

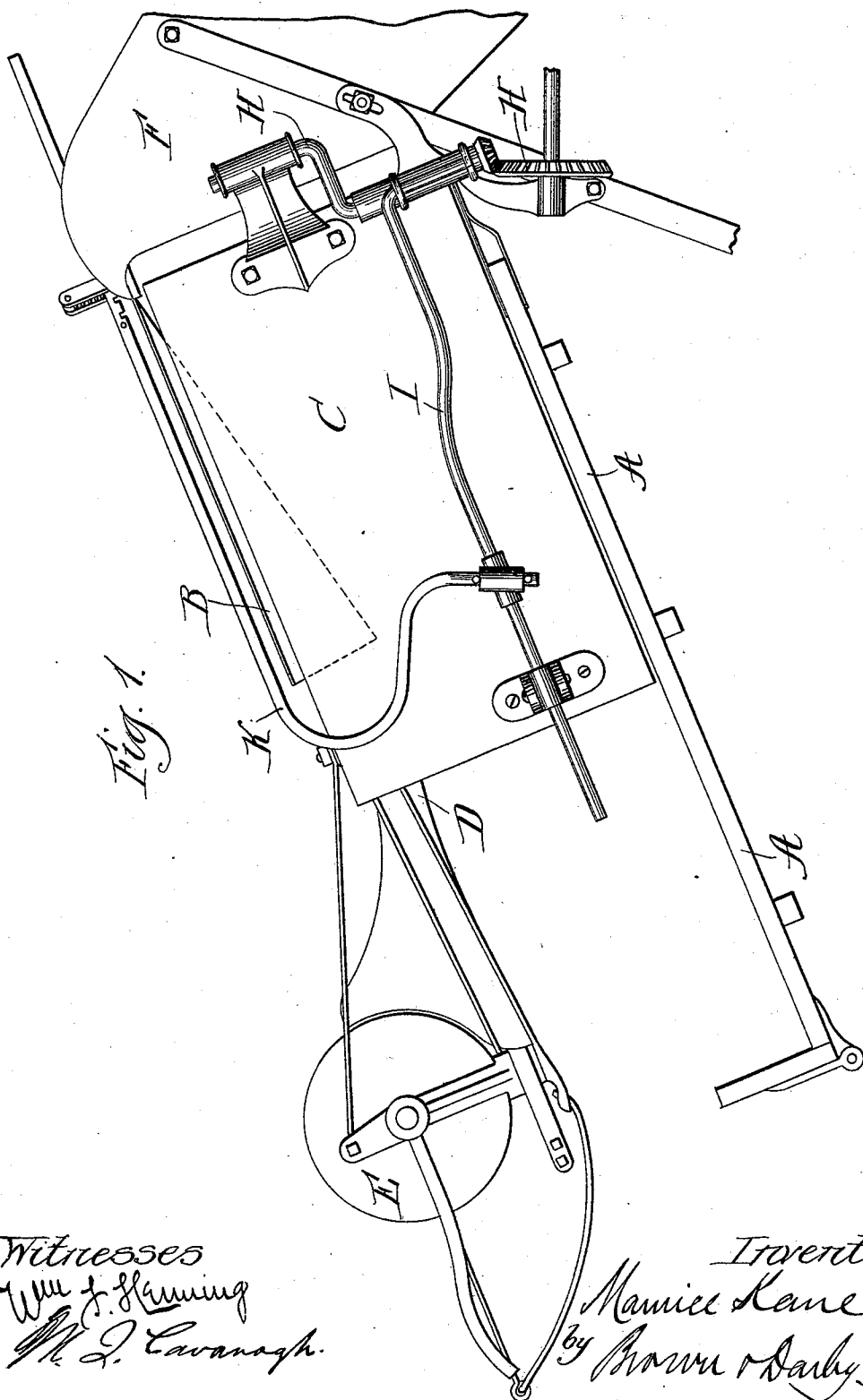
(No Model.)

2 Sheets—Sheet 1.

M. KANE.
GRAIN BINDER.

No. 536,571.

Patented Mar. 26, 1895.



