

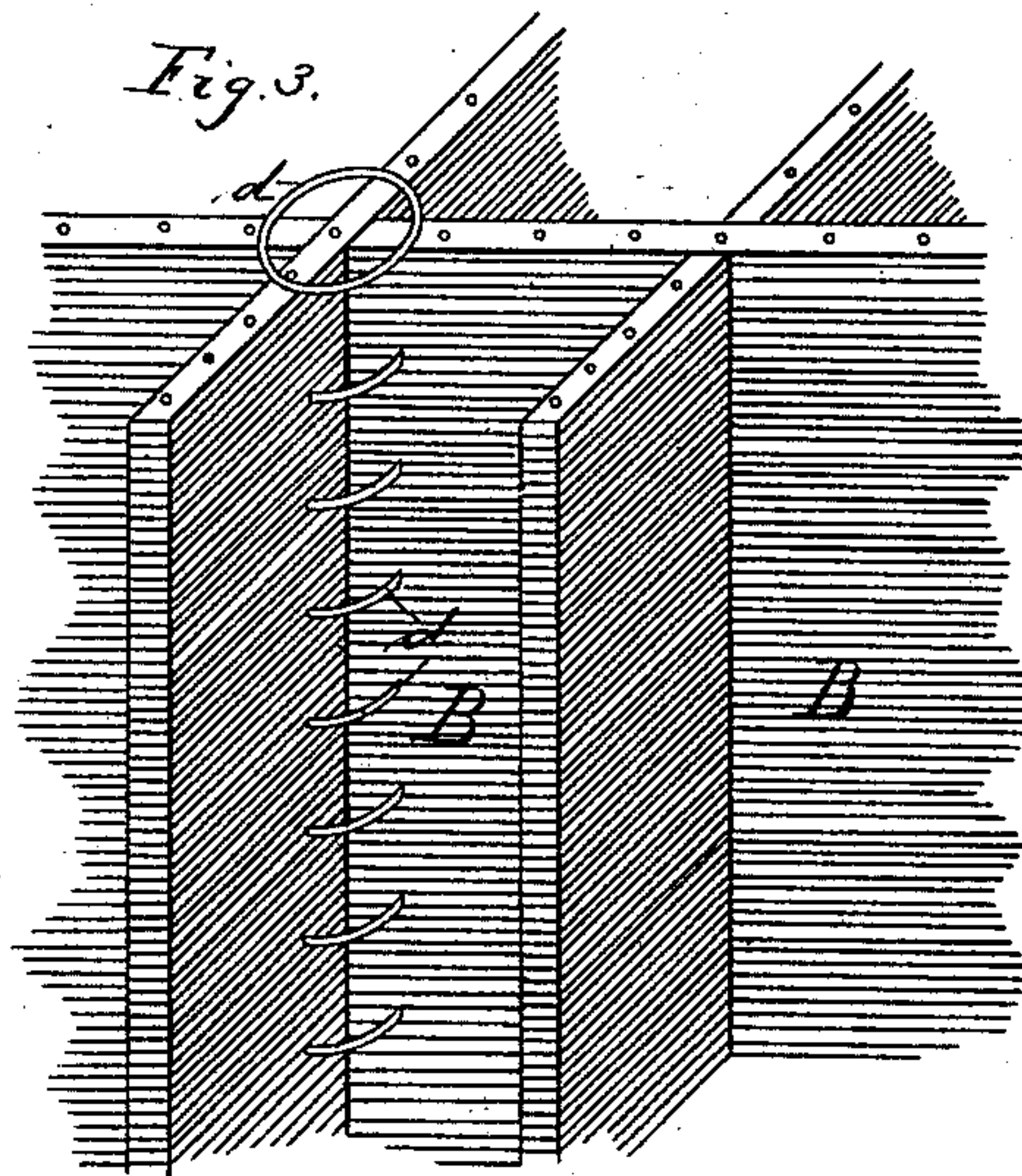
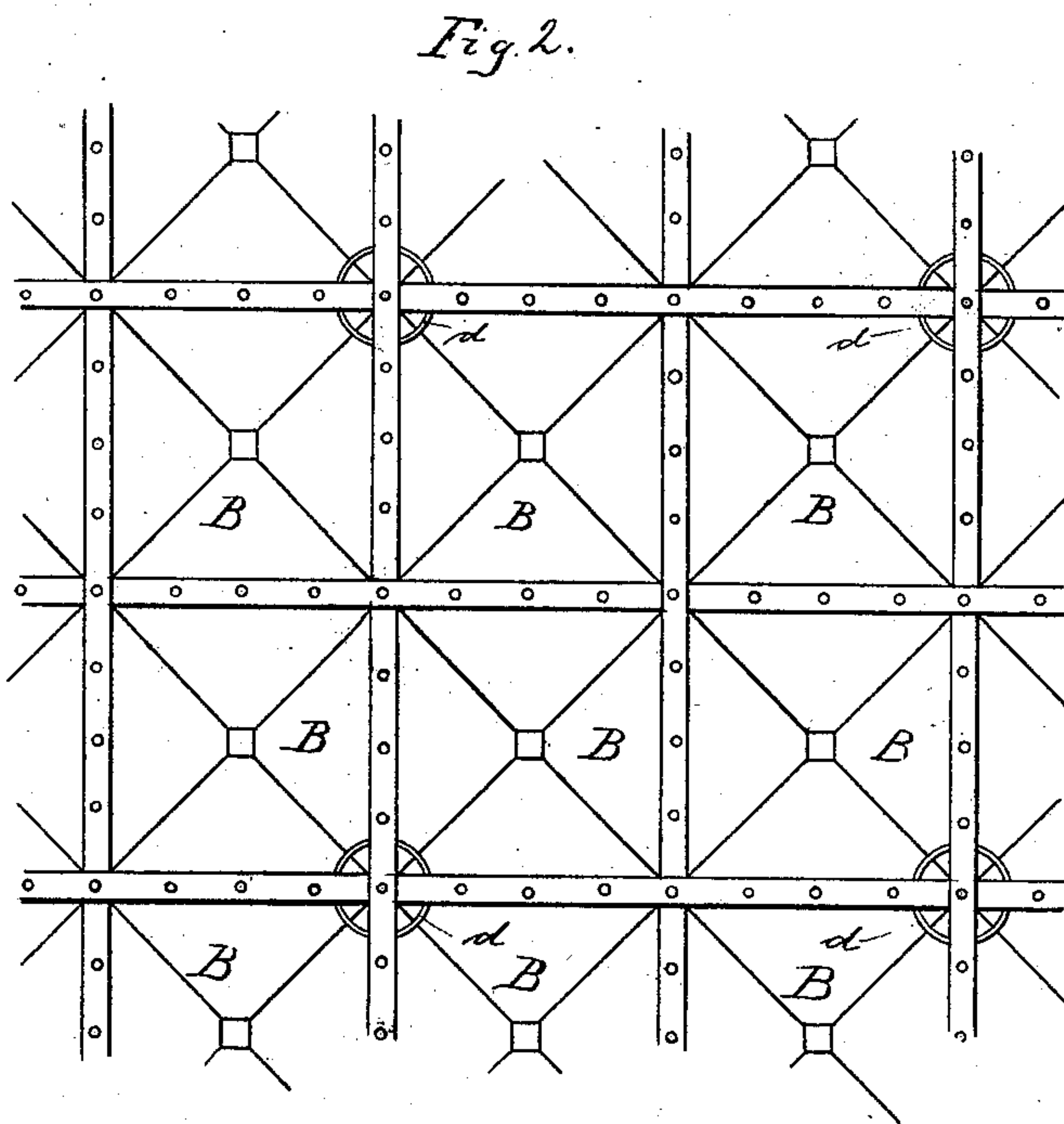
