

No. 663,742.

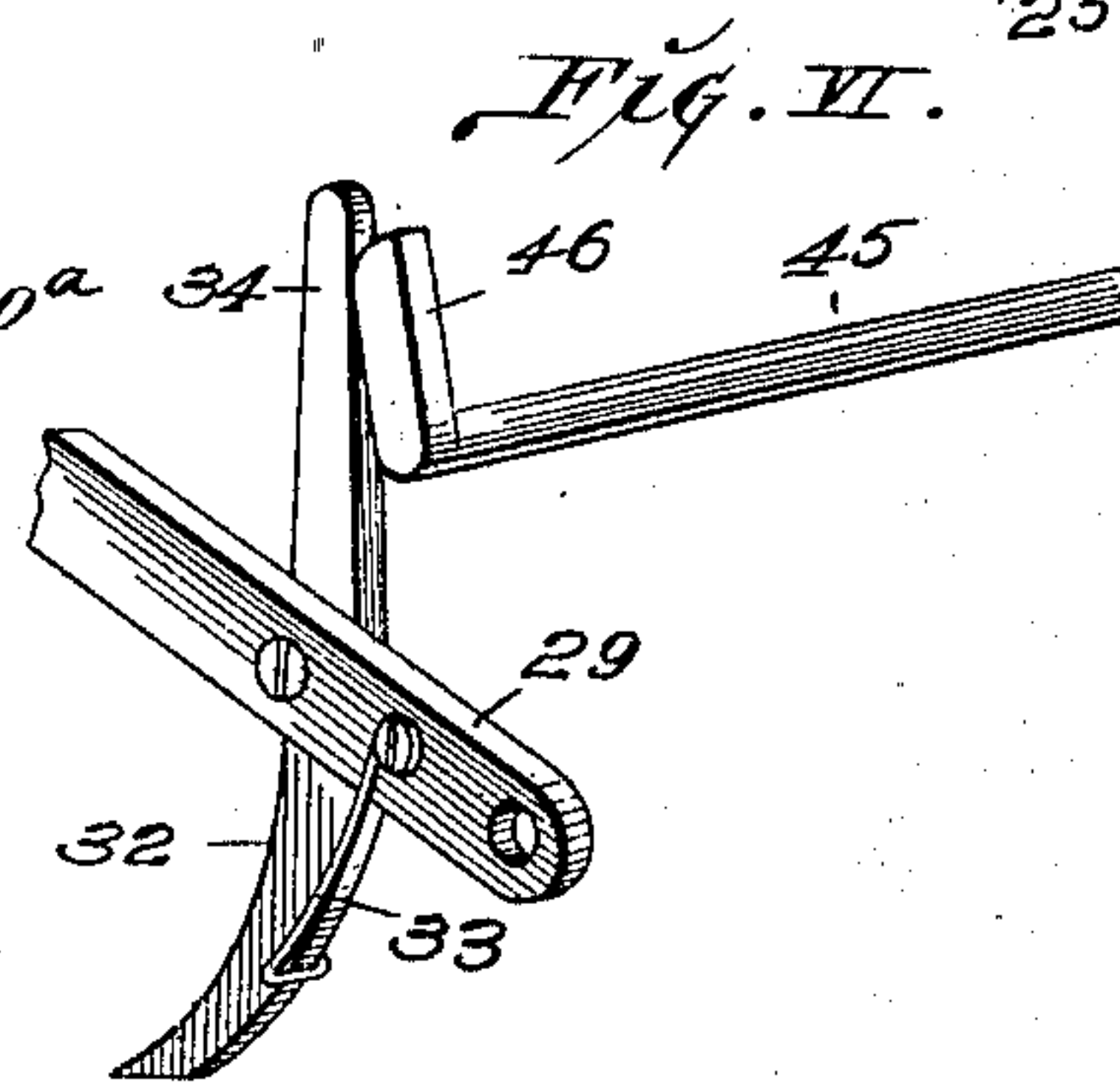
