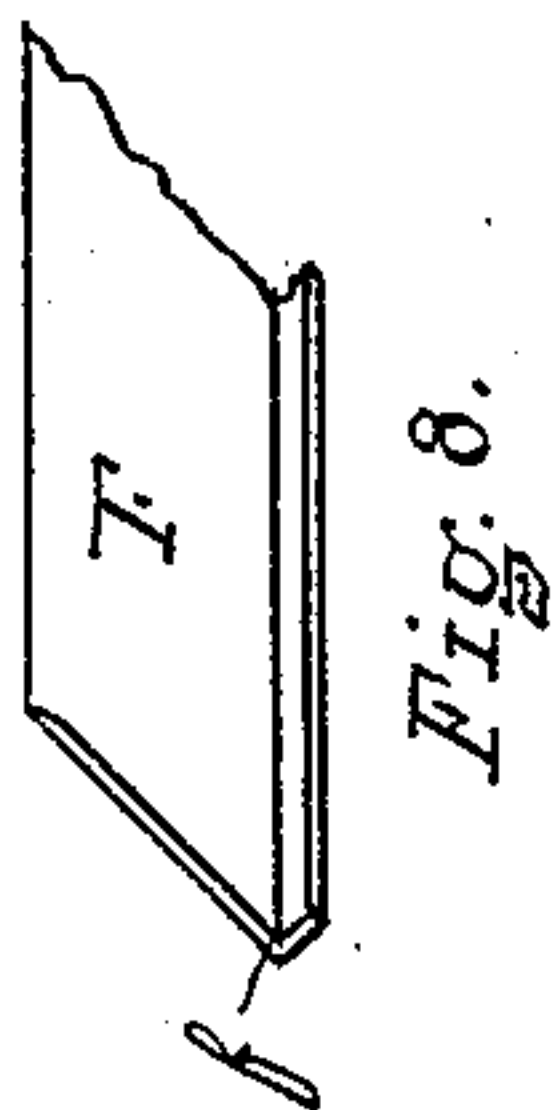
