

No. 687,990.

Patented Dec. 3, 1901.

W. E. LEIGHTON.
CAN CLEANER.

(Application filed Apr. 13, 1901.)

(No Model.)

2 Sheets—Sheet 1.

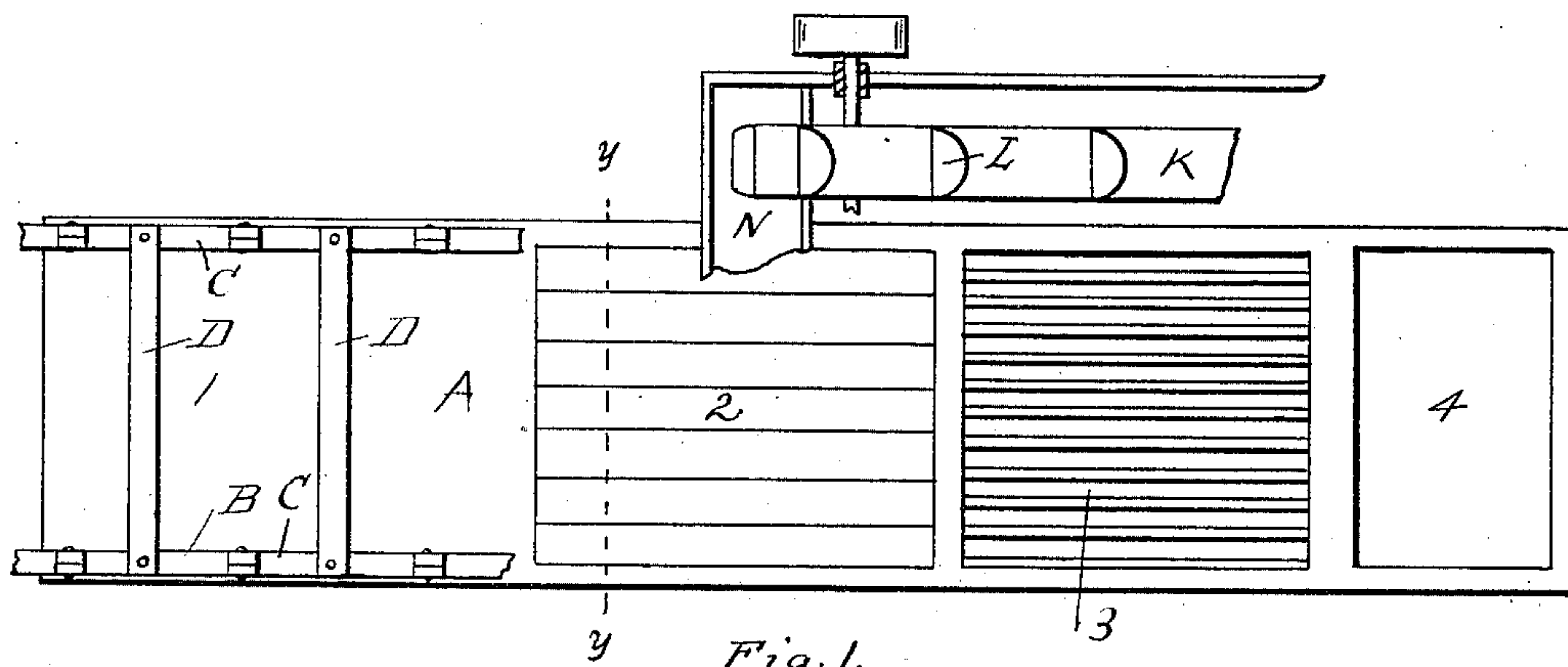


Fig. 1.