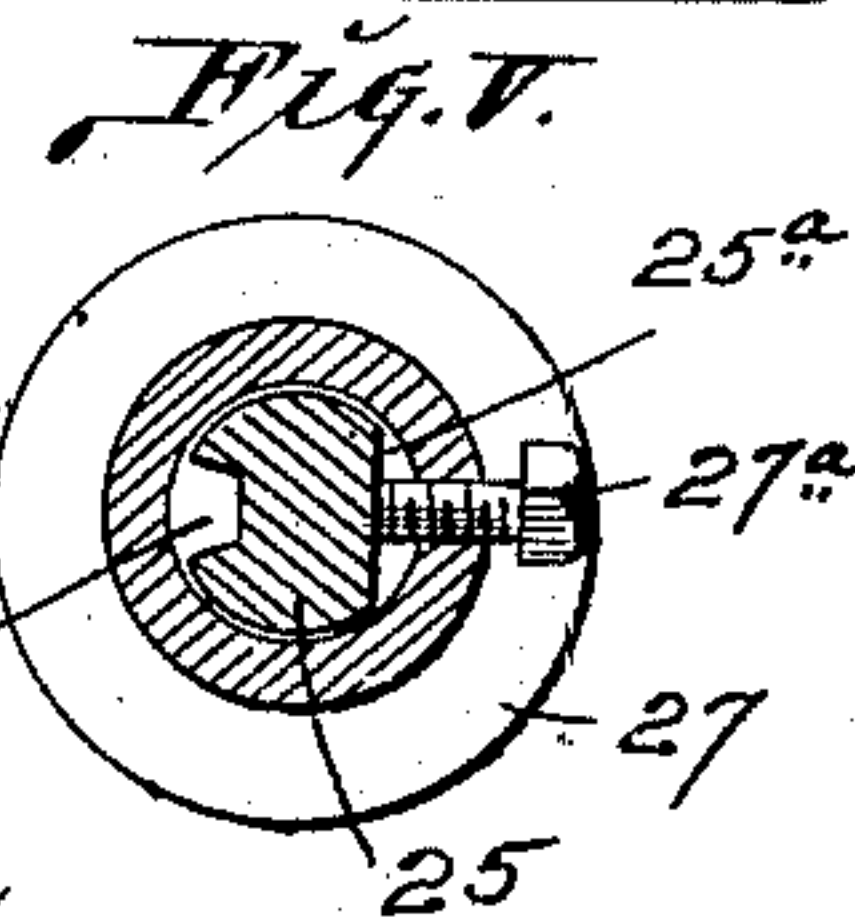