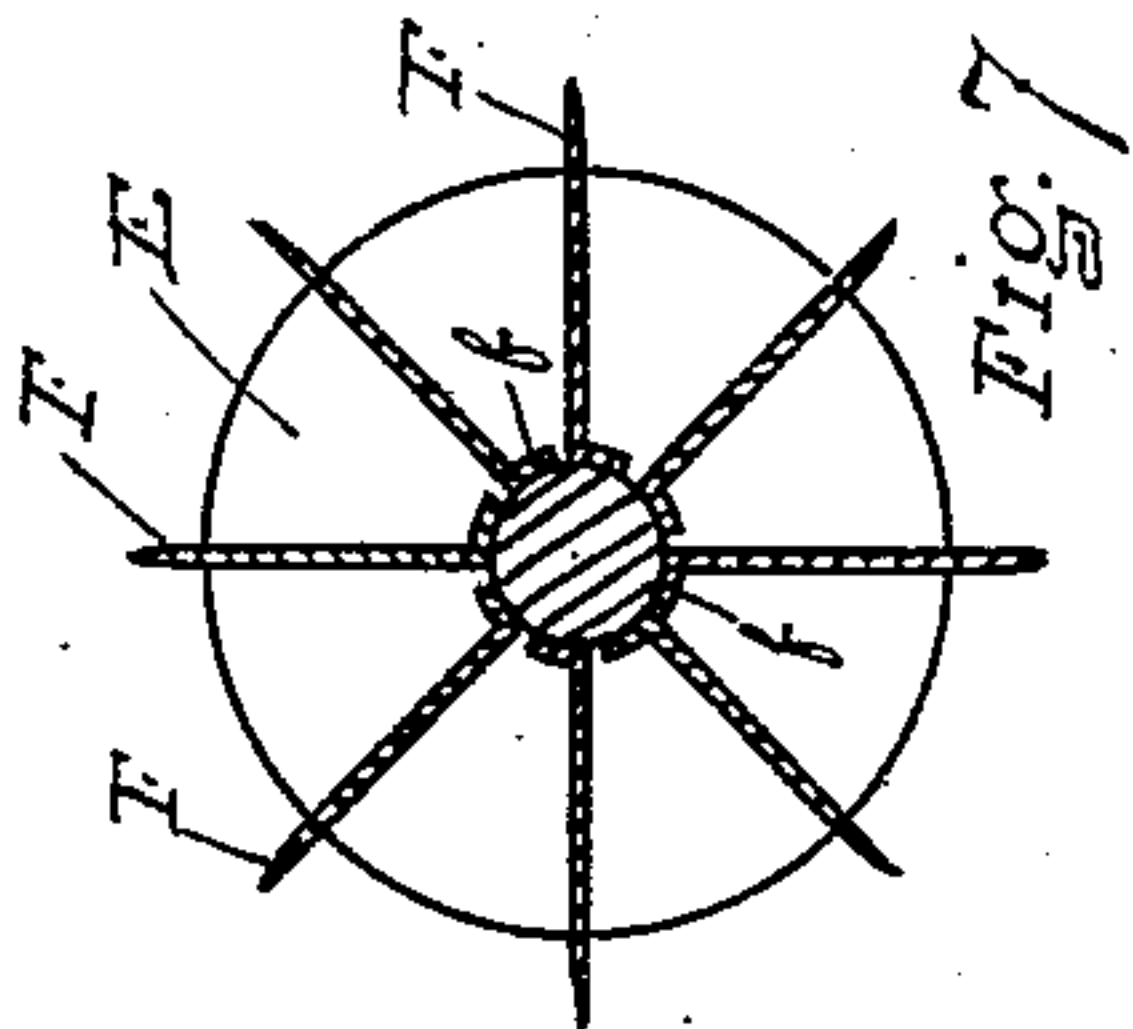
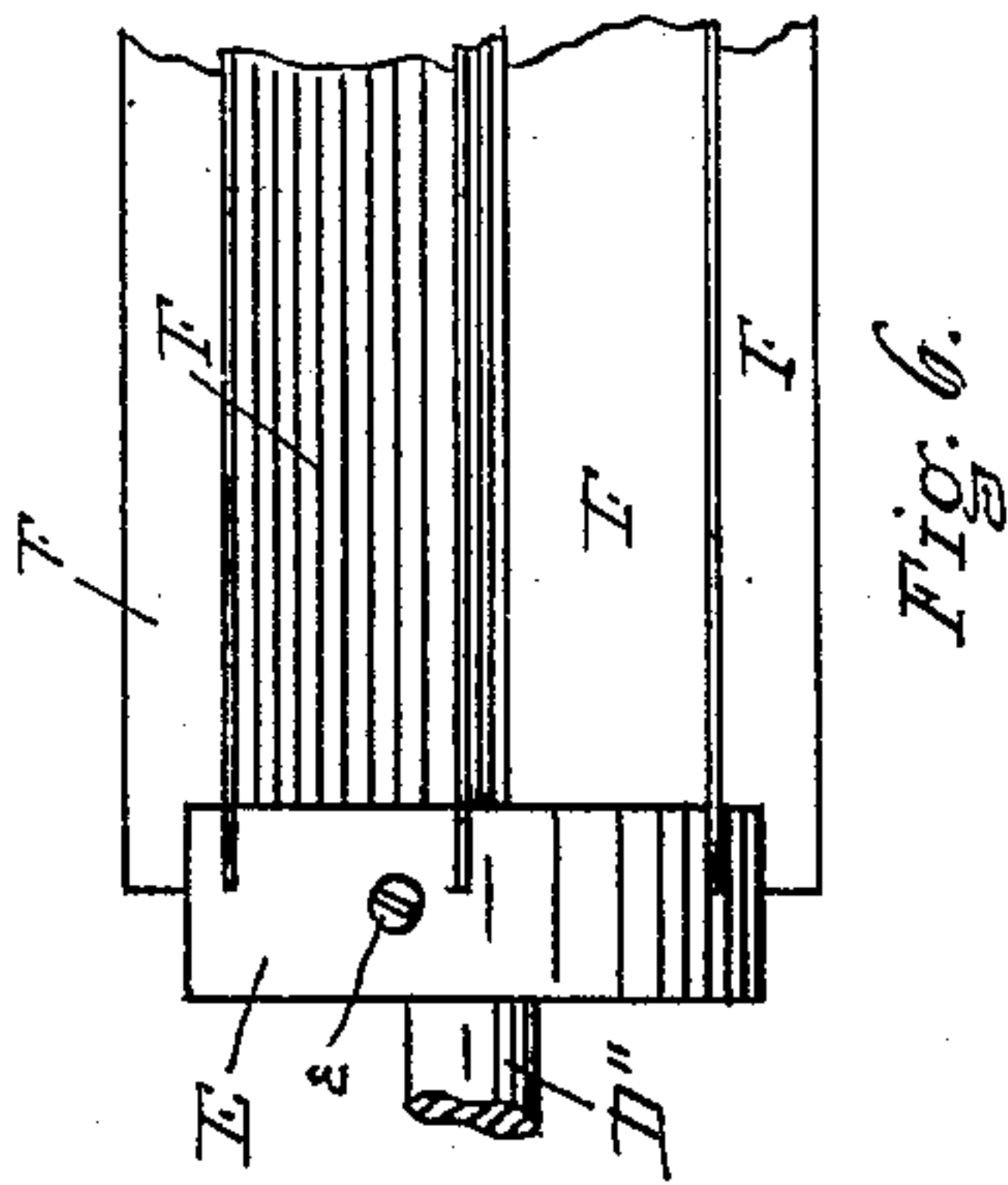
