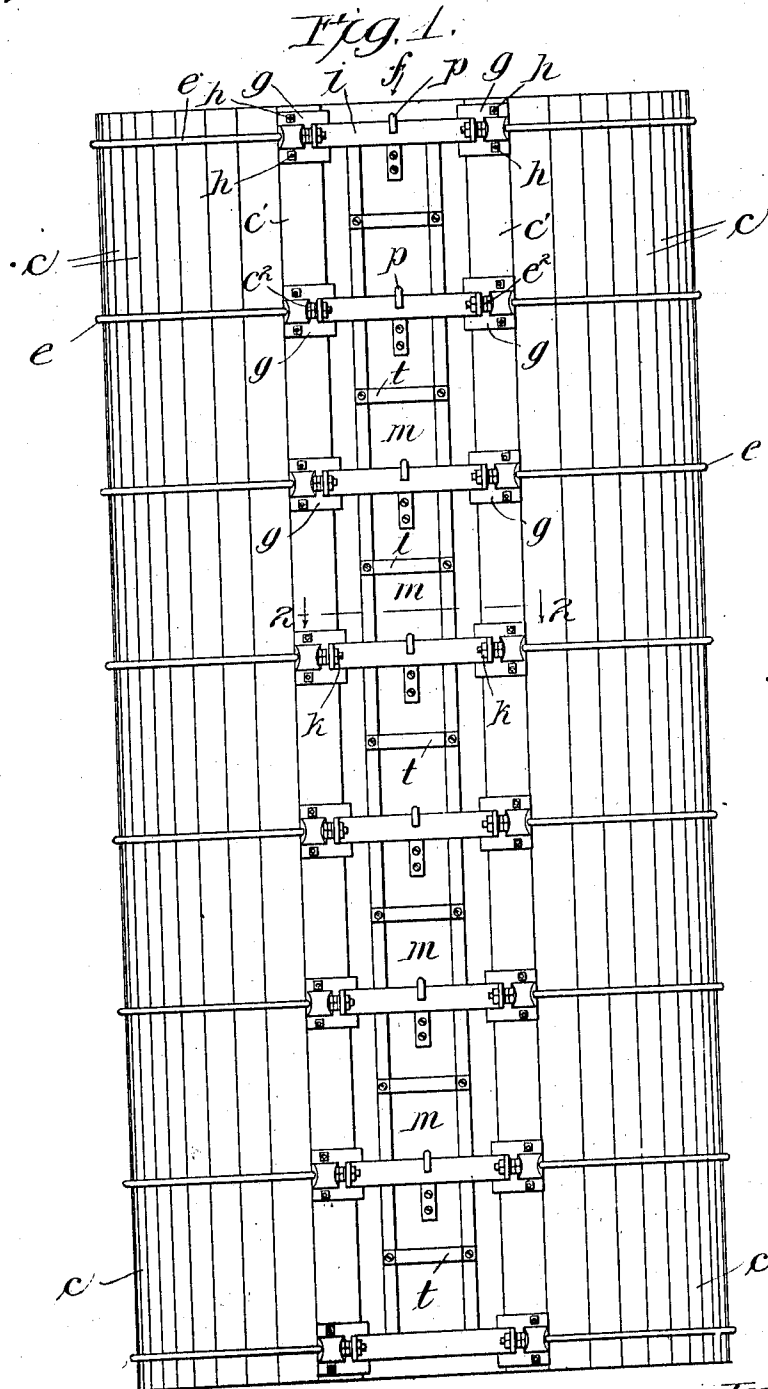


1,048,724.



Witnesses:

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1,048,724.

Fig. 2.

