

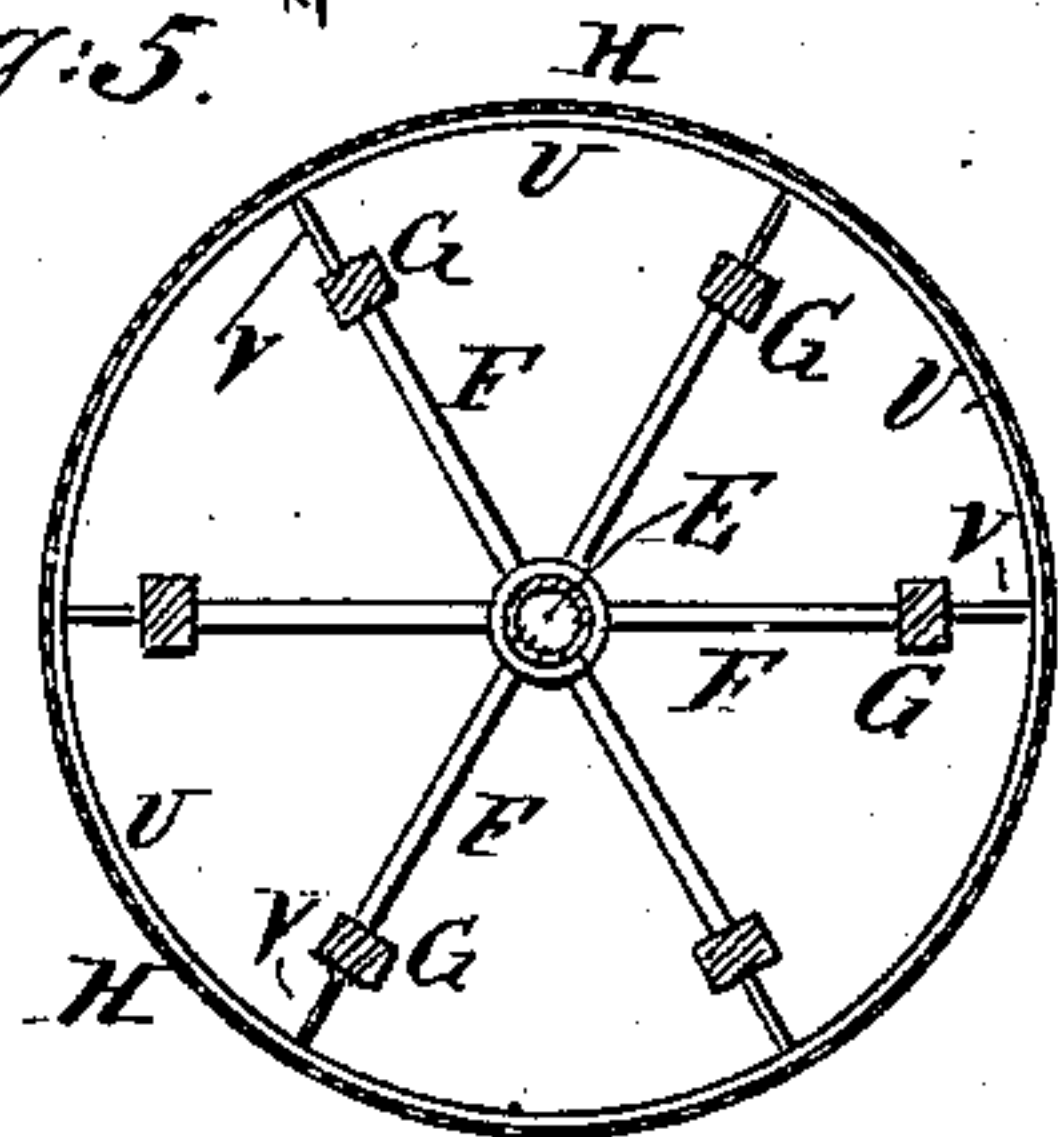