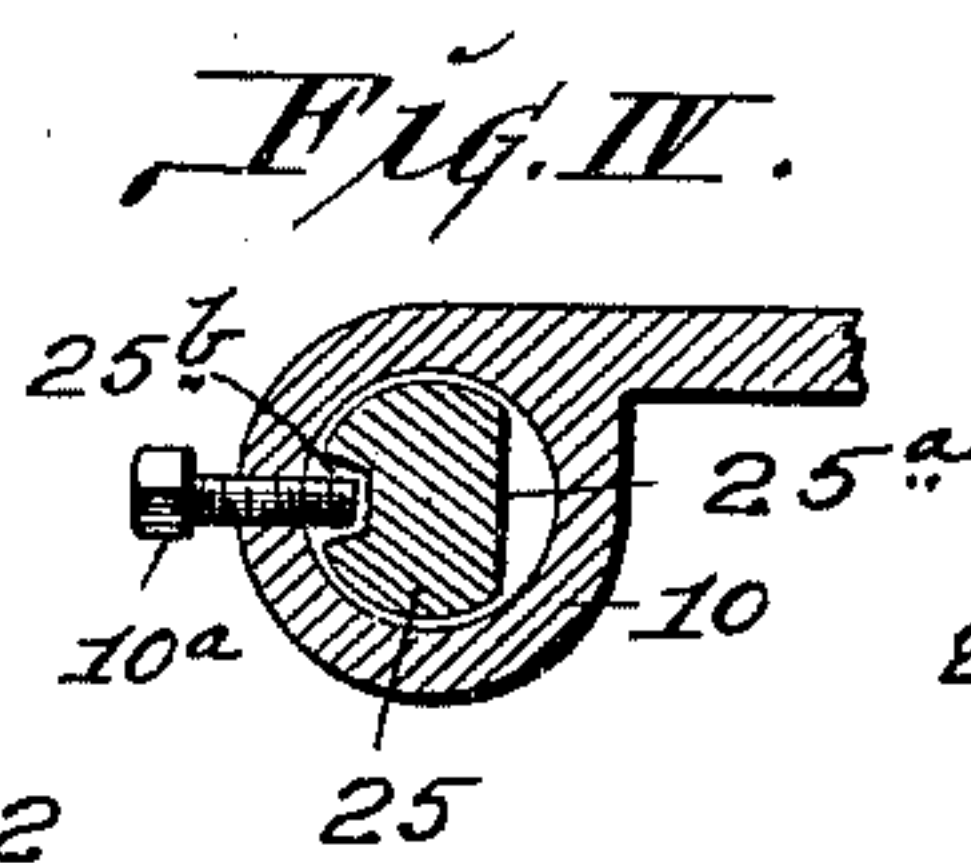
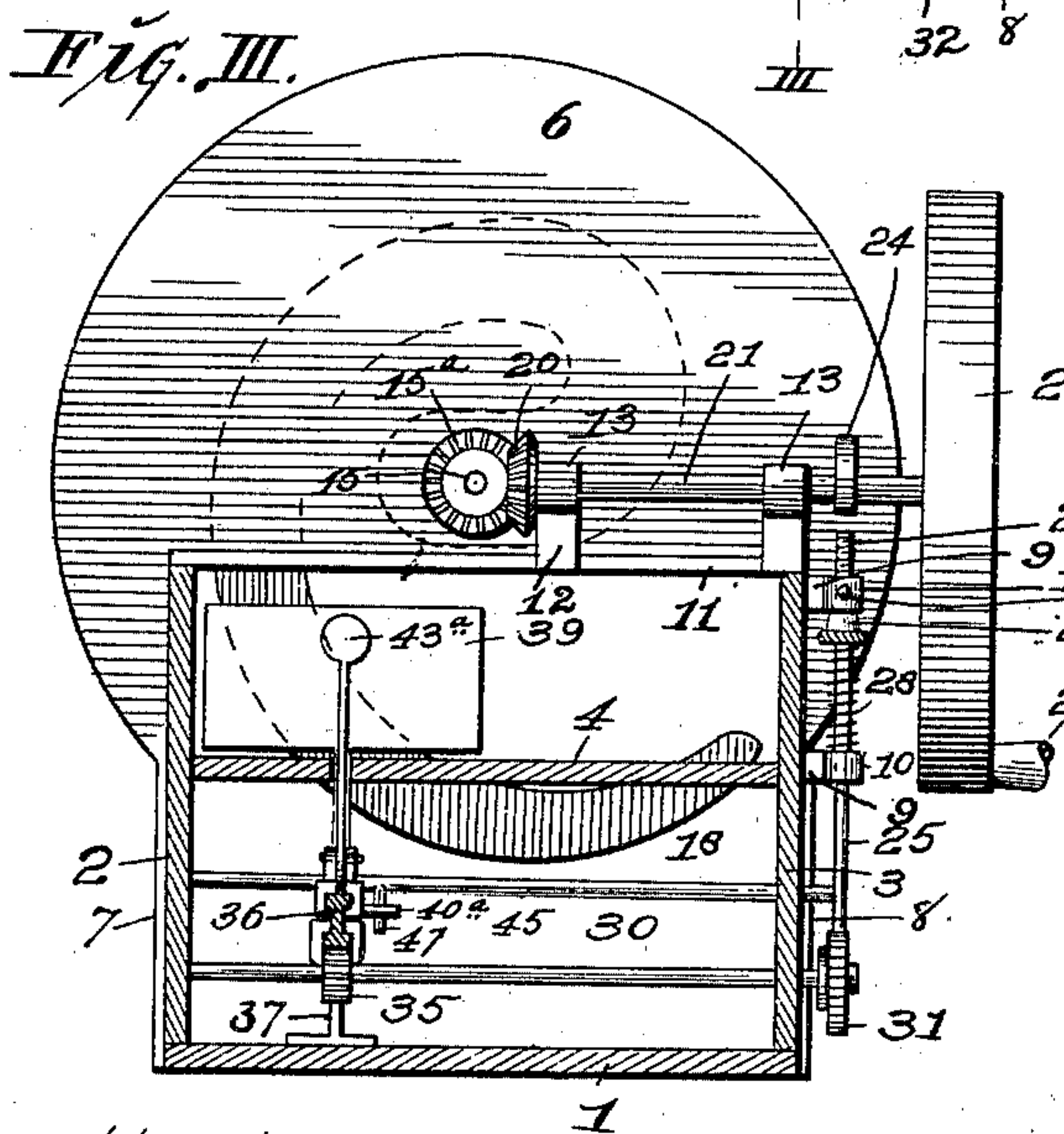
