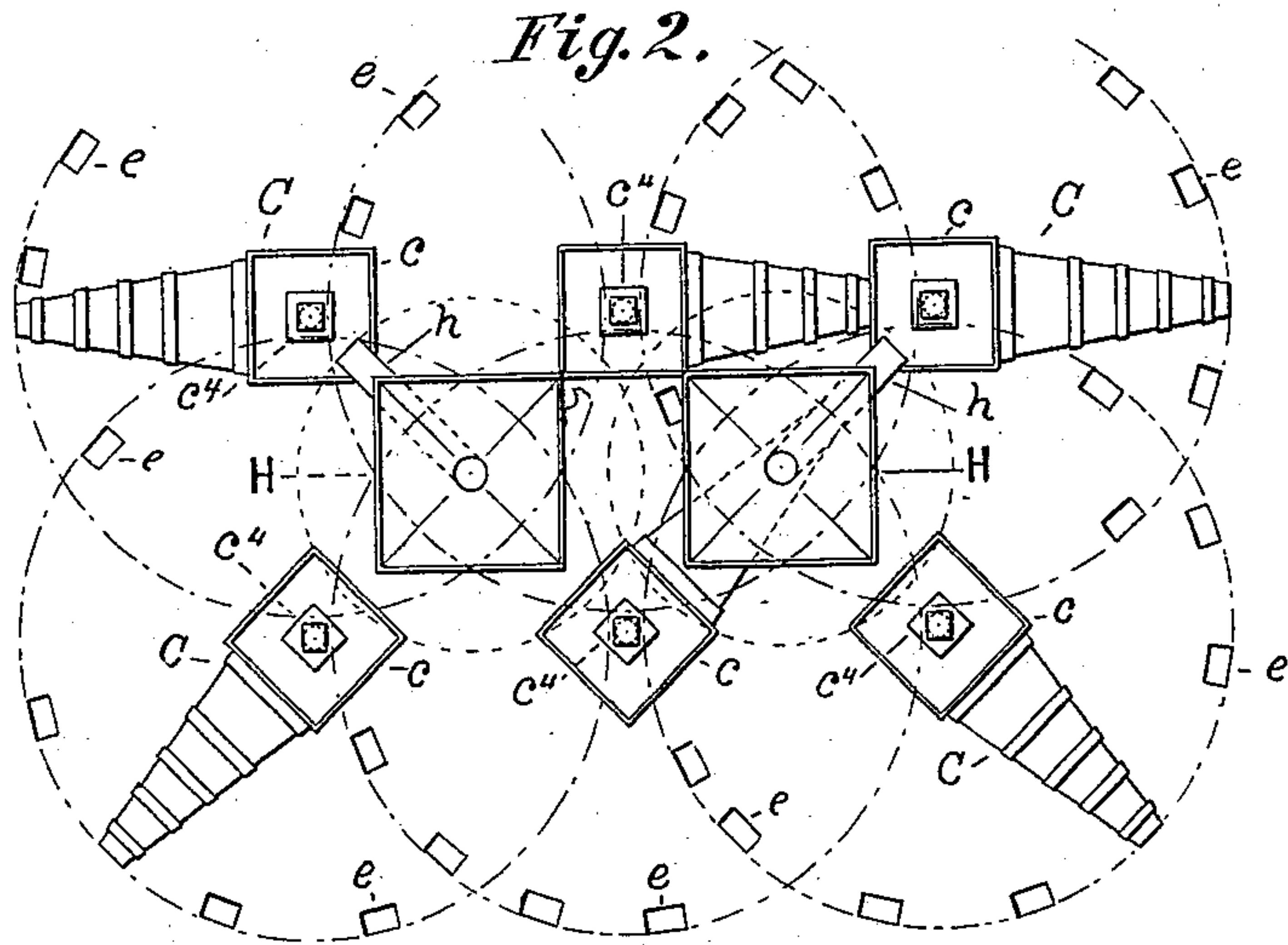