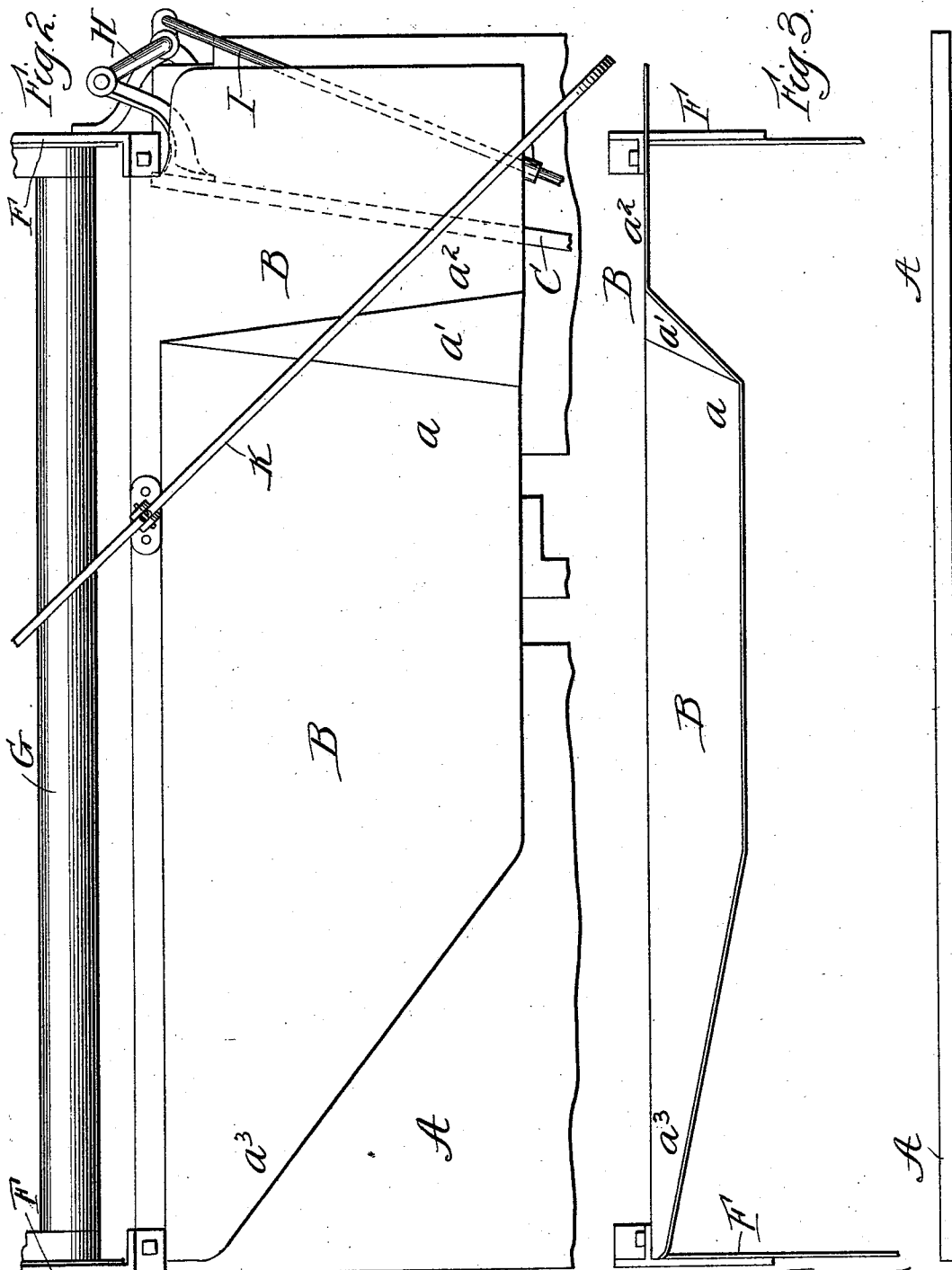
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M. Q. Lavanagh.

Inventor
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UNITED STATES PATENT OFFICE.

MAURICE KANE, OF AUSTIN, ILLINOIS, ASSIGNOR TO THE WARDER, BUSH-
NELL & GLESSNER COMPANY, OF SPRINGFIELD, OHIO.

GRAIN-BINDER.

SPECIFICATION forming part of Letters Patent No. 536,571, dated March 26, 1895.

Application filed December 22, 1894. Serial No. 532,668. (No model.)

To all whom it may concern:

Be it known that I, MAURICE KANE, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Grain-Binders, of which the following is a specification.

This invention relates to an improvement in grain binders and its object is to improve the construction of the binder cover.

The invention consists substantially in the construction hereinafter described and more particularly pointed out in the claims.

Like letters refer to the same parts in the several figures of the drawings, in which—

Figure 1 illustrates a side elevation of the binder deck, binder cover, butter and adjoining parts. Fig. 2 is a plan view of the same. Fig. 3 is an end or front view of the binder deck and binder cover.

The binder deck is of the usual form and construction, and is designated in the drawings by the letter A. The binder cover is a peculiar construction, which will be hereinafter set forth, and is designated in the drawings by the letter B. The butter is of the ordinary construction and is designated in the drawings by the letter C. The breast plate is of a well known form and is designated in the drawings by the letter D. The knottor mechanism, or a portion of the same as shown in Fig. 1 of the drawings, is of a recognized type and is designated by the letter E.