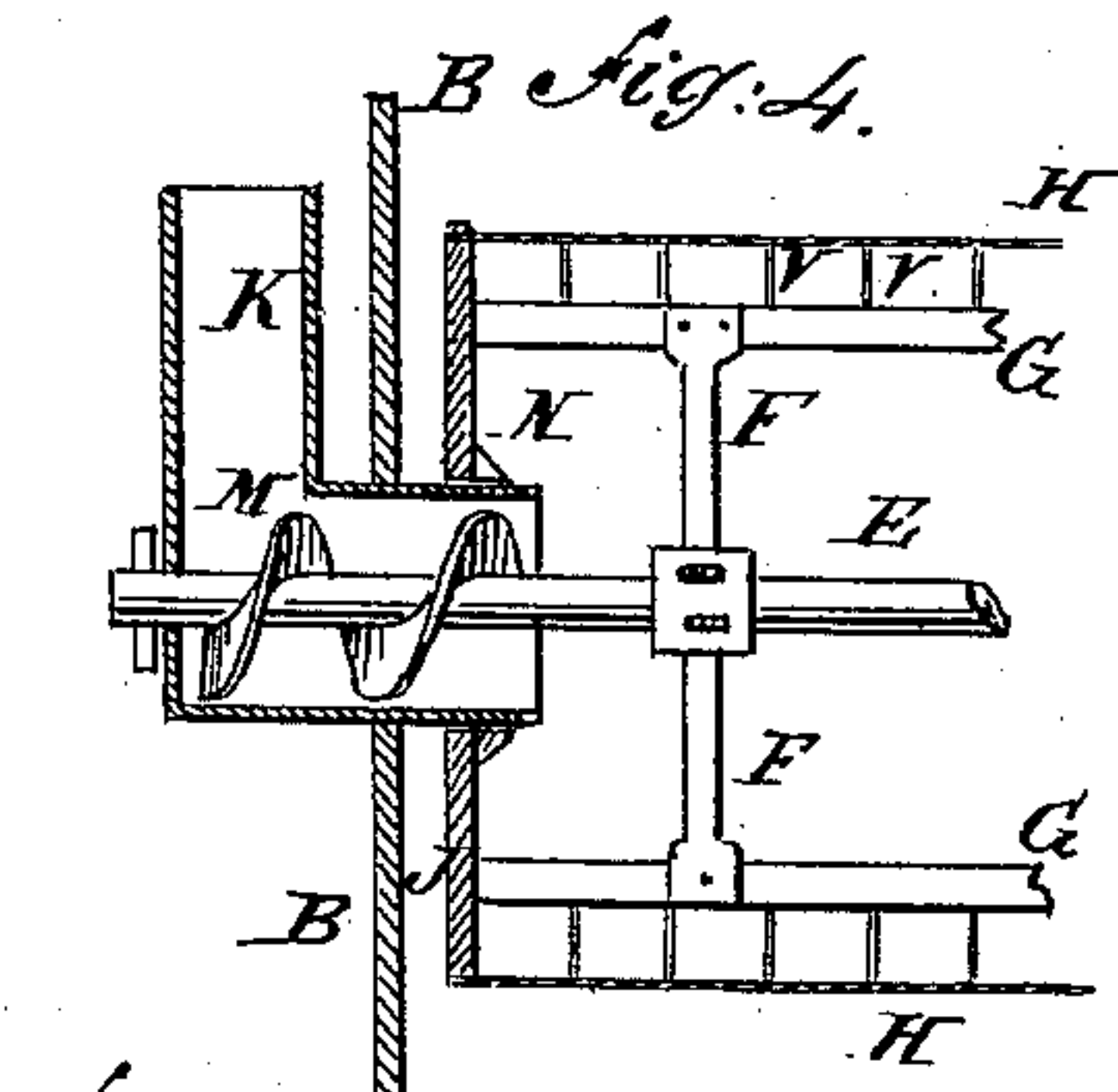
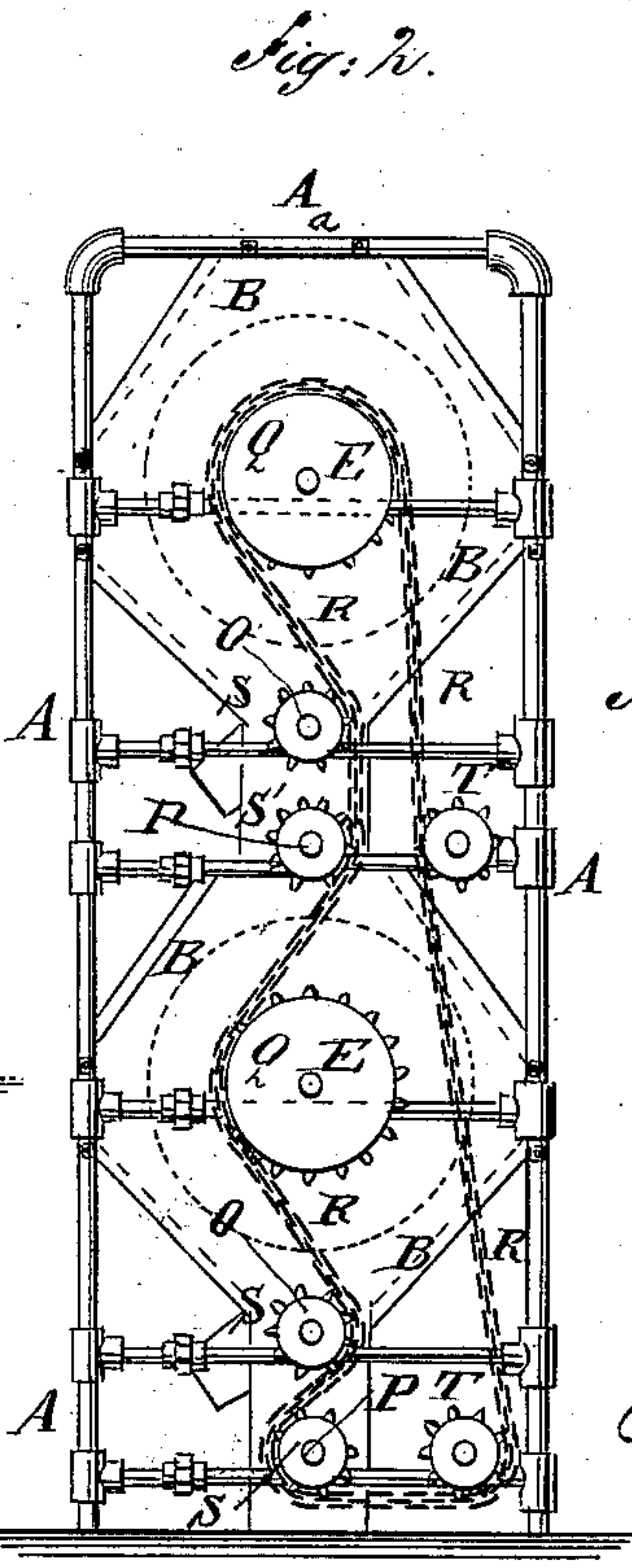