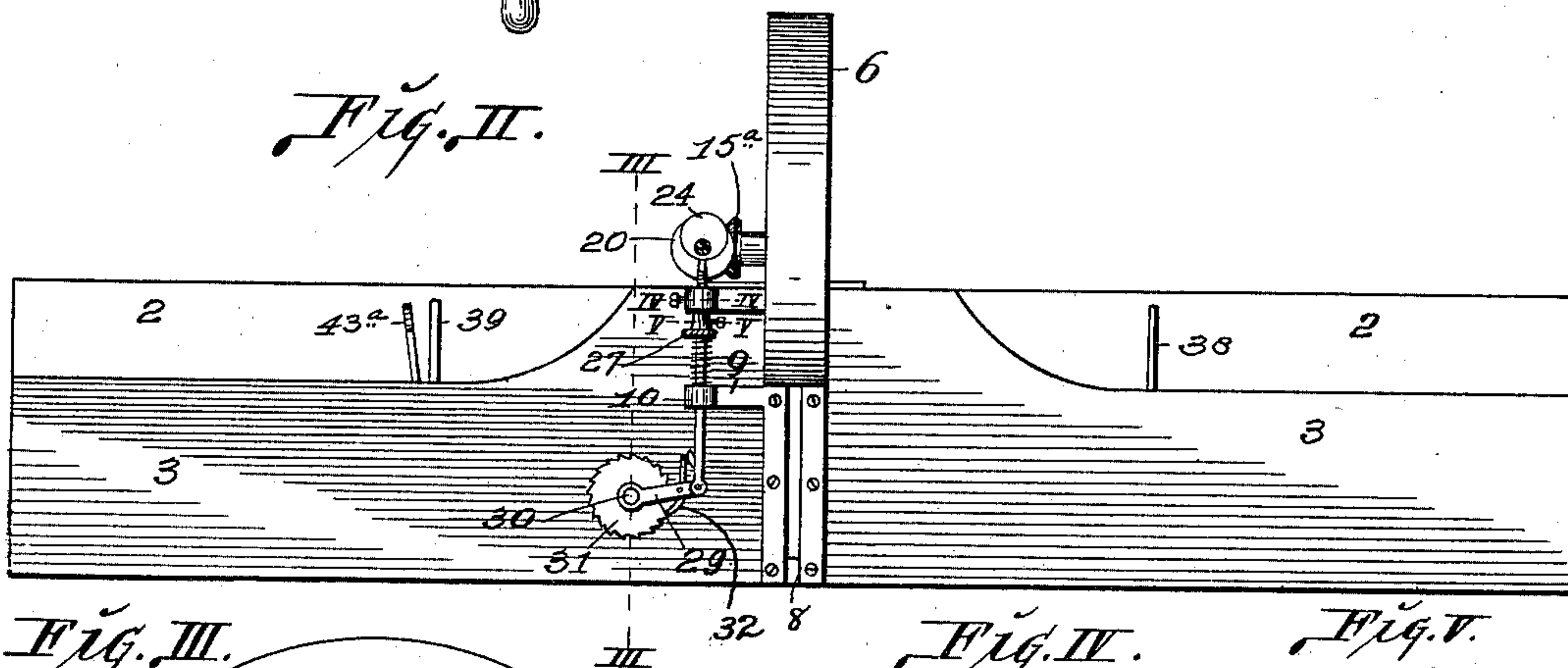