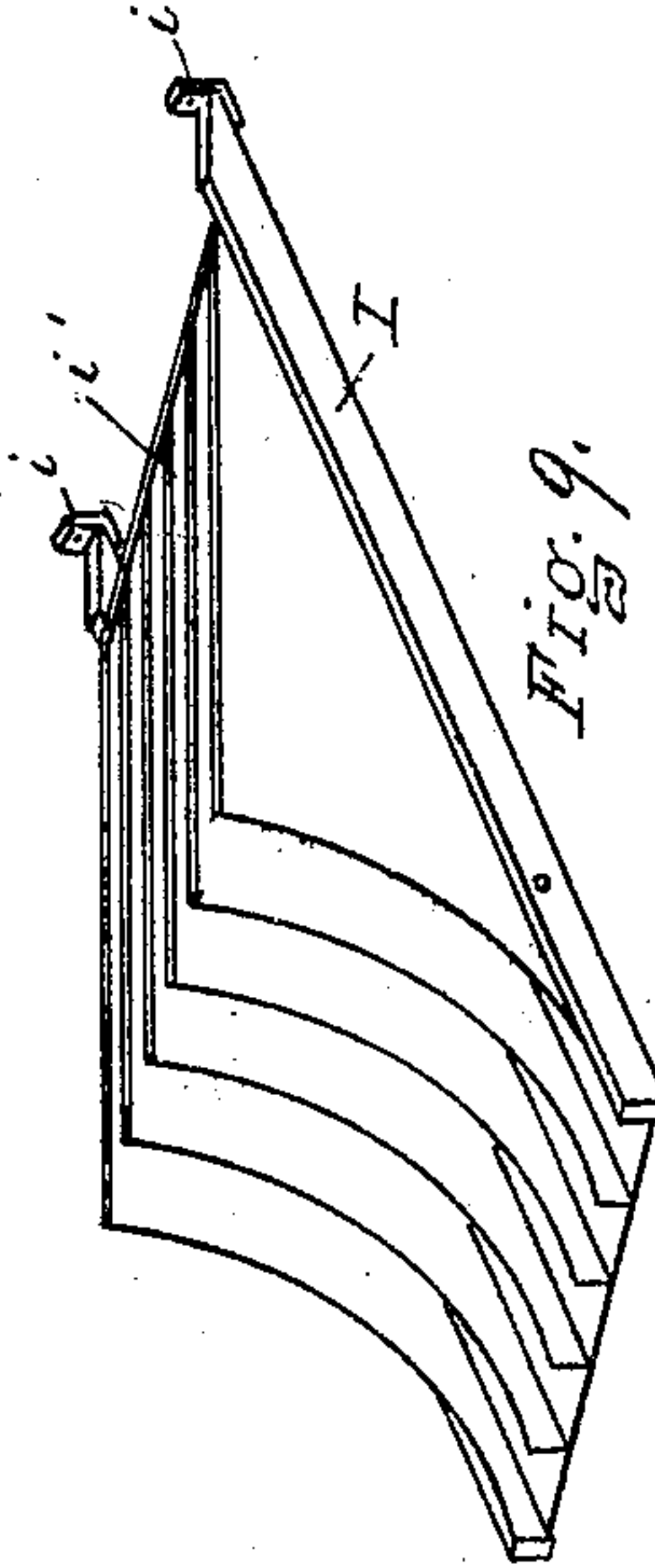