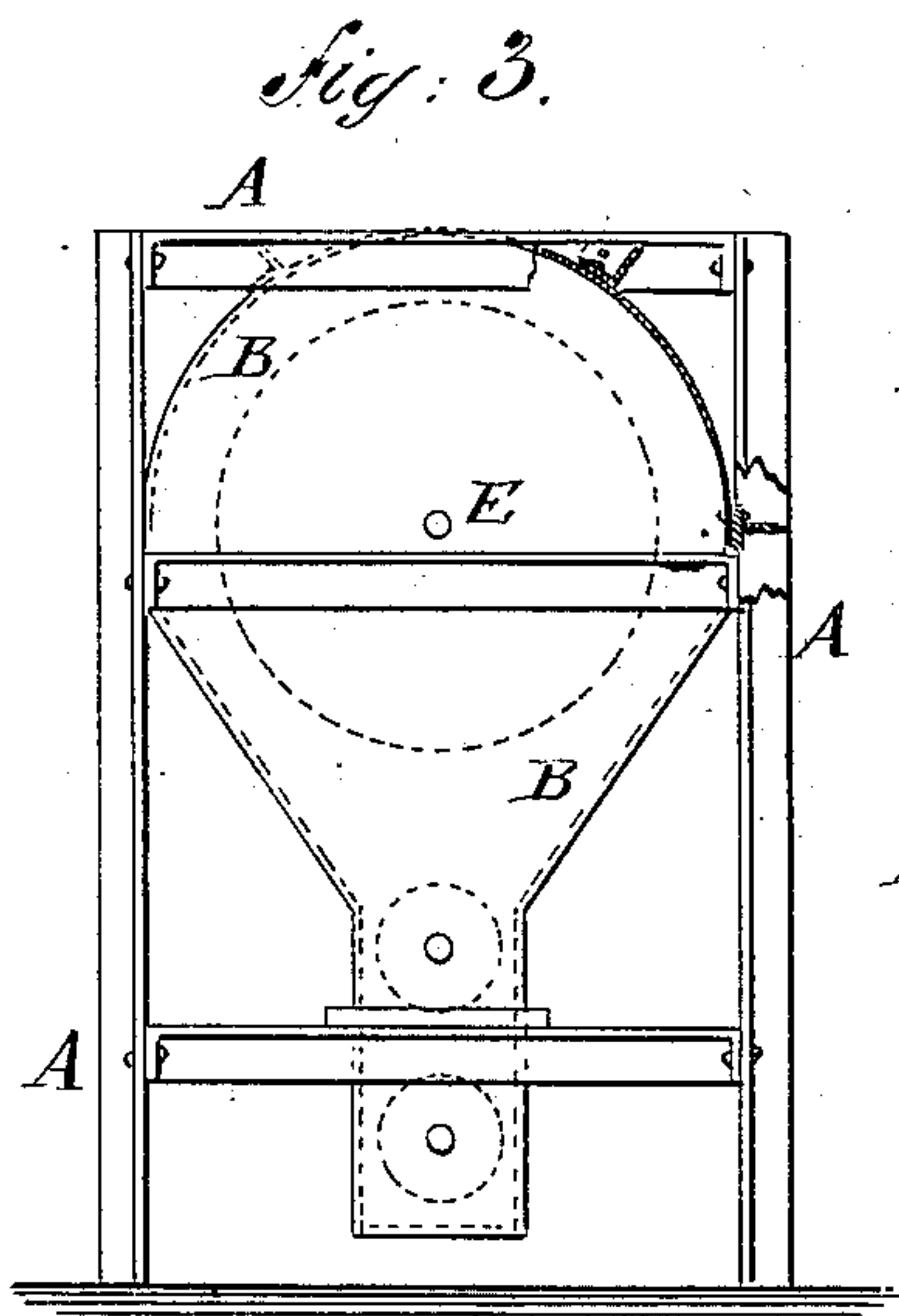