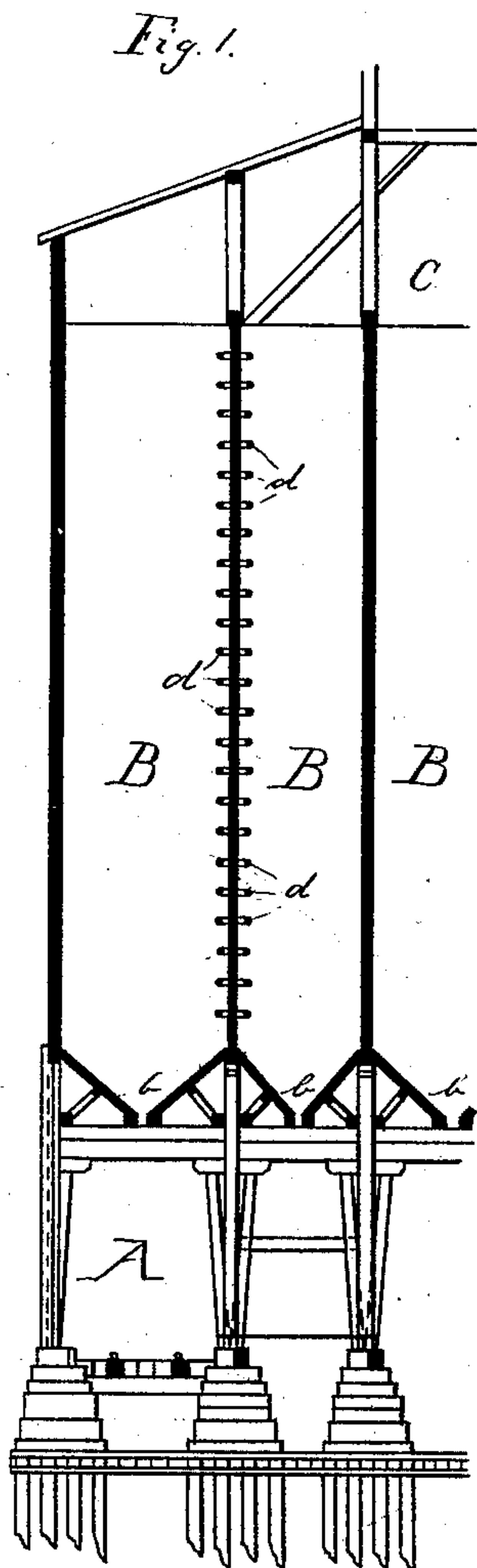
(No Model.)

