(No Model.) 2 Sheets—Sheet 1.

J. M. FINCH.

CONVEYER FOR FLOUR BOLTS.

No. 263,036. Patented Aug. 22, 1882.

Fig. 1.

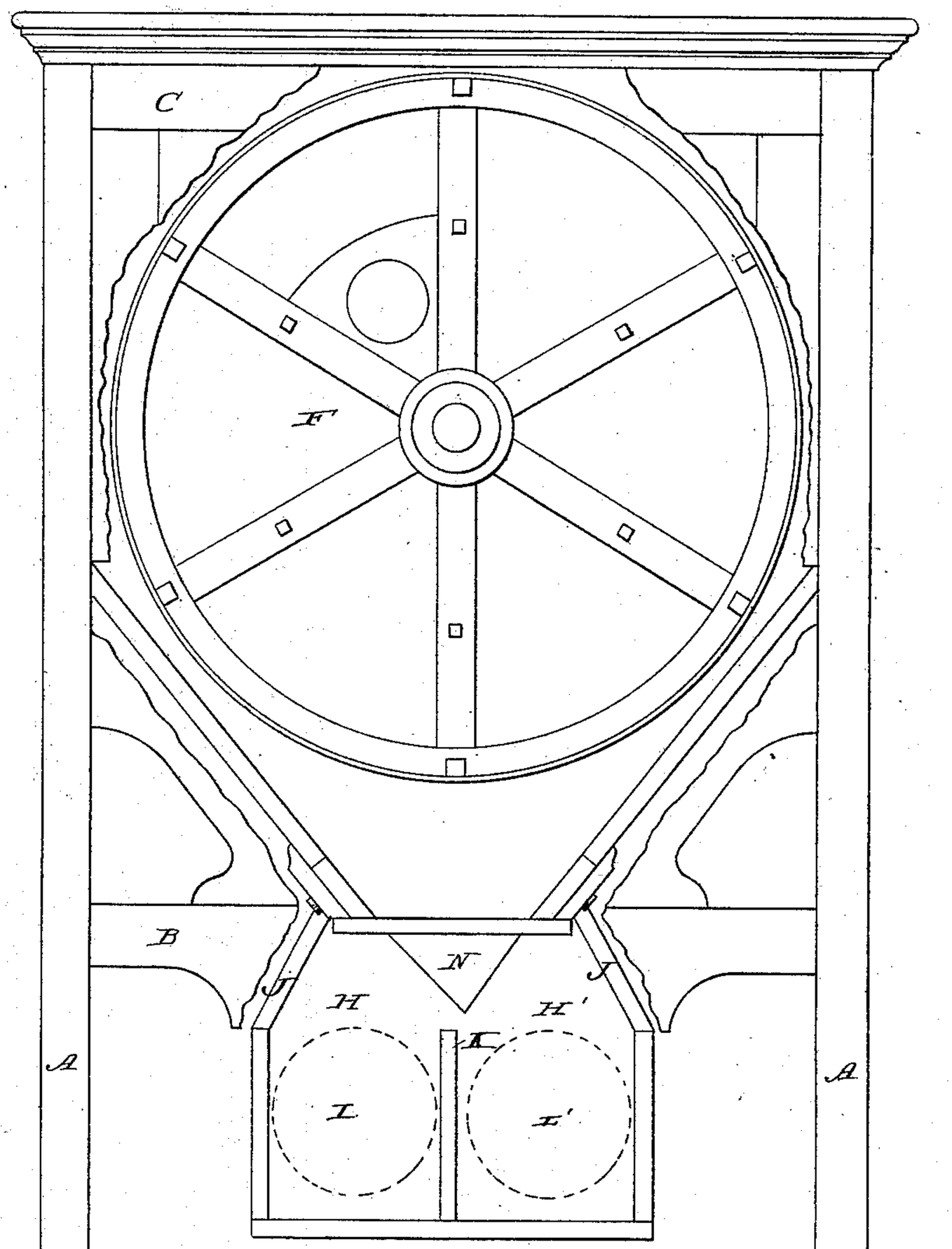
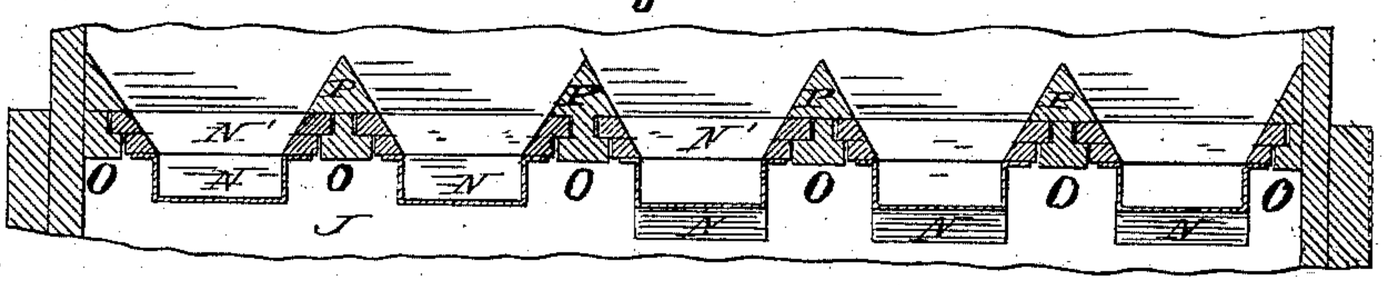