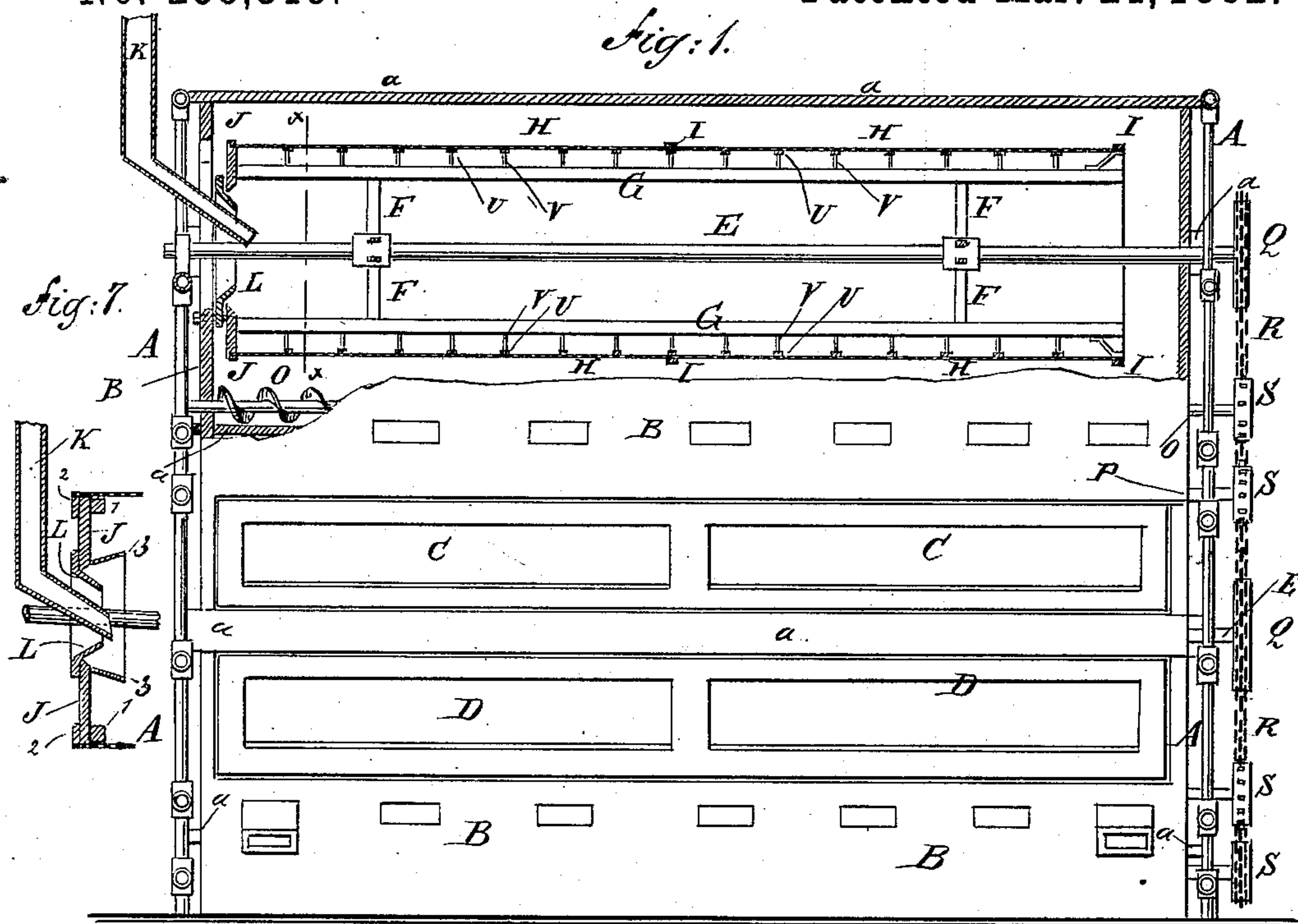
(No Model.)