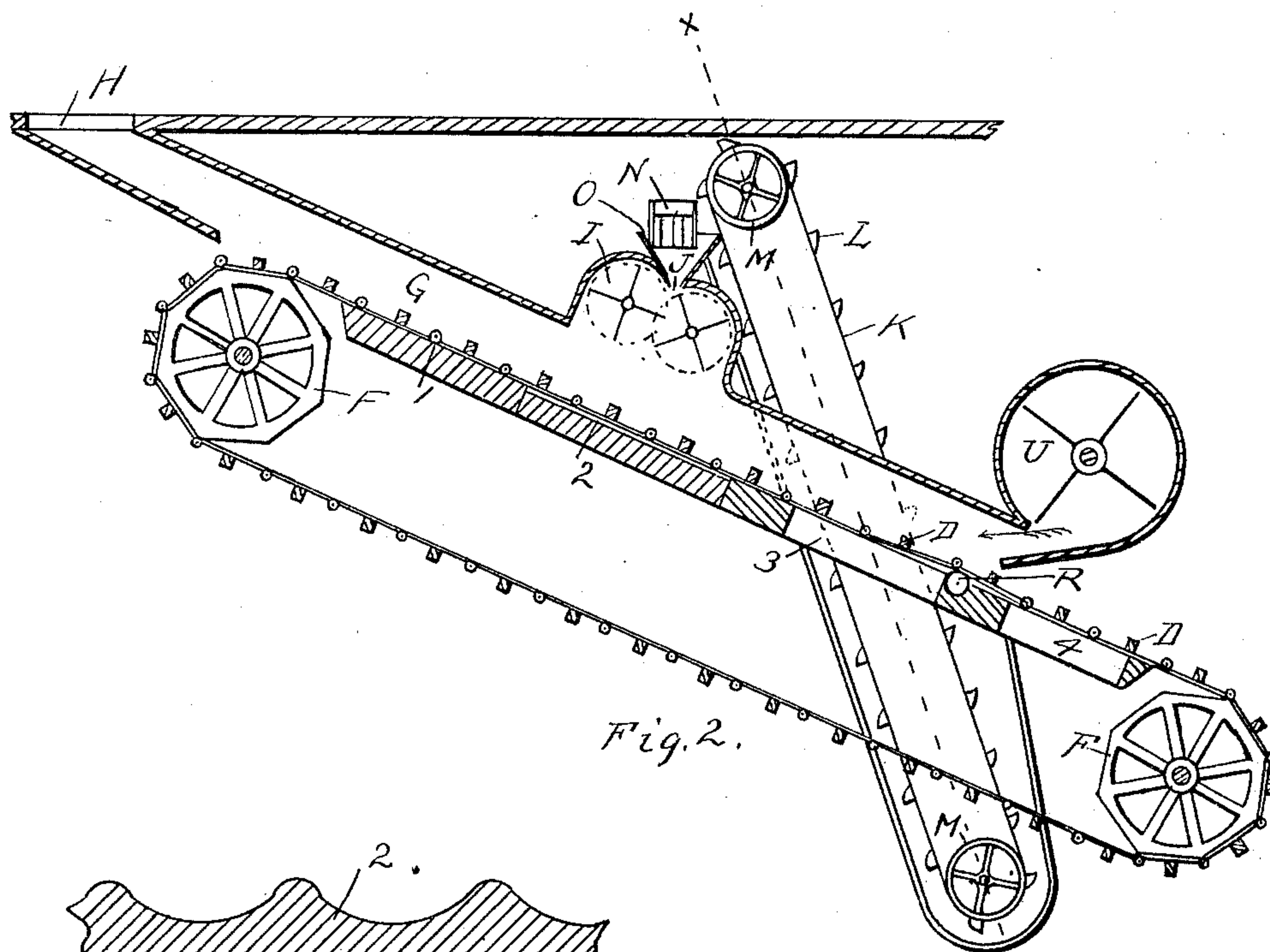


Fig. 2.