Fig. 1x.



Witnesses:

H. N. Low

J. S. Barker.

Inventor:

John M. Finch

by Dodgeson & Bliss

attys.

(No Model.) 2 Sheets—Sheet 2.

J. M. FINCH.

CONVEYER FOR FLOUR BOLTS.

No. 263,036. Patented Aug. 22, 1882.

Fig. 2.

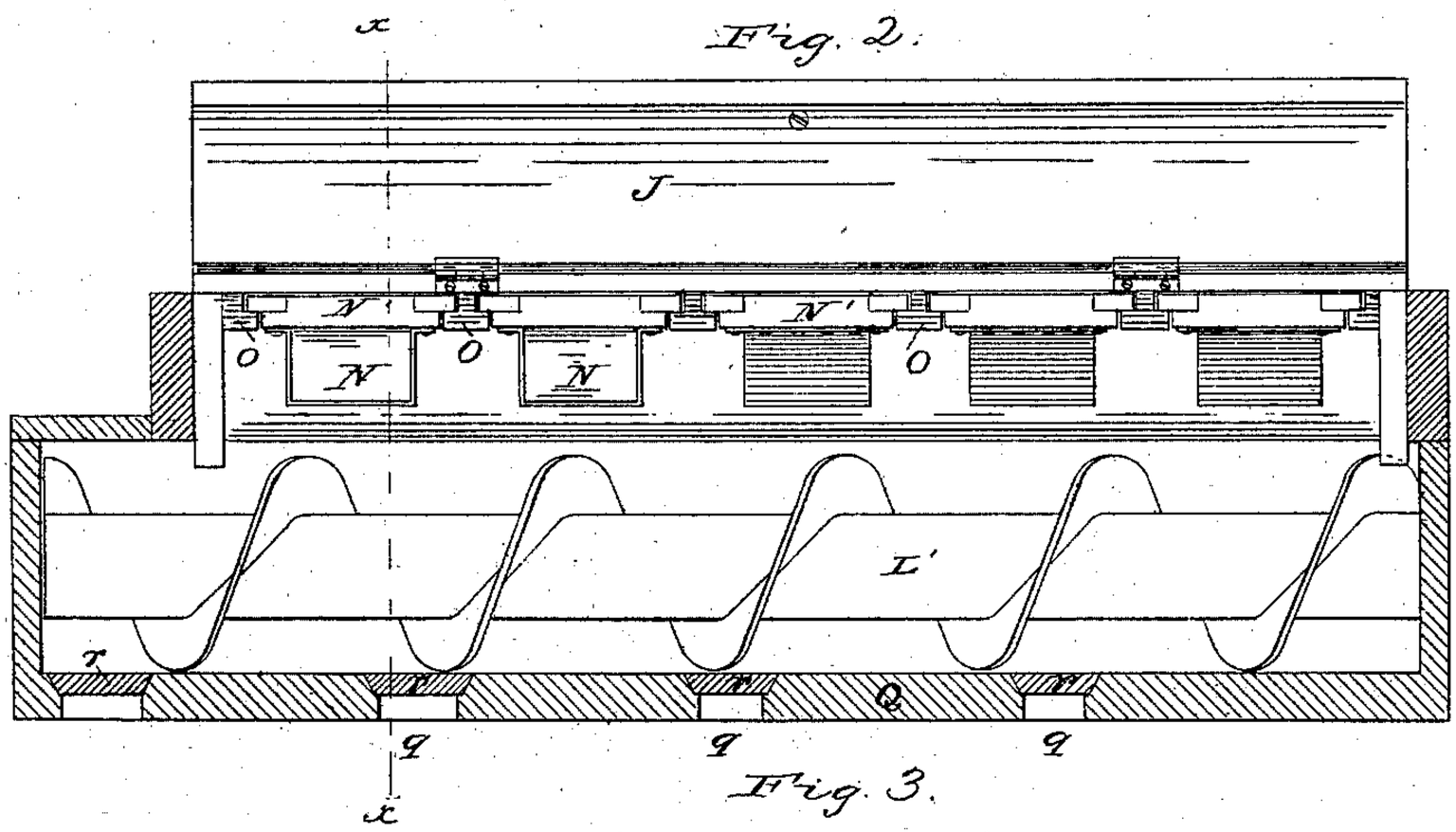


Fig. 3.

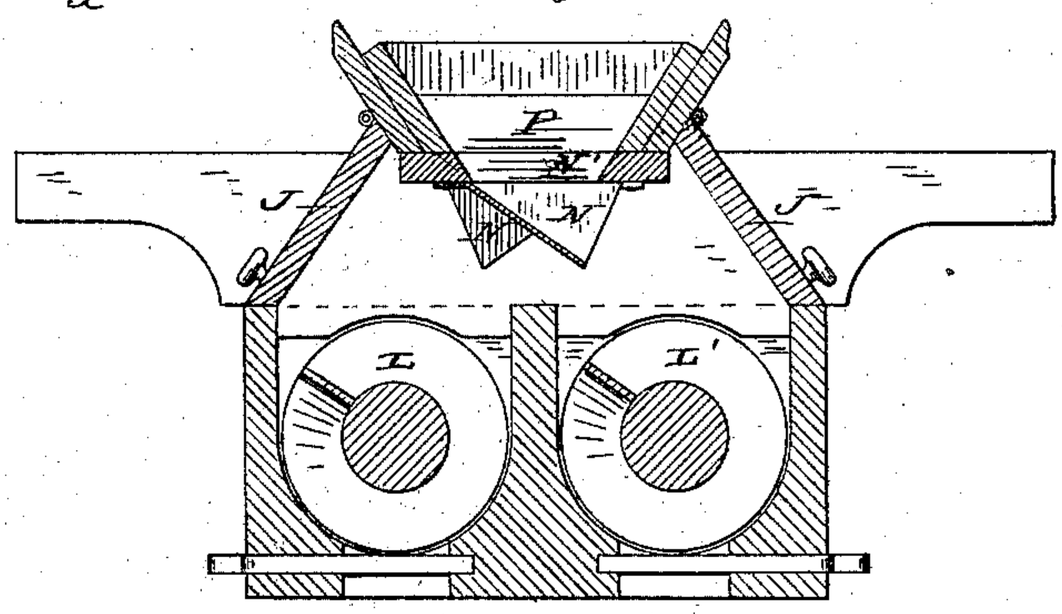
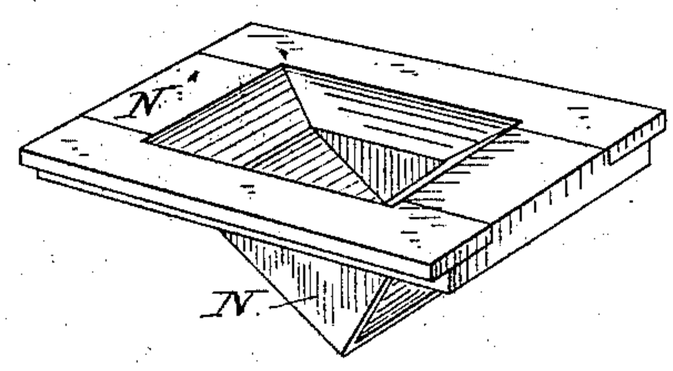


