No. 791,560. PATENTED JUNE 6, 1905.

L. E. KENNEDY.

RAG CUTTING MACHINE.

APPLICATION FILED JUNE 23, 1904.

2 SHEETS—SHEET 1.

Fig. 2.

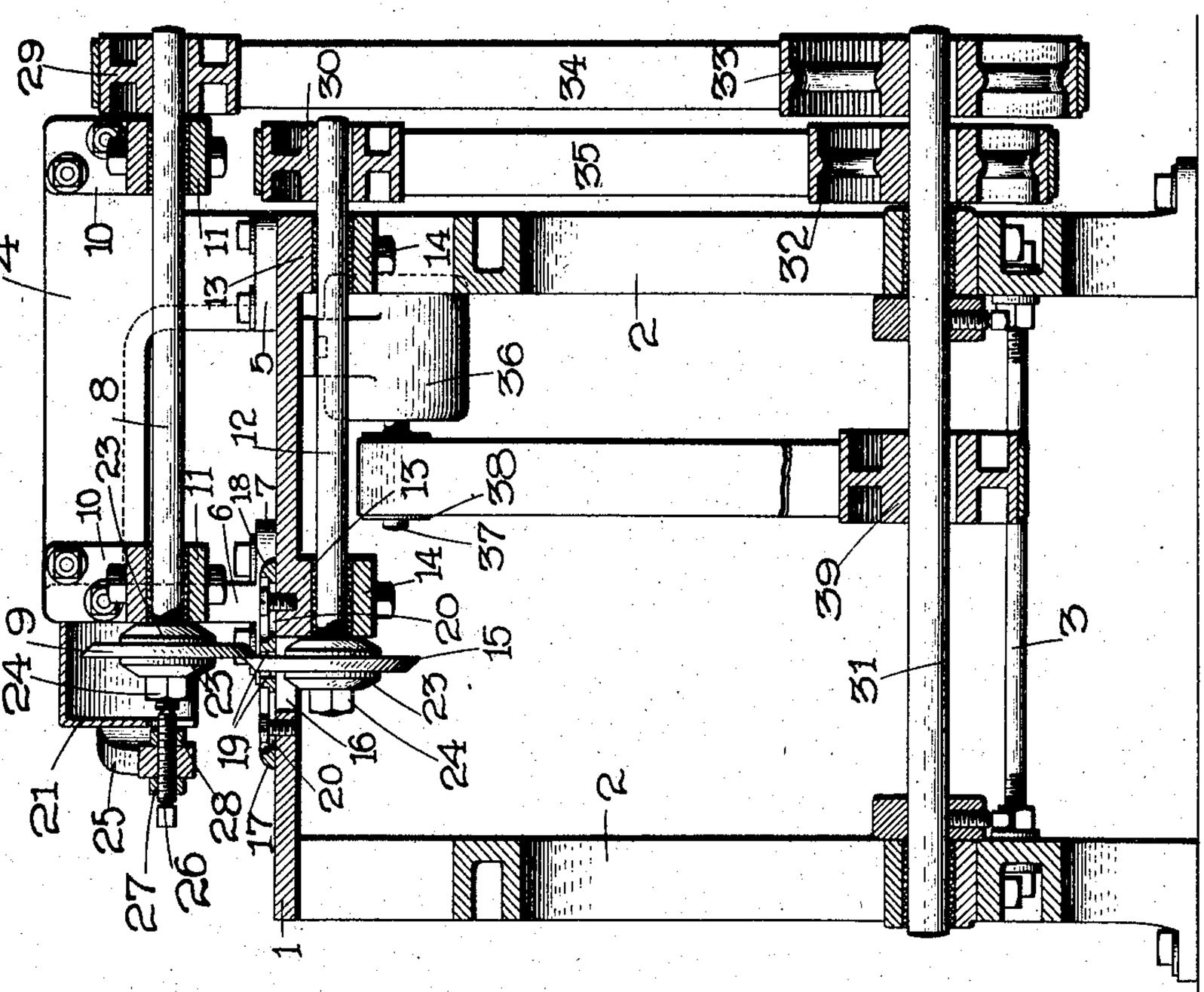
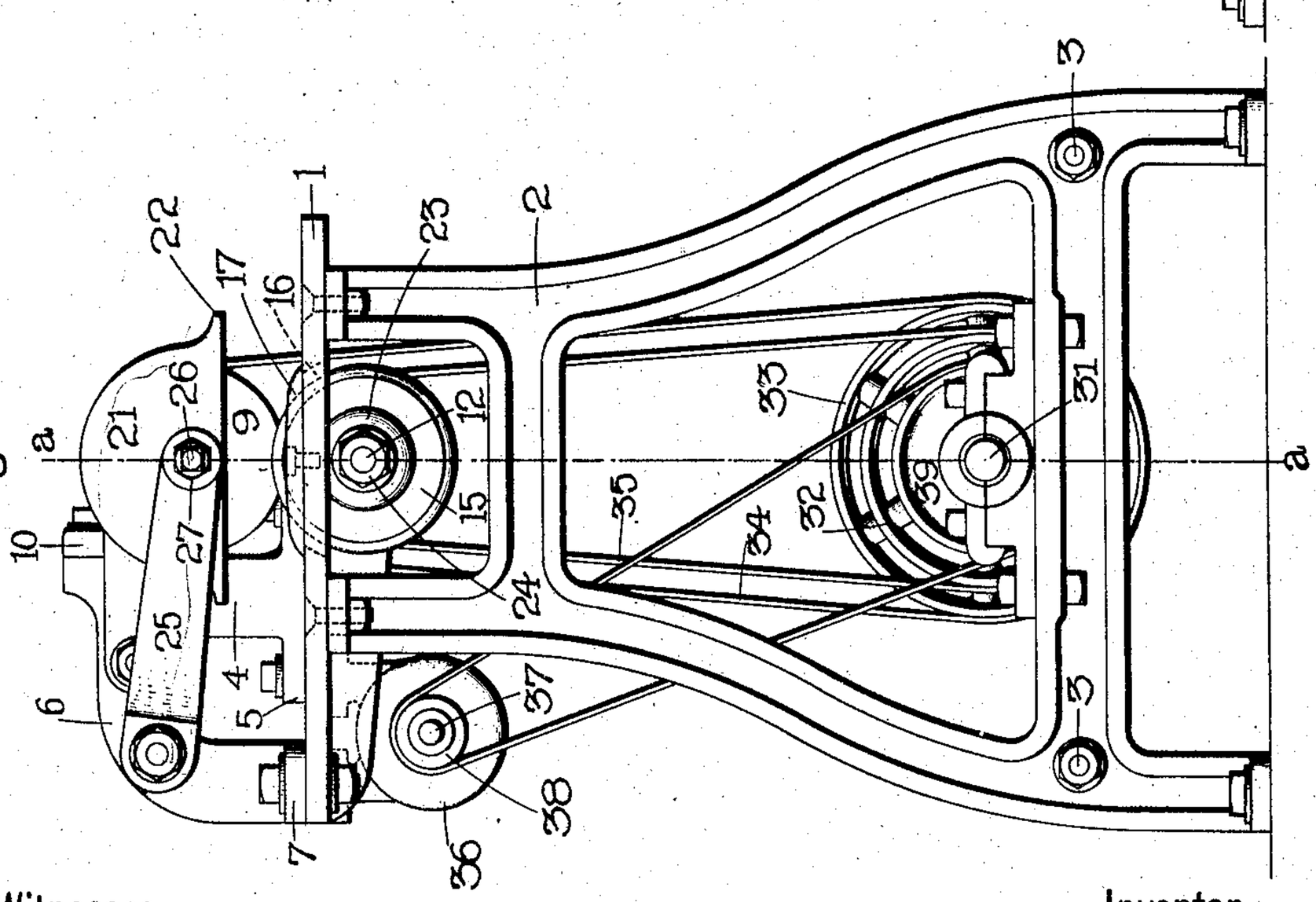



