No. 726,786. PATENTED APR. 28, 1903.

P. J. TUNNY.

LAWN MOWER.

APPLICATION FILED NOV. 8, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

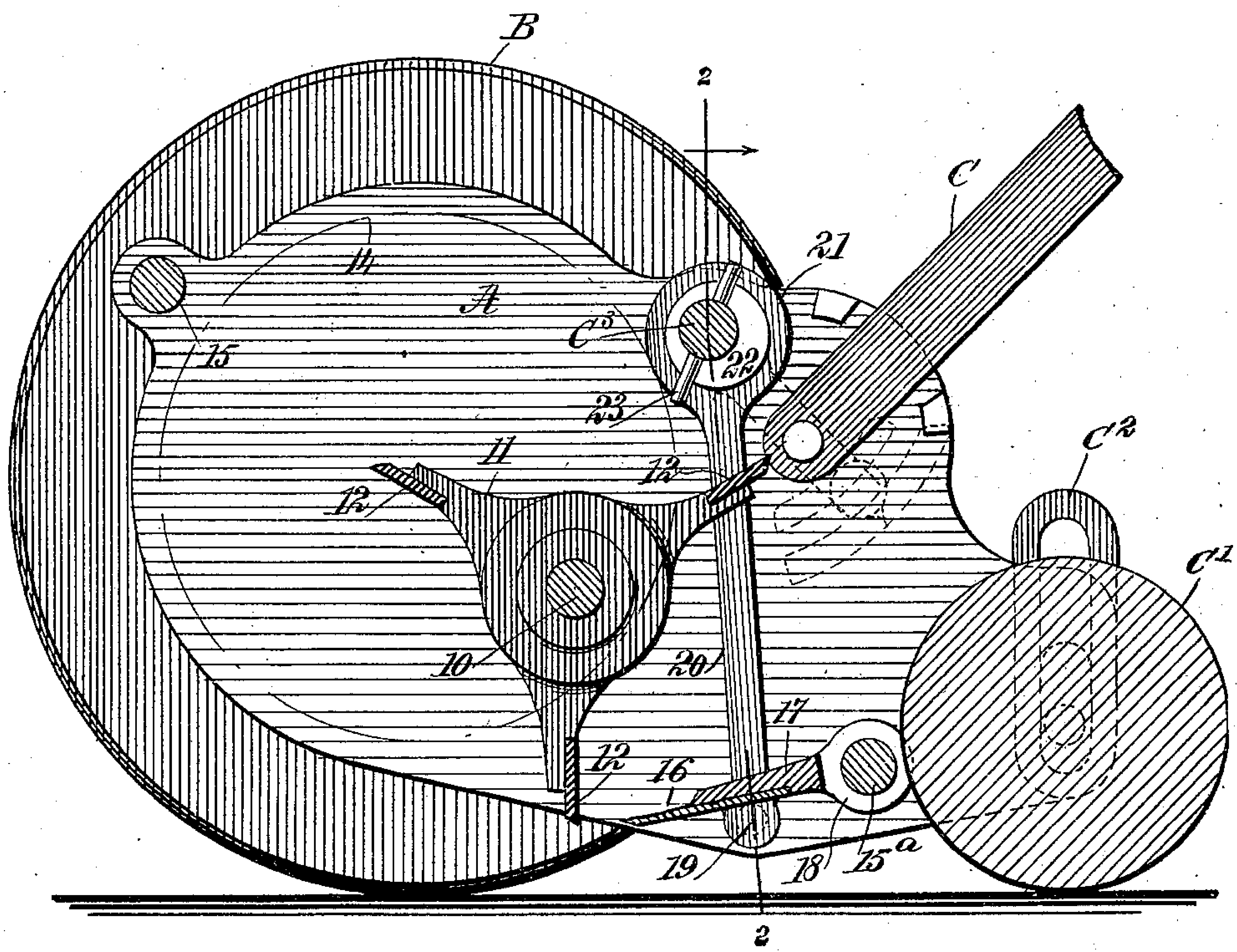
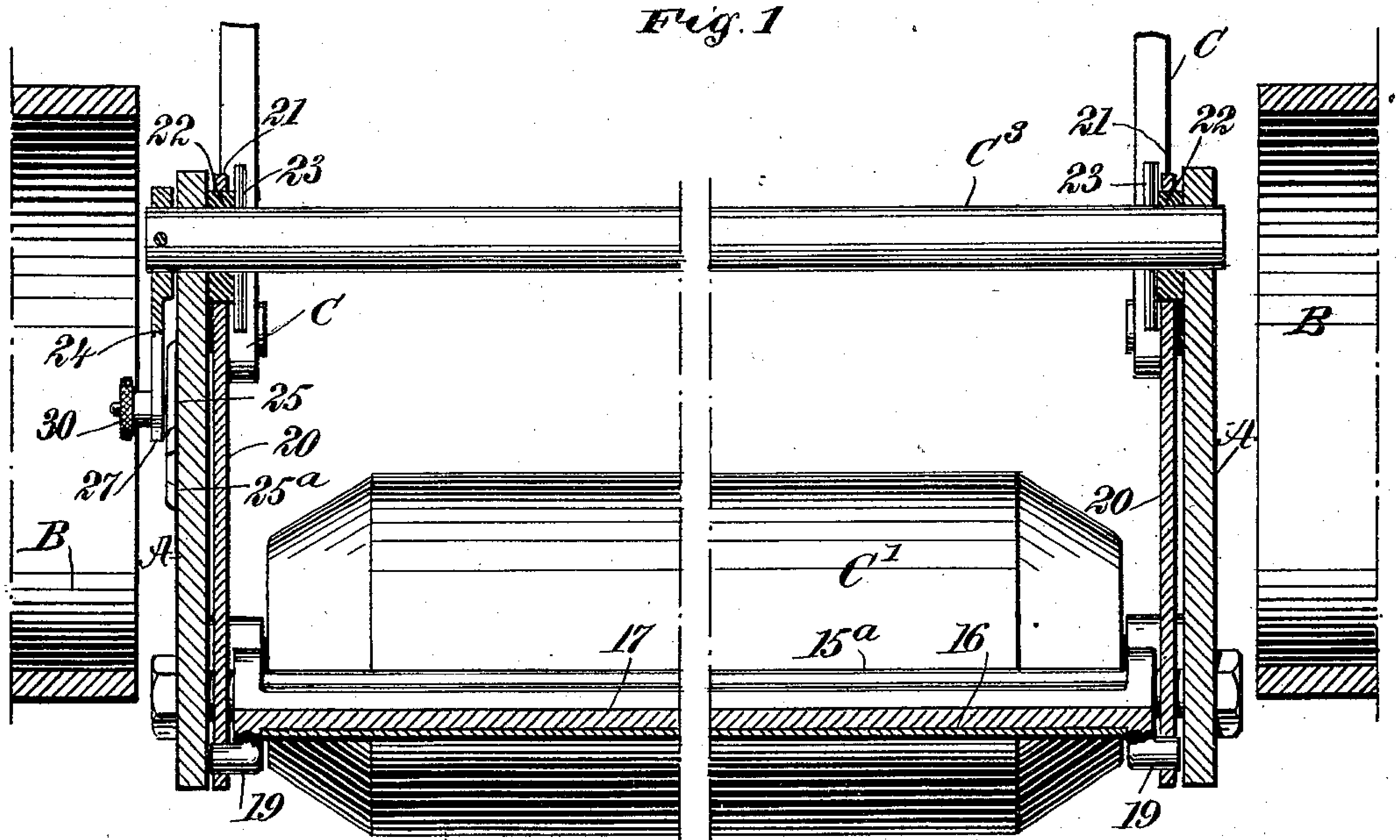