E. HOLMES.

GRAIN BIN.

No. 255,507.

Patented Mar. 28, 1882.



WITNESSES
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EBENEZER HOLMES, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
EDWARD BAUMANN AND WILLIAM H. LOTZ, OF SAME PLACE.

GRAIN-BIN.

SPECIFICATION forming part of Letters Patent No. 255,507, dated March 28, 1882.

Application filed January 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, EBENEZER HOLMES, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Grain-Bins; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form
10 a part of this specification, and in which—

Figure 1 represents a partial transverse section of a grain-elevator having my improvement; Fig. 2, a plan view of a series of the grain-bins in an elevator, and Fig. 3 a sectional perspective view of several grain-bins.

Similar letters designate corresponding parts in all the figures.

A denotes the lower story of a grain-house, in which the cars or teams are loaded or unloaded; B B, the bins for storing the grain; and C, the floor above the bins, from which the grain is spouted into any one of the bins from the elevator or scale-hoppers. The bins B B are
25 generally from five to thirteen feet square and from forty to sixty feet deep, each with a hopper-shaped bottom, *b*, that is provided with a slide or valve for discharging the grain from the bin.

For the purpose of building the bin-walls of
30 a sufficient strength to resist the side pressure of the grain when piled to such a height, these walls are generally constructed of solid timber by spiking planks two inches thick, and, according to the size and height of the bins,
35 either four, six, or eight inches wide, one flat upon the other, and so as to break joints with every course, and that the planks of the longitudinal walls will alternately interlock with the planks of the transverse walls.

40 Whenever a bin has been entirely emptied, and before it is to be refilled with another kind or quality of grain, its bottom should be cleaned of any remaining grain or dust, for which purpose a man is sent down with a broom,
45 and means have to be provided for said man to climb from the top down to the bottom of the bin.

Heretofore rectangular frames made of five-eighths-inch round iron were secured into the
50 bin-walls about every sixteen or eighteen inches

vertically apart, and so as to project equal distance from each side of the bin-wall, for forming the steps in two adjoining bins. These frames were placed between the several courses of planks at the proper height by notching the
55 top of the planks for the step-frames to be inserted, and then securing them by the next course of planks, being spiked on top, and this was repeated every eighth or ninth course of planking.

As will be noticed, with rectangular frames thus placed and secured a vertical row of them could furnish steps only for two bins, and when the notches were made a little large these frames
60 slid laterally in the partition and did not give a sure foot or hand hold to the man climbing up or down.

Now, my invention consists in forming the steps of round iron rings *d*, secured between the planks at the junction of a longitudinal
70 and transverse bin-wall, and so as to project equal distances into each of the four adjacent bins. For this purpose every eighth or ninth course of two-inch planking that forms the bin-walls is notched out for inserting a ring, *d*,
75 and then the next above course of planking being placed upon it and secured by spikes will hold said ring rigid in its position.

The advantages gained by the ring-shaped steps are, first, that bar-iron is much easier
80 bent to the form of a ring and welded than to bend it to a rectangular shape and weld it; second, that for forming steps in a series of grain-bins but one-half as many ring-shaped
85 step-frames will be required (each ring providing steps in four adjoining bins) as with rectangular frames, each of which provides steps only in two adjoining bins; third, that a ring-shaped step is held more rigidly in the notches
90 of four planks than a rectangular frame will be held in the parallel notches of one plank; fourthly, that the steps thus formed in the corner of a bin give a better hold for a man to climb upon and less chance for his feet to slip
95 than where rectangular steps project from one of the side walls; and, lastly, that by the use of the ring-shaped steps a great saving in material and labor is obtained.

What I claim is—

1. In grain-bins, and in combination there- 100

with, the ring-shaped step-frames built into the partitions between four adjacent bins, substantially in the manner set forth.

2. In grain-bins, and in combination thereof, with, the ring-shaped frames *d*, placed in notches between the planks that form the partitions for four adjacent bins in such a manner that each ring forms steps in the corners of the four bins, substantially as set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

EBENEZER HOLMES.

Witnesses:

F. W. KASEHAGEN,

F. W. ADAMS.