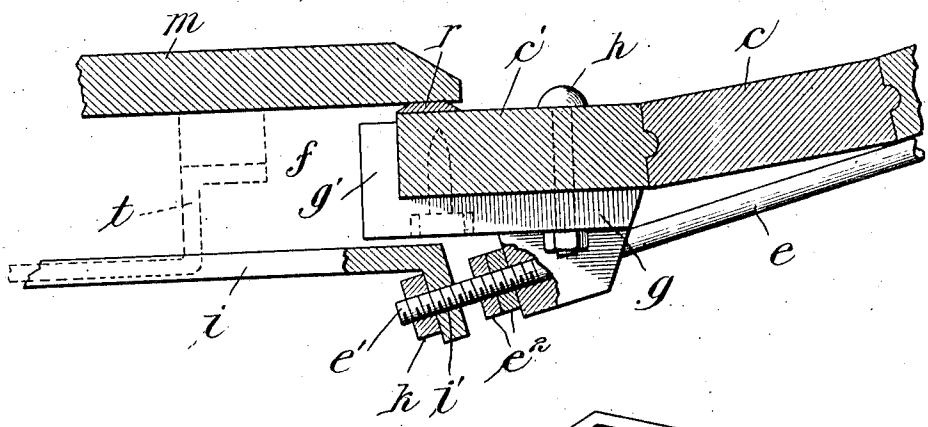


Fig. 3.

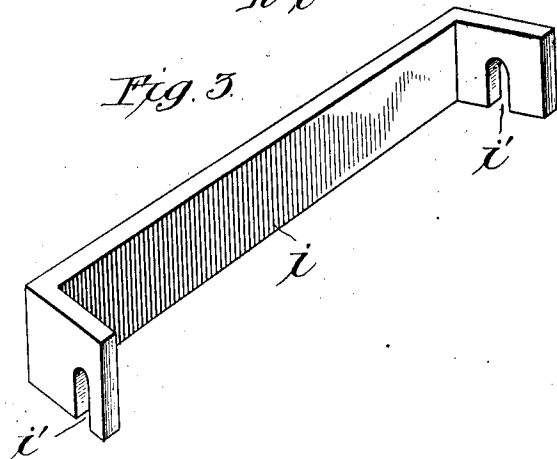
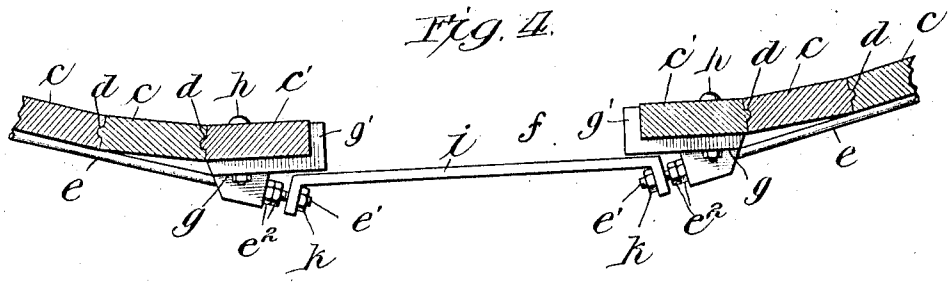


Fig. 4.



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UNITED STATES PATENT OFFICE.

HARRY C. MORROW, OF WHITE HALL, ILLINOIS, ASSIGNOR TO ILLINOIS SILO COMPANY, OF BLOOMINGTON, ILLINOIS, A CORPORATION OF ILLINOIS.

SILO.

1,048,724.

Specification of Letter's Patent.

Patented Dec. 31, 1912.

Application filed March 7, 1912. Serial No. 682,140.

To all whom it may concern:

Be it known that I, HARRY C. MORROW, a citizen of the United States, residing at White Hall, in the county of Greene and State of Illinois, have invented certain new and useful Improvements in Silos, of which the following is a specification.

The object of my invention is to provide a simple, economical, and efficient silo; and the invention consists in the features, combinations, and details of construction hereinafter described and claimed.

In the accompanying drawings—Figure 1 is an elevation of a silo as it appears when constructed in accordance with these improvements, but without any roof thereon. Fig. 2 is an enlarged sectional detail of a portion of the silo mechanism taken on the line 2 of Fig. 1, looking in the direction of the arrow. Fig. 3 is a perspective view of the adjustable element for tying the ends of the non-continuous bands together, as more fully hereinafter set forth; and Fig. 4 is an enlarged sectional detail of a portion of the mechanism taken on the line 2 of Fig. 1 looking in the direction of the arrow, with the door mechanism omitted.