Fig. 1.




Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

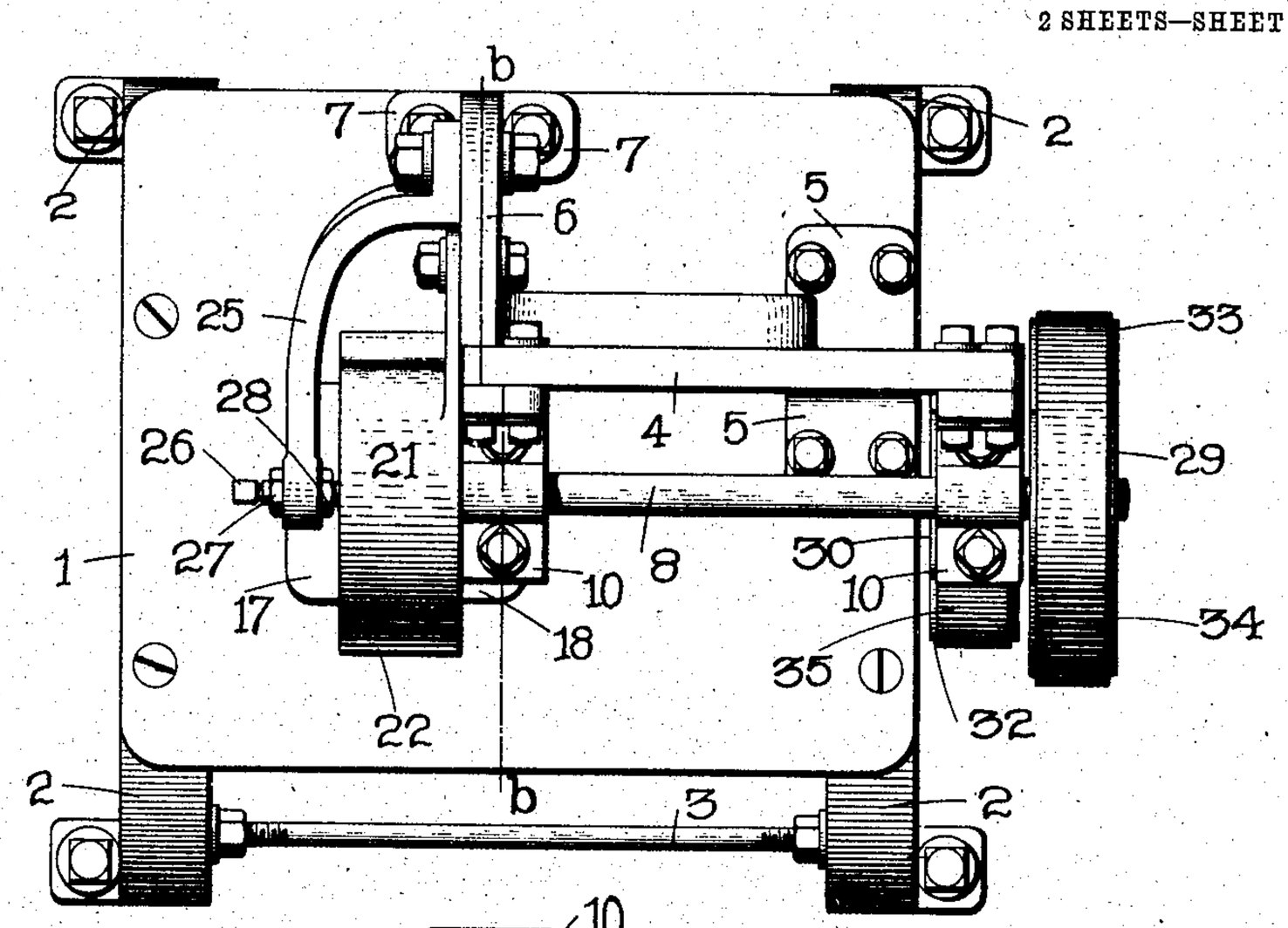



Fig. 4.