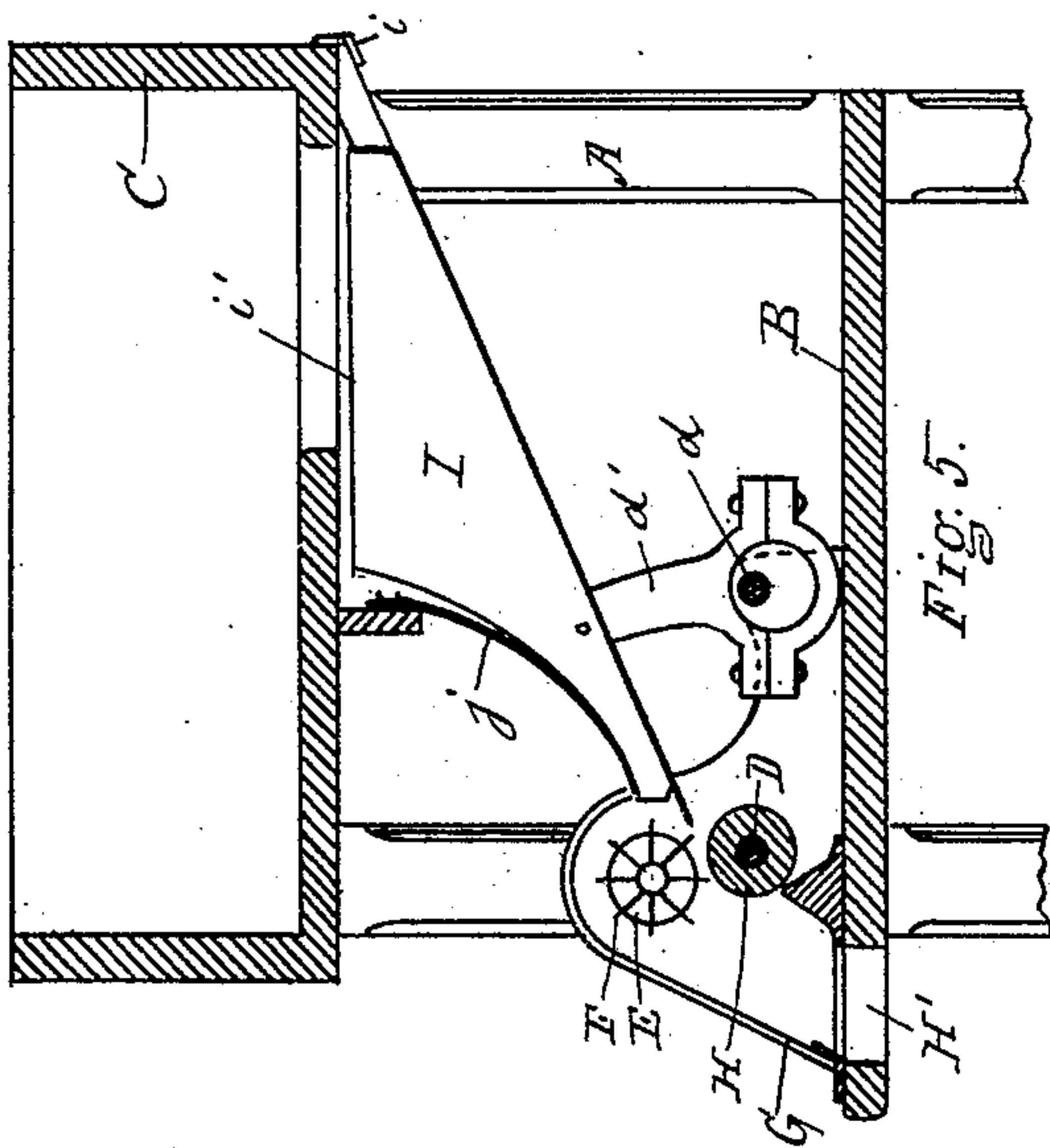