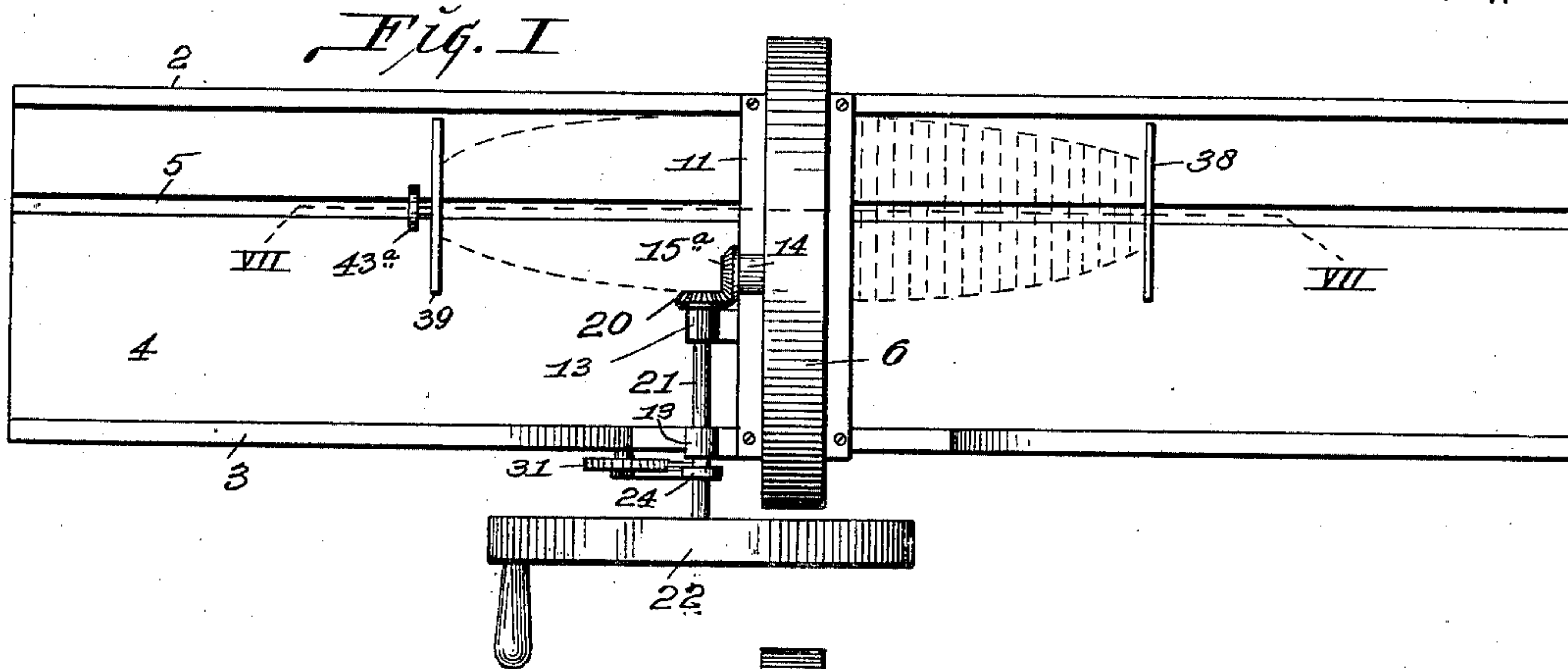
Patented Dec. 11, 1900.