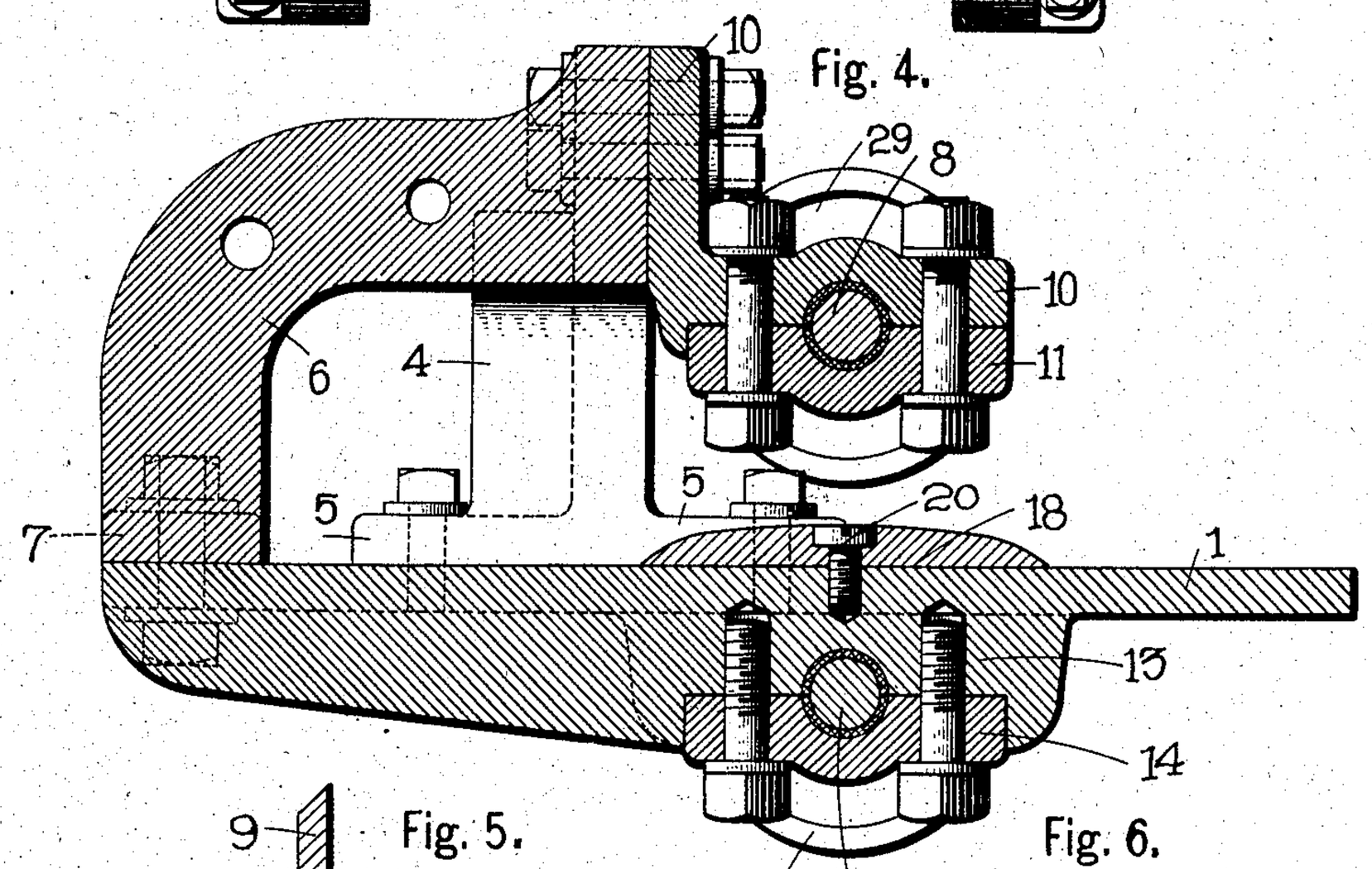



Fig. 5.

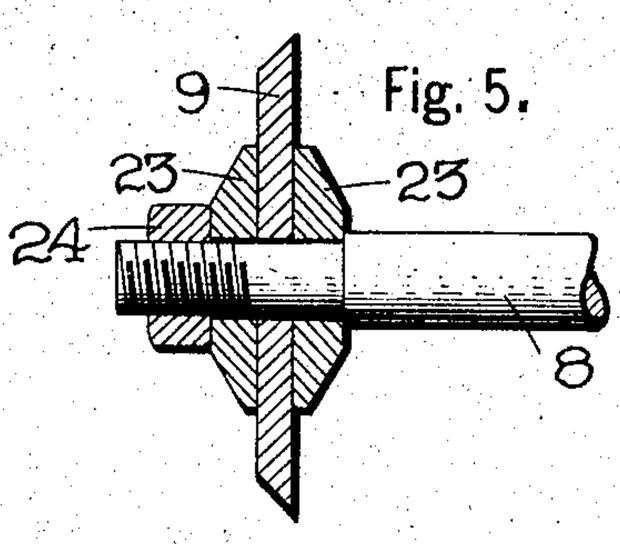
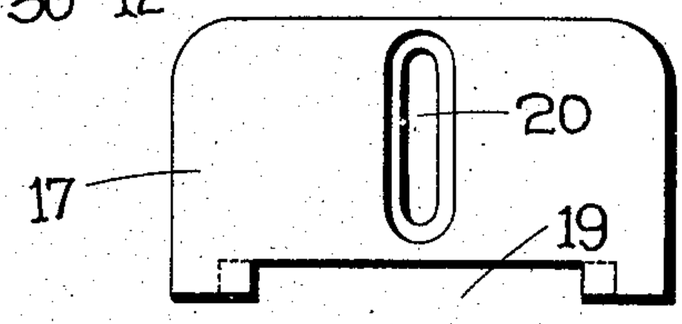