J. N. McCONNELL.

FLOUR BOLT.

No. 255,315.

Patented Mar. 21, 1882.



WITNESSES:

Chas. Rida.
C. Sedgwick

INVENTOR:

J. N. McConnell
BY *Mum Ho*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSIAH N. McCONNELL, OF LAWRENCE, KANSAS.

FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 255,315, dated March 21, 1882.

Application filed November 4, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH NEWTON McCONNELL, of Lawrence, in the county of Douglas and State of Kansas, have invented a new and useful Improvement in Flour-Bolts, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, of my improvement. Fig. 2 is an elevation of the tail end of the same. Fig. 3 is an end elevation of a part of the same, showing a modification of the frame. Fig. 4 shows another arrangement for introducing the chop. Fig. 5 is a sectional end elevation of the reel, taken through the line *xx*, Fig. 1. Fig. 6 is a perspective view of a metal reel-stud. Fig. 7 shows a modification of the reel-head.

The object of this invention is to increase the efficiency of flour-bolts, economize space, and lessen the cost of construction.

The invention consists in a novel construction and arrangement of parts, as hereinafter fully described.

A represents the end frames of the bolt, which are made of gas-pipes connected by screw-couplings, and which are designed to be so made that they can be separated easily. The end frames, A, are connected at the top and sides and at the bottom of the first conveyor by boards *a*, secured to the said frames by joint-bolts or by rods running the whole length of the bolt. The boards *a* form a base for the doors and a support for the hopper-boards or casing B. If desired, gas-pipe can be used instead of the boards *a*. The bolt is thus made in two or more separable sections, so that it can be readily taken through the door or window of the mill, allowing the bolt to be put together at the manufactory and shipped ready for use.