Fig. 4.



Witnesses:
N. N. Lowe
J. S. Barker.

Inventor:
John M. Finch
by Dodge, Bond & Bliss
attys.

UNITED STATES PATENT OFFICE.

JOHN M. FINCH, OF JACKSON, MICHIGAN, ASSIGNOR TO GEORGE T. SMITH MIDDLINGS PURIFIER COMPANY, OF SAME PLACE.

CONVEYER FOR FLOUR-BOLTS.

SPECIFICATION forming part of Letters Patent No. 263,036, dated August 22, 1882.

Application filed April 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FINCH, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented certain new and useful Improvements in Conveyers for Flour-Bolts, Middlings-Purifiers, Centrifugal Reels, and other Mechanisms, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is an end view of a mechanism embodying my improvements. Fig. 1× is a detail longitudinal vertical sectional view taken centrally of the machine. Fig. 2 is a longitudinal section of the conveyer-box, showing also the devices immediately above it in side elevation. Fig. 3 is a cross-section on the line *x x*, Fig. 2. Fig. 4 is a view of one of the reversible slides and spouts detached.

In the drawings I have shown my invention as being combined with a rotating bolt; but I do not wish to be limited thereby, it being apparent that it is equally adapted for use in connection with any screening, dressing, or purifying machinery, whether revolving, shaking, or oscillating, or other mechanisms with which it is necessary to combine a conveyer apparatus.

A represents vertical posts, B a bottom cross-piece, and C a top cross-piece, of the main frame, which in its details may be of any preferred construction. It supports a casing or housing in which the rotary reel F is shown to be mounted. The material is fed to the reel in any suitable manner, and that portion which passes through the cloth is guided downward into the conveyer-apartments H H′ below. Preferably a hopper of substantially the construction shown is employed for this purpose of collecting and guiding the material. The conveyer-apartments, also, may in their details be of any well-known character, except that they are arranged side by side in substantially the same horizontal plane, being separated by a partition, K.

L L′ represent the conveyers mounted in the respective apartments. They can be arranged to accomplish any of the purposes for which conveyers of this character are employed.

Instead of the slides ordinarily combined with conveyers, I employ devices of a superior nature to effect a sharp and perfect cut-off. The means which have heretofore been used for this purpose have not insured a perfect separation, as they do not obviate the tendency of the conveyers to carry more or less of the respective materials beyond the points of cutting off; and in using short bolts, reels, or screens, it is desirable to completely prevent any one of the divided materials from passing its proper point of separation. This cannot be done with the ordinary conveyers and slides. In my construction the material is delivered to the proper conveyer by reversible spouts N. They can be arranged to throw the material either into the conveyer L or the other, L′. Preferably they are supported by means of plates or boards N′, each of which has an opening, through which the material can pass to the inclined bottom of the spout. The plates or boards can be held in place below the bottom of the hopper in any suitable manner. I have found it convenient to support them in ways formed by cleats O O, adapted to guide the plates or boards. The plates, and with them the spouts, can be reversed from either side of the machine.