J. R. FARMER.
BREAD CUTTING MACHINE.

(Application filed Mar. 17, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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UNITED STATES PATENT OFFICE.

JOHN R. FARMER, OF ST. LOUIS, MISSOURI, ASSIGNOR OF FIVE-SIXTHS TO ADOLPH BOETTLER, HENRY F. W. RUHE, AND EDWARD CORNET, OF SAME PLACE.

BREAD-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 663,742, dated December 11, 1900.

Application filed March 17, 1900. Serial No. 9,018. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. FARMER, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Bread-Cutting Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a machine by the use of which loaves of bread may be readily and easily cut into slices; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a top or plan view of my machine. Fig. II is a front elevation of the machine with the end wall removed. Fig. III is an enlarged cross-sectional view taken on the line III III, Fig. II. Fig. IV is an enlarged cross-sectional view taken on the line IV IV, Fig. II. Fig. V is an enlarged cross-sectional view taken on the line V V, Fig. II. Fig. VI is an enlarged detail perspective view of the ratchet-pawl by which the follower-carrying guide-bar is actuated. Fig. VII is an enlarged longitudinal sectional view taken on the line VII VII, Fig. I. Fig. VIII is an enlarged perspective view of the knife-housing. Fig. IX is an enlarged detail perspective view of the adjustable follower-slide and rocking rod by which the ratchet-pawl is tripped. Fig. X is an enlarged detail perspective view of the knife-carrying shaft. Fig. XI is a detail side view of the knife. Fig. XII is a side view of a modified form of the knife. Fig. XIII is an enlarged cross-sectional view taken on the line XIII XIII, Fig. VII.

The frame of the machine is in the shape of a box having a bottom 1, a rear wall 2, and a front wall 3. Extending throughout the interior of the box intermediate of the top and bottom thereof is a partition 4, containing a longitudinal slot 5. (See Figs. I and III.) The loaf of bread to be cut is placed upon this partition in the position indicated by dotted lines in Fig. I, being held in the manner hereinafter described.

6 designates a housing secured to the front and rear walls of the box-frame, this housing having closed sides and edge. The housing is secured to the rear wall 2 by legs 7 and to

the front wall 3 by legs 8. Projecting from the legs 8 are arms 9, containing ears 10. Projecting from one of the side walls of the housing is a flange 11, that supports arms 12, provided with ears 13, and upon said side wall is a hollow boss 14, that receives a stub-shaft 15, having a head 16. The knife 18 is secured to the head 16 by screws or bolts inserted through the slot 19 in the knife into the apertures 17 in the shaft-head. In Fig. XI, I have shown the knife of curved shape, this being the form I prefer to use; but I may use the knife 18^a (shown in Fig. XII) in lieu of the knife 18. The outer end of the shaft 15 is equipped with a bevel-pinion 15^a, that receives the meshing engagement of a bevel-pinion 20, carried by a shaft 21, that is mounted in the ears 13. (See Figs. I and III.) The shaft 21 is the driving-shaft of the machine and is equipped with a hand-wheel 22, provided with a handle 23, by which it may be turned, whereby rotation may be imparted to the knife. Mounted on the shaft 21 is a cam 24.

Mounted in the ears 10 is a vertically-arranged rod 25, having a screw-threaded upper end 26. On this rod beneath the upper ears 10 is an adjustment-nut 27, that has screw-thread engagement with the threaded end 26, whereby the rod may be adjusted vertically. The rod is provided with a flat surface 25^a, (see Figs. IV and V,) adapted to receive the inner end of the set-screw 27^a, inserted through the nut 27, whereby the nut is held from turning when adjusted. The rod 25 is held from turning by a set-screw 10^a, inserted through the upper ears 10 in a groove 25^b in the rod.