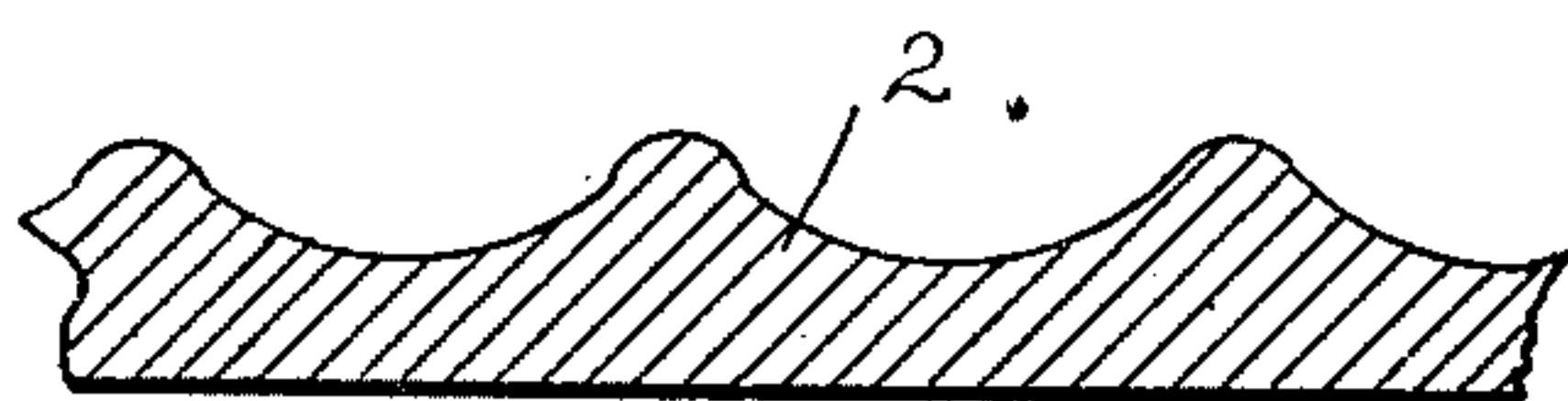


Fig. 3.

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2 Sheets—Sheet 2.