Z. P. TOWNSEND.
STRING BEAN CUTTER.
APPLICATION FILED OCT. 5, 1905.

925,614.

Patented June 22, 1909.

2 SHEETS—SHEET 2.



WITNESSES.
Rich. A. George
E. L. De Giorgi

INVENTOR
ZACHARIAH P. TOWNSEND
BY *Riley & Love*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ZACHARIAH P. TOWNSEND, OF SAUQUOIT, NEW YORK.

STRING-BEAN CUTTER.

No. 925,614.

Specification of Letters Patent.

Patented June 22, 1909.

Application filed October 5, 1905. Serial No. 281,395.

To all whom it may concern:

Be it known that I, ZACHARIAH P. TOWNSEND, a citizen of the United States, residing at Sauquoit, in the county of Oneida and State of New York, have invented certain new and useful Improvements in String-Bean Cutters, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved vegetable cutting machine, and I declare that the following is a full, clear, concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

My invention comprises several features which I have illustrated in one form in the accompanying drawings, the particulars of which will be understood by an examination of the same in conjunction with the description thereof. It is comprised in this instance, of a hopper with means for feeding material therefrom to rotary cutting knives which embody new features and which are so arranged and operated as to regulate the size into which the material is to be cut, it being fed to the knives through sluiceways arranged on a frame which is given a reciprocating motion for facilitating the feed.

In the drawings, Figure 1 is a front view of the machine; Fig. 2 is a side view, with one of the legs cut away to show part of the mechanism; Fig. 3 is a plan view from the top with a portion cut away, and Fig. 4 is a plan view from the top, with the superstructure removed, as also an apron depending thereover. Fig. 5 is a side view; Fig. 6 is a front view of the knife member; Fig. 7 is a cross-section view of the same, and Fig. 8 is a perspective view of one of the blades. Fig. 9 is a perspective view of the chute.

Referring to the figures more in detail, A are legs which support shelf B and the hopper C, which several parts are arranged in suitable manner and are given suitable size.

In the frame is mounted shaft D operated by pulleys D'. The shaft D carries at its inner end a pinion 1 which meshes with pinion 2 mounted on the end of the shaft D''. The shaft D'' is journaled in side frames G which are mounted on the shaft B. The shaft D'' is mounted in a slot s, shown by dotted lines in Fig. 2. The spring s' bears between the shafts D and D'' so as to hold

the latter and its bearing upward against the set screw s'', by which means the shaft D'' is adjusted to present the edge of its blades onto the surface of a rubber or other like roller H which is mounted on the shaft D.