Between the adjustment-nut 27 and the lower ear 10 is a spring 28, that holds the rod 25 normally elevated. The upper end of the rod 25 is arranged to receive the contact of the cam 24 on the shaft 21 on each revolution of said shaft, whereby said rod is alternately pressed downwardly by the cam and elevated by the spring 28. The lower end of the rod 25 is pivotally connected to one end of a rocking link 29, the opposite end of the link being loosely mounted on a shaft 30, mounted in the walls 2 and 3 of the machine-frame. Fixed to the shaft 30 is a ratchet-wheel 31, and pivoted to the rocking arm 29 is a pawl

32, held in engagement with the teeth of said ratchet-wheel by a spring 33. The upper end 34 of the pawl 32 extends above the rocking link 29 for service to be hereinafter referred to. Each time that the hand-wheel 23 is turned a revolution and a corresponding movement is imparted to the knife 18 the rod 25 is depressed, causing the pawl 32 to impart rotation to the shaft 30. On the shaft 30 is a pinion 35, that meshes with the teeth of a rack 36, as clearly seen in Fig. VII. The rack 36 is of I form in cross-section (see Figs. III and XIII) and is upheld and guided by forked guide-posts 37, seated upon the bottom 1 of the machine-frame, the rack being adapted for movement backwardly and forwardly longitudinally of the machine.

Fixed to the rack 36 at the upper side thereof is an upright 38, against which one end of a loaf of bread to be cut is designed to rest, as seen in dotted lines, Fig. I. Upon the upper surface of the rack 36 are a series of notches 36^a.

39 designates a movable upright carried by a slide 40, having tongues 41, that engage beneath the upper flanges of the rack, as seen in Fig. XIII. The slide is adapted to be held from retrograde movement by a dog 43, pivoted in ears 42, projecting from the slide, said dog being normally held in engagement with the notches 36^a by a spring 44. The dog 43 is provided with a handle 43^a, projecting upwardly through the slot 5, whereby the dog may be released from engagement with the notches to permit of the upright 39 being moved to or fro to bring it against the loaf of bread to be confined between said upright and the fixed upright 38. As the knife 18 is rotated the rod 25 is moved, as described, and the shaft 30 is turned by the pawl-and-ratchet connection to carry the rack 36 longitudinally of the machine in the direction of the arrow in Fig. VII. In such movement the loaf of bread confined between the uprights 38 and 39 and resting upon the partition 4 is conveyed gradually forward under the knife, and on each rotation of the knife a slice is cut from the loaf. The thickness of the slices cut is regulated by the adjustment of the screw 27 on the rod 25, by which arrangement the extent of movement of the rod 25 by the cam 24 is regulated and likewise the extent of

movement of the ratchet-wheel 31 on the shaft 30. In order to stop the feeding operation, so that the upright 39 will not be carried under the knife 18, I provide means for tripping the pawl 32 each time that the upright is carried into proximity with the knife, said means consisting of a rocking rod 45, having an arm 46 exterior of the machine-frame adapted to strike the upper end 34 of the pawl 32. The rocking rod 45 is mounted in the frame-walls 2 and 3 and is provided with a prong 47 adjacent to the rack 36 and in the path of travel of a stub 40^a, carried by the upright carrying-slide 40. As the stub 40^a engages the prong 47 it rocks the rod 45 and trips the upper end of the pawl 32 by the arm 46, thereby releasing the pawl from engagement with the ratchet-wheel 31 and causing the feeding operation of the machine to cease even though the turning of the knife be continued.

I claim as my invention—

1. In a bread-cutting machine, the combination of a revoluble knife, means for operating said knife, a movable rack, an upright rigidly fixed to said rack, an upright adjustably fixed to said rack, means for moving said rack, and a rocking rod arranged to be engaged by said movable upright and to trip said rack-moving means, substantially as described.

2. In a bread-cutting machine, the combination of a revoluble knife, a shaft whereby said knife is turned, a cam carried by said shaft, a spring-controlled rod arranged to receive the contact of said cam, a rocking link connected to said rod, a pawl carried by said link, a ratchet-wheel arranged to receive the engagement of said pawl, a shaft by which said ratchet-wheel is carried, a pinion on said shaft, a rack engaged by said pinion, an upright fixed to said rack, an adjustable upright mounted on said rack, a stud projecting from said adjustable upright, a rocking rod having an arm adapted to strike said pawl, and a prong adapted to receive the engagement of said upright-carried stud, substantially as described.

JOHN R. FARMER.

In presence of—

E. S. KNIGHT,
N. V. ALEXANDER.