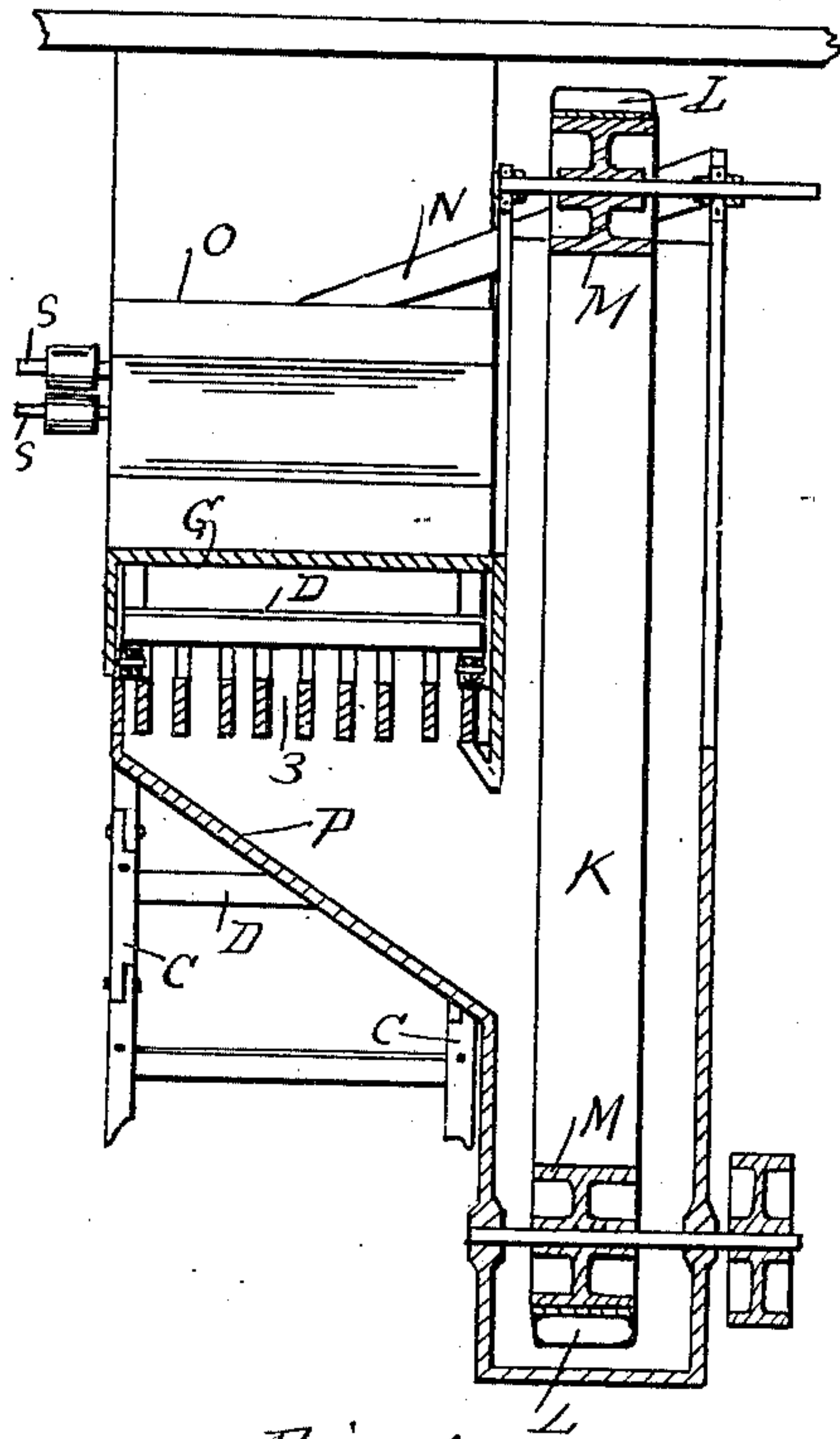


Fig. 4.

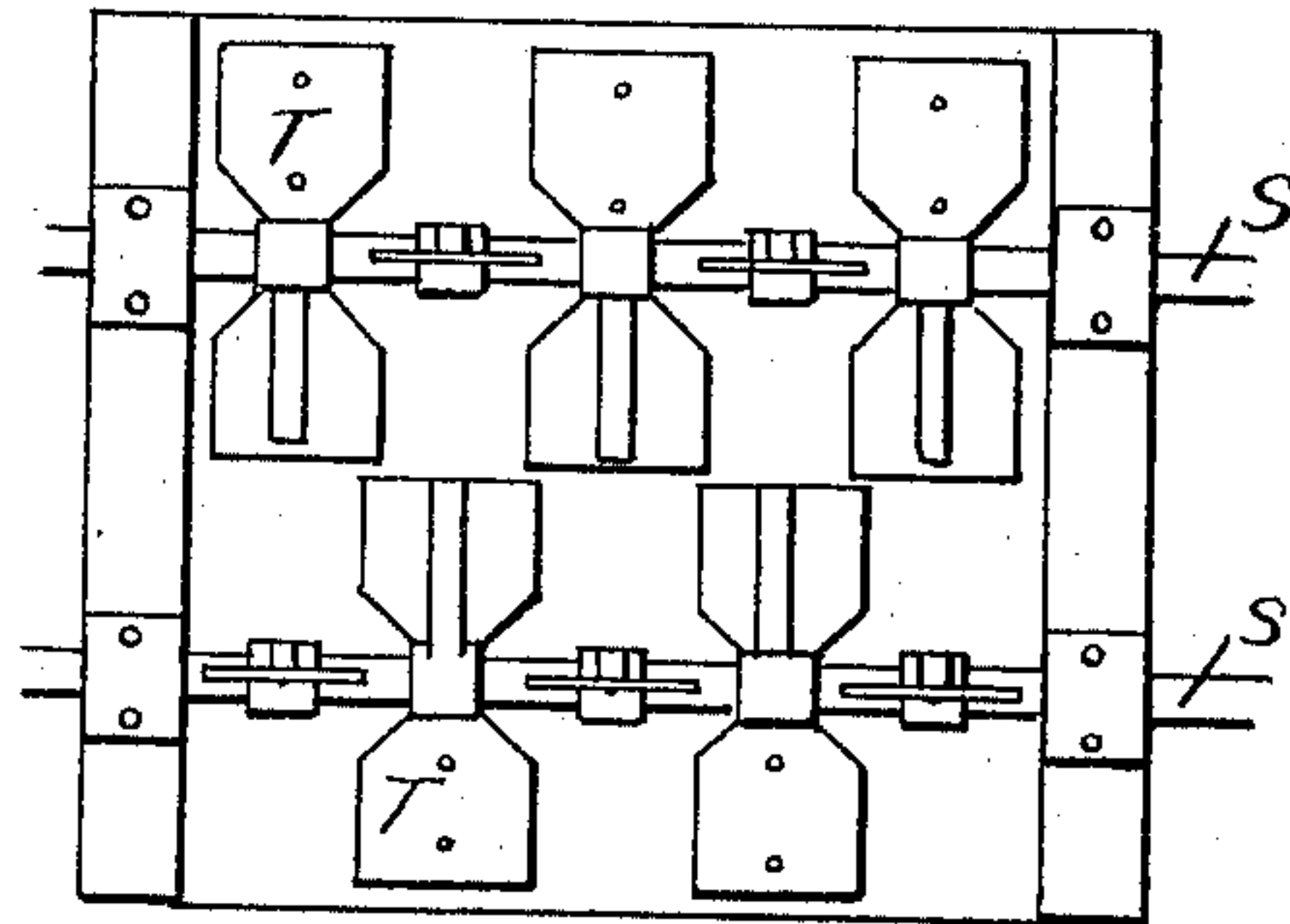


Fig. 5.