Fig. 6.

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No. 791,560. Patented June 6, 1905.

# UNITED STATES PATENT OFFICE.

LOUIS E. KENNEDY, OF NEW YORK, N. Y.

## RAG-CUTTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 791,560, dated June 6, 1905.

Application filed June 23, 1904. Serial No. 213,797.

*To all whom it may concern:*

Be it known that I, LOUIS E. KENNEDY, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Rag-Cutting Machines, of which the following is a specification.

This invention relates to an improved machine for cutting fabrics, such as old clothes or rags.

One of the features of the invention consists in providing the overhanging head with an angle or cross brace extending from the outer end thereof and fastened to the machine-frame for the purpose of securing absolute rigidity.

Another feature consists in forming a rib on the under surface of the bed-plate which extends parallel with the angle or cross brace and serves to stiffen and strengthen the portion of the bed-plate which is exposed to the greatest strain.

Another feature has reference to a novel centering mechanism for the upper shaft.

The object of the invention is to construct a simple and comparatively cheap machine in which the cutting devices will be mounted upon shafts which are journaled in parts which are stiffened by braces and ribs to provide absolute rigidity and prevent any springing of the cutting devices from each other under severe strain.

The invention also relates to certain details of construction, all of which will be fully and clearly hereinafter described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of the improved machine. Fig. 2 is a central vertical section on line *a a*, Fig. 1, the driving and cutter shafts and the cutting-knives being shown in elevation. Fig. 3 is a top plan view of the machine. Fig. 4 is an enlarged transverse section on line *b b*, Fig. 3, through the overhanging head and the bed-plate. Fig. 5 is an enlarged fragmentary view of one of the cutter-shafts, showing the method of securing the cutter-knife thereto, a section being taken through the cutter-knife and the washers and lock-nut. Fig. 6 is an enlarged detached plan view of one of the adjustable guide-plates.

In referring to the drawings for the details of construction like numerals designate like parts.

The frame of the machine consists of a horizontal bed-plate 1 and two vertical end members 2, which are bolted at the top to the bed-plate and held in vertical position near the bottom by connecting tie-rods 3. A substantially L-shaped arm 4 constitutes an overhanging head and is provided with horizontal portions 5, which are bolted to the bed-plate. To obtain absolute rigidity of the overhanging head 4, a cross brace or arm 6 of angular form extends laterally from one side of the forward extremity of said head 4 and curves downward into contact with the bed-plate 1, being provided at its lower end with horizontal portions 7, which are bolted to the bed-plate near one of its side edges.

The cutting mechanism consists of two cutting devices, one above the other, which are mounted on shafts journaled, respectively, in bearings attached to the bed-plate and overhanging head. The upper shaft 8, which carries a disk 9, forming one of the cutting devices, at its forward end is journaled in boxes which are attached to one side of the overhanging head 4, the boxes each consisting of an angular top plate 10, the horizontal portion of which is provided with a groove or recess of semicircular cross-section to form one half of the bearing and the vertical portion of which is bolted to the overhanging head, and a bottom plate 11, which is bolted to the horizontal portion of the top plate, as shown in Figs. 2 and 4, particularly Fig. 4, and has a similar recess, forming the other half of the bearing. The lower shaft 12 is located beneath the bed-plate and is journaled in boxes depending from the bed-plate. These boxes are of a novel form and consist of two members, the upper of which (numbered 13) is cast integral with the bed-plate and has a recess substantially semicircular in cross-section to form half of the bearing, and a lower plate 14, which is bolted to the top plate and has a similar recess, forming the other half of the bearing. The lower cutting-disk 15 is

