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GRAIN PRESSURES IN DEEP BINS.

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The comparatively recent change in the materials of construction of grain storage bins or silos, has made the question of Grain Pressures one of great importance at the present time. Until within a comparatively recent date practically all grain elevators on this Continent were built of wood, the storage bins being of laminated or cribbed construction, formed by building a number of walls both longitudinally and transversely of the building. The walls were constructed of plank 2" thick, laid flat and spiked one to the other, and from 6 to 8" wide according to the quality of the material used and the size of bin required. The width of plank or thickness of wall decreased towards the top, and the walls were spaced 12 to 14 feet apart in both directions, thus sub-dividing the storage space into deep bins 12 to 14 feet square and 60 to 70 feet deep.

So long as this construction and size of bin was maintained, there was no great urgency for knowing accurately the lateral pressures produced by grain, as the thickness or necessary strength of the walls to safely resist the lateral pressure, and the strength of the hopper bottoms of the bins to carry the vertical load, had been well established by practice.

With a wooden bin wall of sufficient strength to resist the lateral pressure, the wall had ample area as a column to carry the vertical

NOTE.—On page 28, read :—

$\frac{5,000 \text{ lbs.} \times 40 \text{ sq. ft.}}{100 \text{ sq. ft.}} \times 0.6 \times 0.41667 = 500 \text{ lbs.}$ carried by the walls.