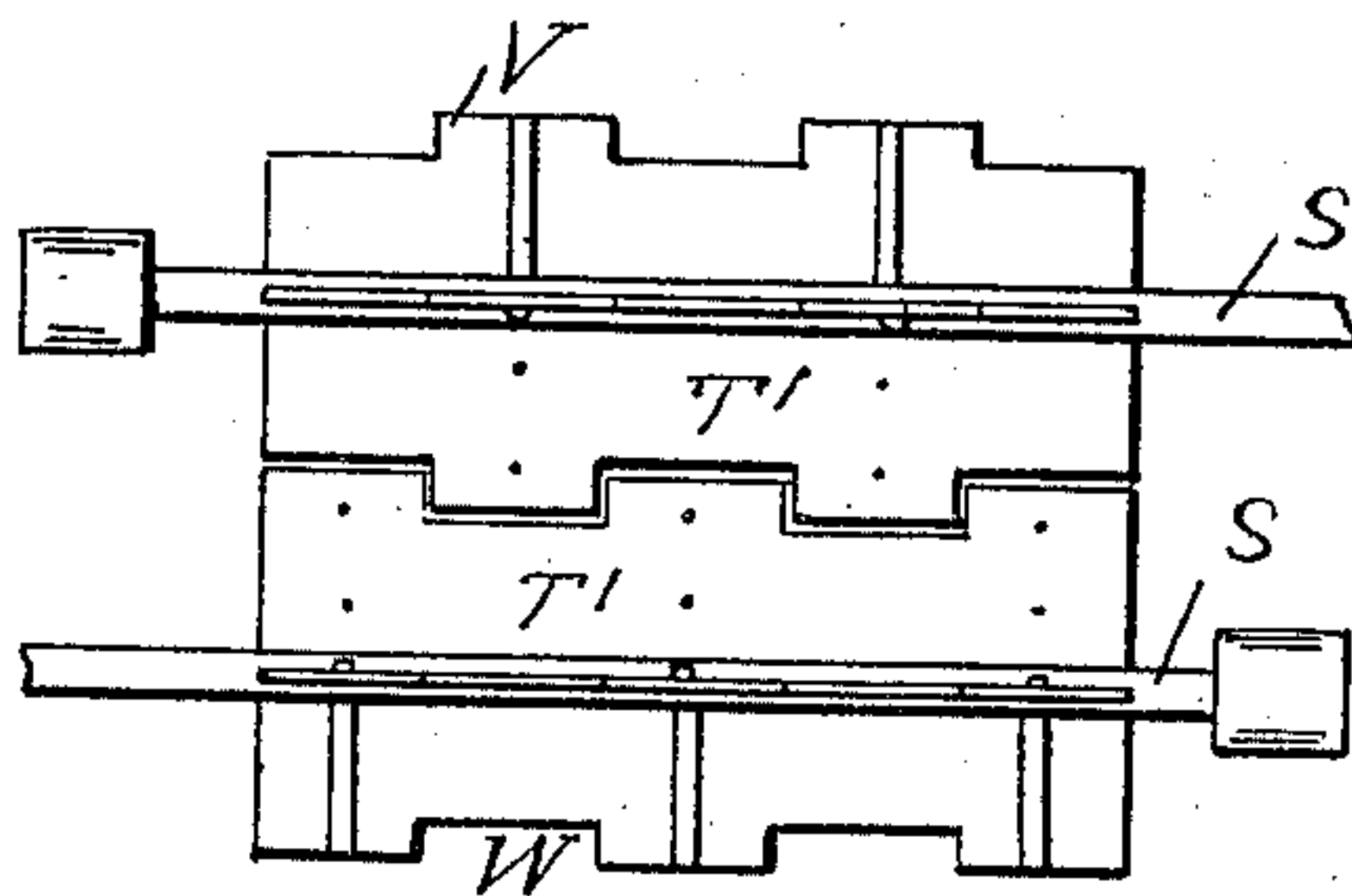


Fig. 6.