In order to preserve a sharp division of the materials as they fall from the reel or bolt, I prefer to use beveled cross-pieces P P in the bottom of the hopper, though they are not essential, they serving to assist in guiding the respective masses to their proper spouts.

J J represent doors, arranged to close the upper side of the conveyer-apartments and extending from end to end of the reel or bolt. They permit an inspection of all the materials at once which are descending, and are much better than the means heretofore used for this purpose. They, moreover, permit a ready access to the spouts and plates and allow free room for their being reversed, and, from examination of the drawings, it will be seen that when the doors are closed their inner faces are in close proximity to both ends of each of the slides, so that the slides are thereby held in proper relation to the open lower part of the hopper. It will also be seen that when insert-

ing a slide from either direction the closed door upon the opposite side of the machine serves as a stop to insure that the slide shall not be thrust too far in. So, also, the fact that a slide is pushed in far enough to permit the door through which it was inserted to be closed is a guarantee that the slide has been pushed in to a proper working position.

It is many times desirable to get access to a conveyer-box for the purpose of examining the material passing into it from the bolting-chest, and also to remove obstructions; and it is apparent that the removability or opening of the doors is rendered possible by supporting the slides wholly upon the lower part of the hopper, and this manner of supporting them permits the opening of the doors, which, in my construction, is essential, in order that the slides may be removed, turned end for end, and then replaced, it being obvious that the doors could not be thus opened or removed if the slides were supported upon them, the doors constituting, also, practically portions of the inclosing sides of the conveyer-box.

The bottoms of the spouts are of such length that the materials guided down by them respectively will be carried beyond the central partition, K, in whichever position the spouts may be placed—that is, whether they be turned to deliver to one conveyer or to the other.

It will be seen that with these devices a perfect cut-off can be secured at any desired points.

By making the slides to be removed from the machine and reversed—that is, turned end for end in order to deliver material to one or the other of the conveyers—I am enabled to make them of a length but little greater than the width of the bottom of the hopper, one advantage of such construction being that it enables me to economize lumber in the doors, because I can make them of the width of the space between the upper edges of the sides of the conveyer-box and the nearest point of the hoppers. Another advantage is that I can hang the doors in inclined positions, so that their weight shall hold them closed tightly; and the third advantage is making the doors serve as stops to insure that the slides shall, when the doors are closed, be in proper working position relative to the lower part of the hopper and the conveyer.

If desired, the bottom Q of the conveyer-box may have openings, as at *q*, and slides or paddles, as at *r*, for closing them, whereby the material which is carried by the conveyer may be cut off at different points.

Although I have shown in the drawings a conveyer of greater length than the reel-chest above it, and extending at one or both ends beyond said reel-chest, I do not wish to be limited to that construction, as the length of the conveyer relative to that of the chest may be varied.

What I claim is—

1. In a flour-dressing machine, a receptacle having an opening in the bottom for the passage of the material, in combination with horizontally-sliding cut-offs supported upon the receptacle and independently of the conveyer-casing, and adapted to be removed from the machine and reversed, substantially as set forth.

2. In a flour-dressing machine, a conveyer, a hopper arranged above the conveyer, and horizontally-sliding removable and reversible cut-offs between the conveyer and the bottom of the hopper, in combination with movable stops adapted to engage with the ends of the cut-offs, substantially as set forth.

3. In a flour-dressing machine, the combination, with the conveyers, a hopper above the conveyers, and the horizontally-sliding cut-offs, of the movable doors adapted to permit an examination of the material and the removal of the cut-offs, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN M. FINCH.

Witnesses:
MYRON W. CLARK,
GEO. S. BENNETT.