mounted on the outer end of the lower shaft and extends or projects slightly through a slot 16 in the bed-plate, which is made sufficiently wide to permit the detachment and removal of the disk. The slot 16 is partially covered and narrowed in width by adjustable guide-plates 17 and 18, which are secured upon opposite sides of the slot and project partially over the top of said slots. The guide-plates 17 and 18 are formed substantially as shown in Fig. 6, each being recessed on one edge, as indicated at 19, for the passage of the lower cutting-disk and having a countersunk slot 20, through which a bolt is passed to secure the plate to the bed-plate, the purpose of the slots 20 in the guide-plates being to allow for adjustment of the guide-plates toward or from each other to widen or narrow the slot in the bed-plate. The upper cutting-disk is partially inclosed by a case or cap 21, which is bolted to the angle or cross brace 6 and is adapted to be swung up to completely expose the upper disk upon loosening the bolt securing it to said brace. The case or cap 21 is provided with a rim or brim 22, which extends outward sufficiently to strike the operator's hands and prevent them passing under the cutting-disks. The cutting-disks are rigidly fastened to the shafts in the manner shown in Fig. 5, in which the cutter-disk is arranged between two rings 23, which fit on the reduced screw-threaded end of the shaft and are rigidly fastened thereon by a nut 24.

A centering device is shown in Figs. 1, 2, and 3 for the purpose of centering the upper shaft and assisting in maintaining it in perfect rigidity. This device consists of an angular arm 25, which is bolted at one end to the cross-brace 6, and a relatively long screw or bolt 26, which passes through an opening in the opposite end of the arm and has its extremity fitting in a central depression in the end of the upper shaft. The screw 26 is fastened in position by lock-nuts 27 and 28, which engage upon the screw-threads of the screw and clamp against opposite sides of the arm.

The cutter-shafts 8 and 12 are each provided with pulleys 29 and 30 at the opposite ends to the cutting-disks, and the upper pulley 29 projects sufficiently beyond the lower pulley 30 to provide for the passing of the belts, as shown in Fig. 2.

A driving-shaft 31 is journaled in the end members 2 of the frame and has two pulleys 32 and 33, one of which is larger than the other. A belt 34 is fitted on the pulleys 29 and 33 and a similar belt 35 on the pulleys 30 and 32. The object in having the pulley 33 larger than the pulley 32 is to provide for driving the upper shaft at a greater speed than the lower shaft, and thus serve to both cut and feed the cloth.

The driving-shaft 31 is preferably rotated by a motor 36, such as an electric motor, which is mounted on a suitable portion of the machine, for instance, by bolting it beneath the bed-plate, as shown in Figs. 1 and 2. Power is transmitted from the motor 36 to the driving-shaft 31 by providing the shaft 37 of the motor with a pulley 38 and the driving-shaft 31 with another pulley 39 and fitting a belt around the pulleys. This provides a self-contained machine. However, if desired, power can be derived in the usual way from a power-shaft.

I claim as my invention—

1. In a machine of the class described, a frame, an overhanging head attached to said frame, shafts carrying cutters rotatably supported from the frame and overhanging head, and a cross-brace extending from the overhanging head and fastened to the frame to secure absolute rigidity of said overhanging head, substantially as set forth.

2. In a machine of the class described, a frame, an overhanging head attached to said frame, shafts carrying cutters rotatably supported from the frame and overhanging head, and an angular cross-brace extending laterally from at or near the free end of said overhanging head and bending into contact with the frame to which it is bolted, substantially as set forth.

3. In a machine of the class described, a frame, an overhanging head attached to said frame, shafts carrying cutters rotatably supported from the frame and overhanging head, a cross-brace extending from the overhanging head, and an arm extending from the cross-brace and having means for centering one of the shafts.

4. In a machine of the class described, a frame, an overhanging head attached to said frame, shafts carrying cutters rotatably supported from the frame and overhanging head, a cross-brace extending from the overhanging head, an arm extending from the cross-brace and a centering-screw adjustably mounted in the arm with its end seating in a central depression in the end of one of the shafts, substantially as set forth.

5. In a machine of the class described, a frame having a bed-plate provided with a strengthening-rib, an overhanging head attached to the bed-plate, cutter-shafts journaled in boxes attached to the bed-plate and overhanging head, a cross-brace connecting to the bed-plate and the overhanging head and arranged above and substantially parallel with the strengthening-rib of the bed-plate, substantially as set forth.

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