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UNITED STATES PATENT OFFICE.

WILLIAM E. LEIGHTON, OF PEMBROKE, MAINE.

CAN-CLEANER.

SPECIFICATION forming part of Letters Patent No. 687,990, dated December 3, 1901.

Application filed April 13, 1901. Serial No. 55,598. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. LEIGHTON, a citizen of the United States, residing at Pembroke, in the county of Washington and State of Maine, have invented certain new and useful Improvements in Can-Cleaners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in machines for cleaning cans, and more particularly to machines for cleaning the outsides of cans. It is especially designed for use in the sardine industry, but may be used wherever adapted.

In the process of packing sardines the cans in which they are packed when they come from the bath are covered with dirt, oil, and other substances and before they are prepared for market must be thoroughly cleaned. At present it is customary to clean them by subjecting them while hot to a bath of sawdust. So far as I am aware this has heretofore been done either by hand or by placing a quantity of the cans in a revolving drum containing sawdust, the cans being brought into contact with the sawdust by the revolution of the drum. Inasmuch as when the cans are heated the expanded air contained therein tends to bulge the can at the top and bottom it happens that in the revolution of the cans the jar caused by the tumbling of them together in said drum causes the fish to become displaced and broken in the cans. This method is also objectionable from the fact that the cans themselves are liable to be disfigured. Moreover, the process is slow, cumbersome, and more or less inefficient.

The object of the present invention is to obviate these difficulties. To accomplish this result, I have designed a machine consisting of a carrier adapted to convey the cans through a shower-bath or blast of sawdust and means for projecting the sawdust upon the passing cans. Auxiliary to this principal object and to better effect the result desired I have designed special means for facilitating the orderly conveyance of the cans to be cleaned, means for permitting the continual reuse of the sawdust until the same is unfit for further use, and means for subjecting the

cans to a blast of pure air after they have been passed through the sawdust-bath to further cleanse the same.

In the carrying out of my invention any suitable apparatus may be employed. I have illustrated one form of apparatus which seems well adapted for this purpose; but I do not intend thereby to limit myself to any special form of apparatus, and it will be apparent that certain of the details herein referred to may be omitted, if desired, without affecting the main purpose of the apparatus, and I do not intend to limit myself to the use of all the features herein described, only intending to limit myself as set out in the claims, which form a part of this application.

In the drawings herewith accompanying and making a part of this application, Figure 1 is a plan view of the table and sawdust apparatus, parts being broken away. Fig. 2 is a vertical longitudinal sectional view of my improved apparatus. Fig. 3 is a fragmentary transverse sectional view of the table, taken on line Y Y in Fig. 1. Fig. 4 is a transverse sectional view taken on line X X, Fig. 2. Fig. 5 is a plan view of the mechanism which applies the sawdust to the cans, and Fig. 6 is a plan view of a different mechanism for applying the sawdust to the cans.

The same letters and numerals of reference wherever applicable refer to like parts in all the figures.

In said drawings, A represents a table, over which passes an endless carrier B. An approved form of table for this purpose may have a smooth continuous surface 1 at the receiving end, an intermediate section contiguous to the sawdust-applying apparatus having a longitudinal channeled surface 2, so as to prevent the cans from lying flat upon the table and to admit the sawdust beneath the cans, an open reticulated surface 3 to permit the sawdust to fall through the table, and an open space 4 at the delivery end to permit the cans to pass off from the table.

The carrier may be of any suitable construction—for example, as shown, having jointed side bands C and transverse connecting-bars D, said transverse bars serving to give a forward movement to the cans delivered upon the table in the space between the successive bars. The carrier is given move-

ment by rotary drums F, located at suitable distances apart. The upper section of the carrier passes through a closed chute G, the upper end having an opening H, through which the cans are introduced upon the table. Suitably arranged above the table and carrier are one or more blowers or rotary fans I, adapted to project a spray of sawdust with considerable force through an opening J in the chute upon the cans passing beneath. The sawdust may be supplied to the fans or blowers in any convenient way, one of which I have shown in the drawings making a part of this specification. Adjacent to the conveyer mechanism and to one side thereof I arrange an endless carrier K, supplied with a series of buckets L, adapted to travel over drums M, arranged at suitable distances apart. An inclined chute N is adapted to receive the sawdust as it is discharged from the buckets and convey it into a hopper O, which feeds the fans or blowers. Beneath the open space in the table is a chute adapted to receive the sawdust discharged therethrough, said chute terminating in a well or bin through which passes the lower extremity of the carrier K, as shown in Fig. 2. After the cans have passed through the sawdust they are further cleaned by a blast of pure air introduced by a suitable blower U through an opening in the chute. Just in front of this blower in the table are rollers R, which extend slightly above the surface of the table and over which the jointed chains of the carrier pass, lifting the cross-bars D, so that air is forced under them, thus preventing them from delivering with the cans any sawdust that had passed over the reticulated space in the table.