In the art to which this invention relates it is well known that many attempts have been made to improve the construction of silos, all of which have given more or less satisfaction, but none of which has as yet given complete satisfaction. The principal objection to the constructions heretofore made are that practically all such structures when made of wood in a cylindrical stave-like structure—resembling more or less huge casks, tuns, or vats—are provided with continuous hoops or bands which entirely and completely encircle the silo. The objection to the use of these continuous encircling bands, hoops, or similar elements, is that they tend to constrict the structure and to collapse the same at or near the door opening. In order to counteract these objections, it has heretofore been necessary to provide two additional elements that add to the expense of making the silos: first, to strengthen the structure at or near the door opening by reinforcing the same in the usual way in which every door opening is strengthened, viz., by providing a reinforcing frame composed of two or more planks or boards against which the doors may abut;

and, second, to provide braces across the door opening to prevent the collapsing of the same. As stated, these additional elements are more or less expensive to make in the first instance, and also more or less expensive to construct and place in operative condition.

The principal object of this invention therefore is to provide a structure in which the objectionable constricting and collapsing features are entirely eliminated; all of which will be more fully hereinafter set forth and appreciated by those skilled in the art.

In constructing a silo in accordance with these improvements I prefer to make it in the usual manner by forming the main circular body portion of a plurality of staves or similar elements *c*, as shown particularly in Fig. 1. These staves are matched, that is, tongued and grooved together, as shown at *d*, throughout their entire length, as is usual and well known to those skilled in the art. To hold the structure rigidly in desired position and in condition to form either a silo or granary, I provide a plurality of non-continuous bands *e*, which have their free ends arranged opposite the door opening *f*. To anchor these non-continuous bands in position, brackets *g* are provided, which have in-turned lips *g'* and which are secured by means of bolts *h* to the strips or staves *c'* arranged at each side of the door opening. The non-continuous bands are provided with threaded end portions *e'* and with lock nuts *e''* adjustably secured thereon and which, as will be seen, act to anchor or hold the non-continuous bands firmly therein. It will be seen from an examination of Figs. 1 and 4 that the non-continuous bands not only eliminate all constricting effect, but have a tendency to unroll or straighten the silo body—that is, they tend to develop the structure into a flat plane. In order to prevent this, as well as to firmly secure the non-continuous bands in position, I provide an adjustable bar *i*, and slot or perforate the angular ends thereof and then engage it with each of the free ends of each of the non-continuous bands, as shown in the drawings. This bar is adjustably held in position by means of threaded nuts *k*. Practically the only action this adjustable bar has is to prevent the non-continuous bands from straightening the

structure out, and by this means, and this means only, the structure is firmly held in operative position.

To complete the structure I provide, as is usual in silos, a plurality of doors *m*, which are held in position against the inner sides of the staves *c'* at each side of the door opening by means of a spring-shaped hook *p*, as shown in Fig. 1. I also provide a weather strip of felt or cushioning material *r* between the edges of the door and the door opening, to protect the contents of the silo, that is, to keep out dirt and moisture. Handles *t* are also provided for said doors, as shown in Figs. 1 and 2, so that the handling thereof may be facilitated.

From the foregoing description of construction and operation it will be seen that I have entirely eliminated the two serious objections of constricting and collapsing, and, consequently, the two elements of reinforcing and bracing, all of which will be

understood and appreciated by those skilled in the art.

I claim:—

A silo having its side wall composed of matched staves and having a vertically continuous door opening, perforated brackets attached to the edge staves of said door opening and having portions hooking around the edges thereof, bands extending around the staves and having their ends projecting through said brackets, spaced nuts on the projecting ends of the said bands, and removable bars across the door opening with out-turned notched ends engaging the ends of said bands between the nuts thereon.

In testimony whereof, I have subscribed my name.

HARRY C. MORROW.

Witnesses:

C. B. STAHL,

H. W. GALHULY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents" Washington, D. C."