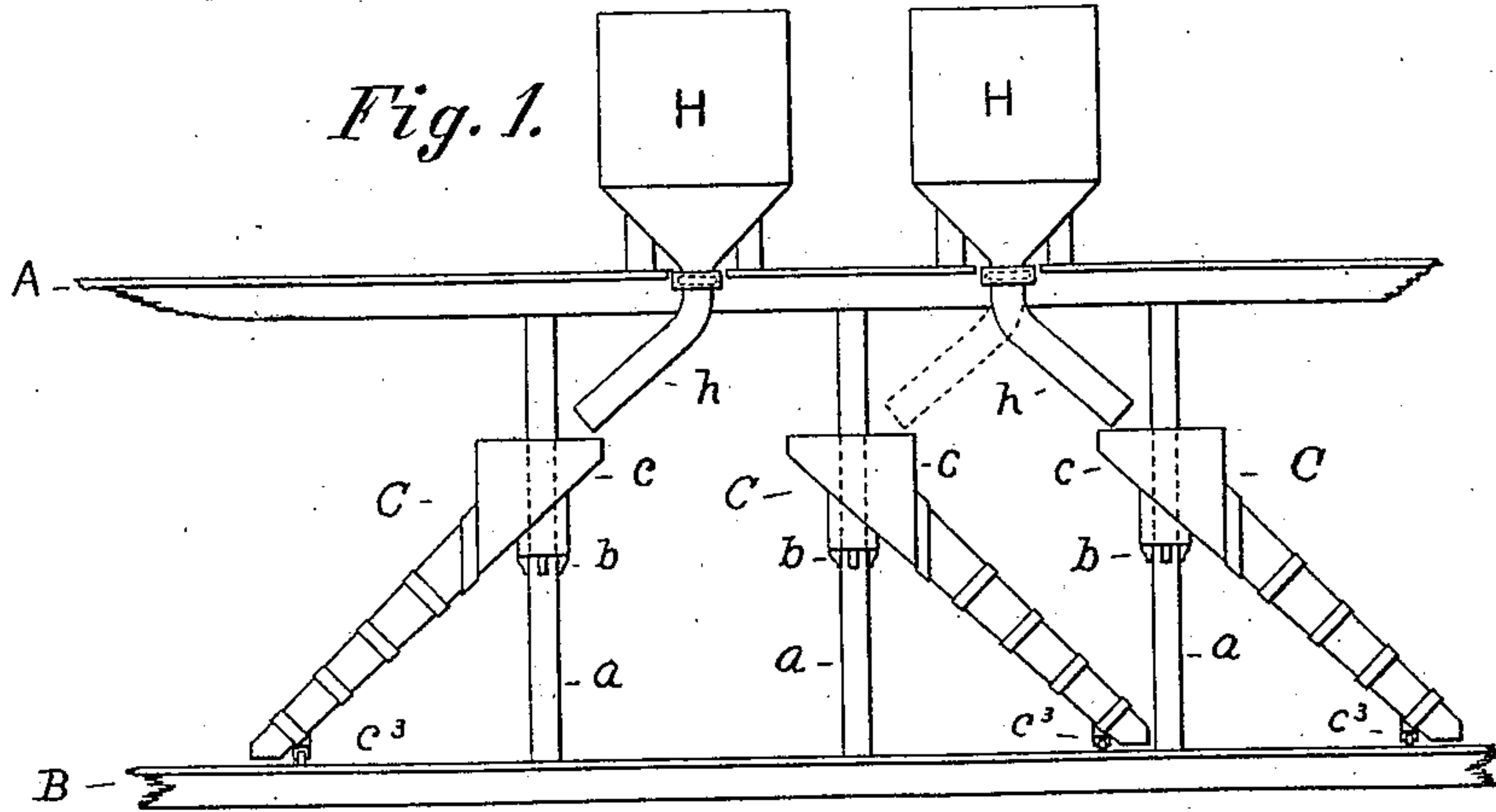
(No Model.)