The fans or blowers which force the sawdust upon the cans may be of any suitable construction. I have shown two different forms, but do not intend thereby to limit myself to the use of any particular mechanism for that purpose. In Fig. 5 it consists of two revolving fans consisting of shafts S, with blades or paddles T mounted thereon, said blades T being set at angles to each other and in quincunx order. In Fig. 6 the fans or blowers T' have projections V, with spaces W between them, so that the projections on one coincide with corresponding recesses in the other as the two rotate.

The operation of my improved can-cleaning device is as follows: The cans, hot from the bath, are introduced into the chute and are carried by the transverse bars of the endless carrier under the spray of sawdust, being raised, preferably, from a perfectly flat position by the configuration of the table beneath the fans, so that all parts are thoroughly scoured by the sawdust. The scouring is facilitated by a current of air forced into the chute near the bottom. The cans and dust are then carried over the reticulated section of the table, and the dust falls through into the chute below, the cans passing on and being delivered in any suitable manner at the

end of the table. Any dust that may be carried beyond the reticulated section is forced back again by the blast of pure air introduced into the chute beyond said reticulated section. The sawdust which passes through the reticulated section is conveyed by a suitable tube to the bin, into which passes the carrier provided with buckets which take up the same dust and deliver it again into the hopper which feeds the fans, thus making the operation continuous.

Having thus described my invention and its use, I claim—

1. In a machine for cleaning cans, an endless carrier adapted to receive, give motion to and deliver the cans to be cleaned and means for subjecting the cans while in motion on said carrier to a blast of sawdust.

2. In a machine for cleaning cans, a suitable table having a smooth section, a reticulated section, and an open section, an endless carrier provided with transverse bars adapted to receive, give motion to and deliver the cans, means for rotating said carrier over said table and means for precipitating a blast of sawdust upon said cans in passing over said table.

3. In a machine for cleaning cans, a table consisting of a smooth section, a longitudinal corrugated section, a reticulated section, and an open section, an endless carrier adapted to traverse said table, said carrier being provided with cross-bars spaced apart from each other to receive, impart motion to and deliver the cans, and means for subjecting the cans in passing to a blast of sawdust.

4. In a machine for cleaning cans, a table having rollers at the sides extending above the plane of the table, an endless chain carrier traversing said table provided with cross-bars adapted to receive, give motion to and deliver the cans, said cross-bars being adapted to be raised from the plane of the table in passing over said rollers, means for subjecting said cans to a blast of sawdust and means for forcing a blast of air upon the table on the side of the rollers opposite the sawdust-applying mechanism.

5. In a machine for cleaning cans, an inclined chute, an opening from the top thereof for the introduction of cans, an endless carrier provided with transverse bars adapted to receive, give onward motion to and deliver cans through said chute and means for projecting a blast of sawdust upon said cans in passing.

6. In a machine for cleaning cans, a chute, an endless carrier adapted to receive, give onward motion to and deliver cans through said chute, rotary fans adapted to project a blast of sawdust upon said cans as they pass through said chute and means for taking up the spent sawdust and automatically redelivering it to the fans.

7. In a machine for cleaning cans, an inclined chute, the bottom forming a table having a smooth section and a reticulated section,

an endless carrier traversing said table provided with transverse bars adapted to receive, give onward motion to and deliver cans through said chute, means for projecting a
5 blast of sawdust upon said cans in passing, an endless carrier provided with buckets adapted to furnish a constant supply of sawdust to the blast mechanism aforesaid and means for automatically conveying the spent

sawdust as it falls through the reticulated section of the table to the buckets.

In testimony whereof I affix my signature, in presence of two witnesses, this 6th day of April, 1901.

WILLIAM E. LEIGHTON.

Witnesses:

BELA A. WILDER,
B. H. HATTON.