A suitable frame for sustaining the various parts is partially shown in the drawings and is designated by the letter F, and the mechanism for giving movement to the butter is illustrated in Figs. 1 and 2 as a necessary part of the butter, but no detailed description is required thereof, for it is of a well known pattern, and is designated in the drawings by the letter H.

The guide rod for the butter contains nothing especially new, and is designated by the letter I. The curved rod shown more particularly in Fig. 1 and in plan in Fig. 2, designated by the letter K, is the customary rod for adjusting the position of the guide rod, and needs no special description.

G designates one of the elevator rollers which is shown in Fig. 2.

When the grain is delivered from the elevator it falls upon the binder deck and its butts are evened by the butter, said grain being meanwhile confined between the binder deck and the binder cover. In the usual form of machines this binder cover consists of a plate which extends over the binder deck from a point adjacent to the upper end of the elevator to a point adjacent to the inner end of the breast plate, and above the packer arms, whereby the grain is held down to the action of the packer arms. As ordinarily constructed, this binder cover is not parallel with the binder deck, but is inclined about as shown in the lower dotted line of Fig. 1 of the drawings. The incline of the binder cover has two advantages, first, to provide sufficient storage room at the point where the elevator delivers the grain; and, secondly, to hold the grain down to the packer arms and not much higher than the lower portion of the inner end of the breast plate. With such a construction as has just been described, that is, where the entire surface of the binder cover is at an incline, it is necessary to have the movement of the butter or butt-board outside the end of such binder cover, or else, cut such butt-board away for a portion of its height. There are objections to either of these plans. If the butt-board works entirely outside instead of partly underneath the binder cover, the ends of the grain will work out between the upper edge of the butter and the outer edge of the binder cover, and so not be delivered in an even bundle to the tying mechanism. If, on the other hand, the butter is cut away on its top surface to allow it to move under the binder cover, it must be cut away at a greater incline than the binder cover, for the reason that the butter is constantly moving, and unless its highest point is lower than the lowest point of the binder cover under which said butter moves, there will be a wedging action between the surface of the two parts which would be disastrous to the working of the machine; and if the highest point on the butter is as low as the lowest point of the binder cover, under which it moves, then, for a portion of the time of its movement there will be considerable space between the upper edge of the butter and the highest point of the inclined binder cover,

within which space grain may work, and so the bundle be made uneven. To avoid these difficulties is the purpose of the present invention. Accordingly, the binder cover here-
 5 in illustrated has an offset at one or both of its ends, as shown in Fig. 3, which offset provides room for the working of a full-sized rectangular butter.

Referring again to Figs. 2 and 3 the construction of the board will be understood by reference to the three letters of reference, a , a' , and a^2 . a indicates the greater portion of the binder cover, which is that part which does not overlap the path of the butter. a' is the
 15 transversely inclined section connecting the part a which overlaps the path of the butter with the part a^2 , which latter is made to extend in a practically parallel plane with the upper edge of the rectangular butter. By
 20 this construction it will be seen that the grain is held down to the packers by the part a , and room is provided for the movement of a close fitting butter under the part a^2 , so that the objections heretofore referred to as incident
 25 to the old construction are entirely obviated by this improved binder cover. As shown in Fig. 3 of the drawings, the side of the binder cover next the head board may be inclined as shown at a^3 , so as to allow for proper adjust-
 30 ment of the head board thereunder; but this is of comparatively little importance.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In a grain binder, the binder cover, hav-
 35 ing the main portion thereof extending toward the knotter mechanism in a different plane from the plane of the binder deck and a smaller

portion of such cover forming an offset the end surface of which extends toward the knotter mechanism in a plane substantially parallel
 40 with the upper surface of the binder deck; in combination with a binder deck, and a butt board adapted to operate in connection with such binder cover; substantially as and for the purpose set forth.

2. In a grain binder, the combination with a binder deck, of a binder cover, having the main portion of its end surface extended in a different plane from the upper surface of the binder deck, and a smaller portion extending
 50 in the same plane therewith, and a butter whose upper and lower edges are substantially parallel and closely fit the surfaces of the binder deck and offset portion of the binder cover; substantially as and for the
 55 purpose set forth.

3. In a grain binder, the combination with the binder deck, of a binder cover, having the main portion thereof extended in a plane at an incline to the plane of the binder deck, and
 60 an end portion of such cover extending in a plane parallel with the plane of the binder deck, and a butter board having its upper and lower edges substantially parallel with each other and with the parallel portions of the
 65 binder cover and deck, and having its range of movement extend within such cover; substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand this 20th day of December, 1894.

MAURICE KANE.

In presence of—

S. E. DARBY,

M. I. CAVANAGH.