In Fig. 3 the frame A is shown as constructed of angle-iron bars bolted together, so as to support the casing B and its attachments. The frames A can also be made of wood. The casing B can be made of wood or sheet metal, and is attached to the frame A. The casing B can be made square with truncated angles, as

shown in Fig. 2; or its upper part can be made semi-cylindrical, as shown in Fig. 3. The casing B is made with doors C in its upper part and doors D in its lower part or hopper to give convenient access to the interior of the bolt. The panels of the doors C D can be made of glass to allow the interior of the bolt to be inspected without opening the doors.

E is the reel-shaft, which can be made of wood or metal, and which revolves in bearings attached to the frame A. To the shaft E, or to hubs, collars, or spiders secured to the said shaft, are attached arms F, which are arranged in pairs, and to the outer ends of each pair is attached a rib, G.

To the ribs G are attached series of short studs V, to the outer ends of which are attached narrow bands U, of half-oval iron, sheet metal, or other suitable material, and covered with cloth or uncovered, and over which the bolting-cloth H is stretched. The studs V have their ends bent in opposite directions at right angles to their length, and are perforated to permit of their being attached to the ribs and the metal bands. The bolting-cloth H is secured to the head of the reel in the usual manner, and to wooden hoops I, placed upon the reel at its center and tail, the reel-cloth being thus attached at three points and left free at all other points.

The head J of the reel has a circular opening formed through it to receive the inlet or feed spout K, and has its inner edge beveled, as shown in Fig. 1. The spout K also passes through a circular plate, L, through the center of which the reel-shaft E passes, and which is bolted to the head of the casing B, so as to be held stationary. The edge of the plate L is beveled and overlaps the inner edge of the head J, so that no speck-box will be required. If desired, the inlet-spout K can enter the center of the head of the reel horizontally around the reel-shaft E. In this case a spiral flange, M, should be attached to the said reel-shaft to convey the chop into the reel, and a conical plate, N, should be attached to the spout K to rest against the head J of the reel to make a close joint and prevent the passage of specks.

If desired, the reel-head J and the stationary plate or pipe L can be made of cast-iron and turned in a lathe, so as to make a close

joint. Upon the head J are formed sockets 1 to receive the ends of the ribs G. To the outer part of the outer side of the head J is secured an annular plate, 2, of wood, for the bolting-cloth to be attached to. To the inner part of the inner side of the head J is secured, or upon it is formed, a flaring ring-flange, 3. With this construction the flange 3 will catch all the chop that falls from the top of the reel. The head J can also be made of wood, if desired.

Beneath each reel are placed two conveyers, O P, which are operated in the ordinary manner.

To the ends of the reel-shaft E, at either end of the bolt, are attached gear-wheels Q, around which passes an endless chain, R, which also passes around chain-wheels S, attached to the ends of the shafts of the conveyers O P. The chains R can also pass around chain-wheels T, which may be attached to other conveyers, or may be guide-wheels or idlers to give proper directions to the chain.

Power can be applied to either of the reel-shaft journals by a pulley and band or other suitable gearing.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The end frames, A, composed of two or more sections detachably connected together, in combination with the connecting boards or rods *a*, detachably secured to the said end frames, substantially as and for the purpose set forth.

2. In a flour-bolt, the combination, with the reel-shaft E, the radial arms F, the reel-ribs G, the bolting-cloth H, and the metal bands U, of the short studs V, having their ends bent at right angles and perforated, substantially as and for the purpose set forth.

3. In a flour-bolt, the combination, with the reel-shaft E, the radial arms F, the reel-ribs G, and the reel-head J, of the short studs V, having their ends bent at right angles and perforated, the metal bands U, secured to the outer ends of the said studs, the bolting-cloth H, secured at one end to the said head, and the wooden hoops I, placed upon the reel at the center and tail, substantially as and for the purpose set forth.

JOSIAH NEWTON McCONNELL.

Witnesses:

DANIEL S. ALFORD,
CHAS. A. HASKINS.