J. HUGHES.

REVOLVING CHUTE FOR GRAIN ELEVATORS.

No. 308,496.

Patented Nov. 25, 1884.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN HUGHES, OF MINNEAPOLIS, MINNESOTA.

## REVOLVING CHUTE FOR GRAIN-ELEVATORS.

SPECIFICATION forming part of Letters Patent No. 308,496, dated November 25, 1884.

Application filed September 2, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN HUGHES, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented a new and useful Improvement in Revolving Chutes for Grain-Elevators, of which the following is a specification.

My invention relates to means for conveying grain from the hoppers in elevators to the spouts leading to the several grain-bins.

In grain-elevators as usually constructed the hoppers for receiving, weighing, and discharging the grain to the bins are on the upper floor, and have spouts capable of being turned to the several bin-spouts converging beneath the hoppers. By this construction the room beneath the hoppers is almost wholly taken up by the numerous spouts. The object of my invention is to do away with the spouts between the hoppers and the floor below, and to substitute for them revolving spouts or chutes in the room under the hoppers, and have these adjustable chutes make the connection between the hoppers and the bin-spouts at the floor below; and my invention consists in chutes pivoted about posts to receive the grain from the hoppers and conduct it to the bin-spouts through holes in the floor in the annular path of the chutes. By this construction each revolving chute is made to take the place of a considerable number of the fixed spouts, and thereby effects a saving of labor, material, and space.

In the drawings, Figure 1 is an elevation showing two hoppers, a portion of two floors, and a set of the grain-chutes. Fig. 2 is a plan of the same, and Fig. 3 is a vertical sectional view of one of the chutes and its post.

A is the top floor of the elevator, in which the grain-hoppers H H are placed, and B is the next floor below, the distance between the two floors being preferably about fifteen feet. The posts *a a*, upon which the chutes are hung, should be set about ten feet apart from center to center. By this arrangement the chutes can be made to describe circles of nearly twenty feet diameter, and the grain can be started on its course at a sufficiently sharp incline.

H H are the hoppers, provided with spouts *h h*, which can be turned to the several chutes in their circle. The hoppers may be set upon weighing-scales, the weighing-beams of which

are then on the floor below, and may be placed in line with one of the lines of posts longitudinally with the elevator, out of the way of the chutes and not obstructing the passageways through the elevator.

C C are the chutes, which may be of wood or metal and of any suitable form. I prefer to make them of wood, and in the form shown in the drawings.

*c* is the top or hopper portion, which should be about four feet square and uncovered.

*c'* is the bottom, extending from near the rear edge of the hopper *c* at an angle of about forty-five degrees to the floor. The cover *c''* extends beyond the bottom, and is turned inward to direct the grain downward into the spouts.

*c'''* is a caster at the lower end, to facilitate the turning of the chute. The post *a*, which may be one of the posts for supporting the floor above, is made round a proper distance to pivot the hopper *c* by means of the central box, *c''*, and blocks *b* are fastened to the post under the box *c''*, to supply a bearing for it. A ring or any other suitable bearing may be used. The chute may be made in sections and the sections joined about the post, or it may be built around it. The interior of the chute and the exterior of the box *c''*, which incases the post within the hopper, should be covered with sheet metal.

*e e* are holes cut in the floor B in the circle traversed by the chutes, and through these holes the chutes discharge the grain into the spouts leading to the bins.

*d* are hinged trap-doors over the holes *e e*, to close them when not in use.

It is desirable to place the hoppers H H in pairs, and each hopper central to four adjoining posts in a series of six posts, and to provide a chute for each post. Thus each hopper can be arranged to feed four chutes, and the two middle chutes can be fed from either or both hoppers.

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

In a grain-elevator, the grain-chute C, composed of hopper *c*, cover *c''*, and bottom *c'*, provided with caster *c'''*, said chute being pivoted to a post by means of the box *c''* and blocks *b*, substantially as and for the purpose set forth.

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