The shaft D'' carries the knife or cutting member which comprises two disks E centrally bored to be mounted on the shaft by set screw e, and the opposite faces of which have corresponding radial grooves into which the ends of the blades F fit, so that the disks E may be brought together with the blades F therebetween and be secured to the shaft D''. This construction provides a revolving cutting member with a series of blades positioned according to the radial grooves in the disks. The blades are formed with an angle f at the edge which rests on the shaft, and which gives each blade strength and rigidity so that in the revolution of the cutting member when the edge of the blade strikes the substance to be cut it is not bent out of place, but maintains a straight cutting edge. The angle portion of each blade may be formed of such size that the angle of one blade will rest against the inner extreme edge of the adjacent blade, as indicated in Fig. 7. In case of need, any blade may be readily replaced by loosening one of the disks; or, the series may be readily removed for sharpening. As the blades are of equal width and length they are interchangeable, so that injury to one blade of the cutting member need not delay the operation of the machine.

On the end of the shaft D is pulley 3 from which a belt runs to pulley 4 which is mounted on the shaft d which is supported in the frame portion G, and over which cover portion G' is to be placed to inclose the cutting members.

The shaft d is provided with an eccentric (see Fig. 5) which eccentric operates a pitman d' which is connected to chute I which is hingedly mounted on the frame at i, so that the revolution of the shaft d throws the lower end of the chute up and down so as to assist in the passing of material from the hopper to the blades. The chute member I is indicated in perspective in Fig. 9, and comprises a number of vertically arranged partition members formed in this instance of thin metal, and which partitions serve to divide said chute into a plurality of longitudinally extending passages, the upper edges of which pieces are thickened by fold-

ing as at *i'* so as to prevent cutting the hands, and which edges are located adjacent and extend beneath an opening in the bottom of the hopper so as to afford a support
5 for the material in the hopper as will be understood from Fig 5. The parallel arrangement of these partition members forces the material to be fed in a certain way to the knives, the present construction being especially adapted for the feeding of beans or
10 other products which may be said to have a length, and which will pass through the hopper opening down the chute and will be fed lengthwise to the blades on the shaft
15 which turns in the direction indicated in Fig. 2.

On the underside of the hopper is hung an apron of sheet rubber or other suitable material, as shown at *j*, which keeps the contents of the chute from escaping. After
20 passing between the rubber roller H and the knife roller the pieces pass through the opening H' into a proper receptacle.

It will be understood that the upper ends
25 of the partition members of the chute member I, by reason of the fact that they are located immediately beneath and extend parallel with the opening in the bottom of the hopper C, afford a support for the beans
30 in the hopper and prevent them from passing to the chute member in comparatively large masses.

Having described my invention, what I claim as new and desire to secure by Letters
35 Patent, is:

1. In a string bean cutting machine, a hopper provided with an opening in its bottom; cutting mechanism; an inclined chute
40 extending from the opening in the bottom of said hopper to said cutting mechanism; and a series of vertically arranged partitions carried by said chute and serving to divide the same into a series of longitudinally extending passages, the upper ends of said partitions terminating adjacent the opening
45

aforesaid and being of a length sufficient to extend across said opening to thereby form a support for the material in the hopper.

2. In a string bean cutting machine, a hopper provided with an opening in its bottom; cutting mechanism; an inclined chute
50 pivoted at one end to a fixed support and the free end thereof terminating adjacent said cutting mechanism and adapted to conduct the beans from said opening to said cutting mechanism; means for vibrating the free
55 end of said chute; and a series of vertically arranged partitions carried by said chute and serving to divide the same into a series of longitudinally extending passages, the upper
60 ends of said partitions terminating adjacent the opening aforesaid and being of a length sufficient to extend across said opening to thereby form a support for the material in the hopper.
65

3. In a string bean cutting machine, a hopper provided with an opening in its bottom; rotary cutting mechanism; an inclined chute pivoted at one end to said hopper and the free end thereof terminating adjacent
70 said cutting mechanism and adapted to conduct the beans from said opening to said cutting mechanism; means driven from said cutting mechanism for vibrating the free end
75 of said chute; and a series of vertically arranged partitions carried by said chute and serving to divide the same into a series of longitudinally extending passages, the upper ends of said partitions terminating adjacent the opening aforesaid and being of a length
80 sufficient to extend across said opening to thereby form a support for the material in the hopper.

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

ZACHARIAH P. TOWNSEND.

Witnesses:

E. E. RISLEY,
E. T. DE GIORGI.