Fig. 1



WITNESSES:

John a Bergstrom

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Fig. 2

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Fig. 3

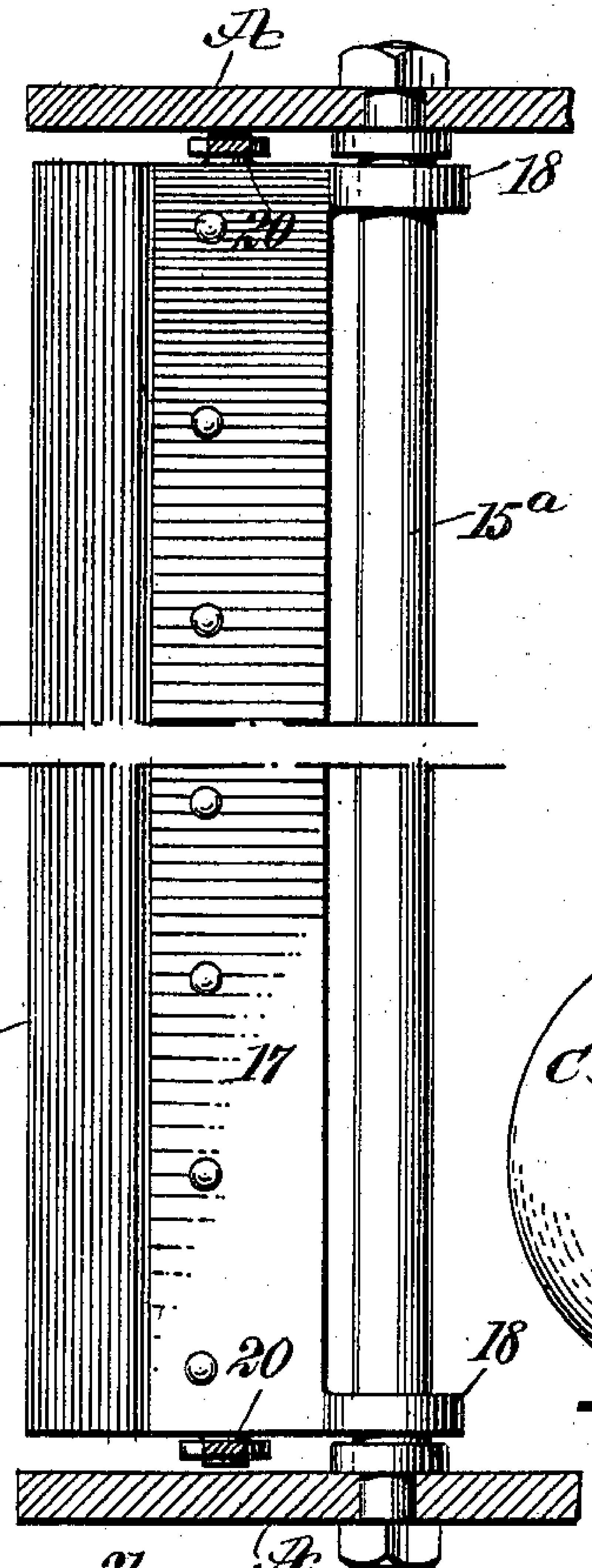
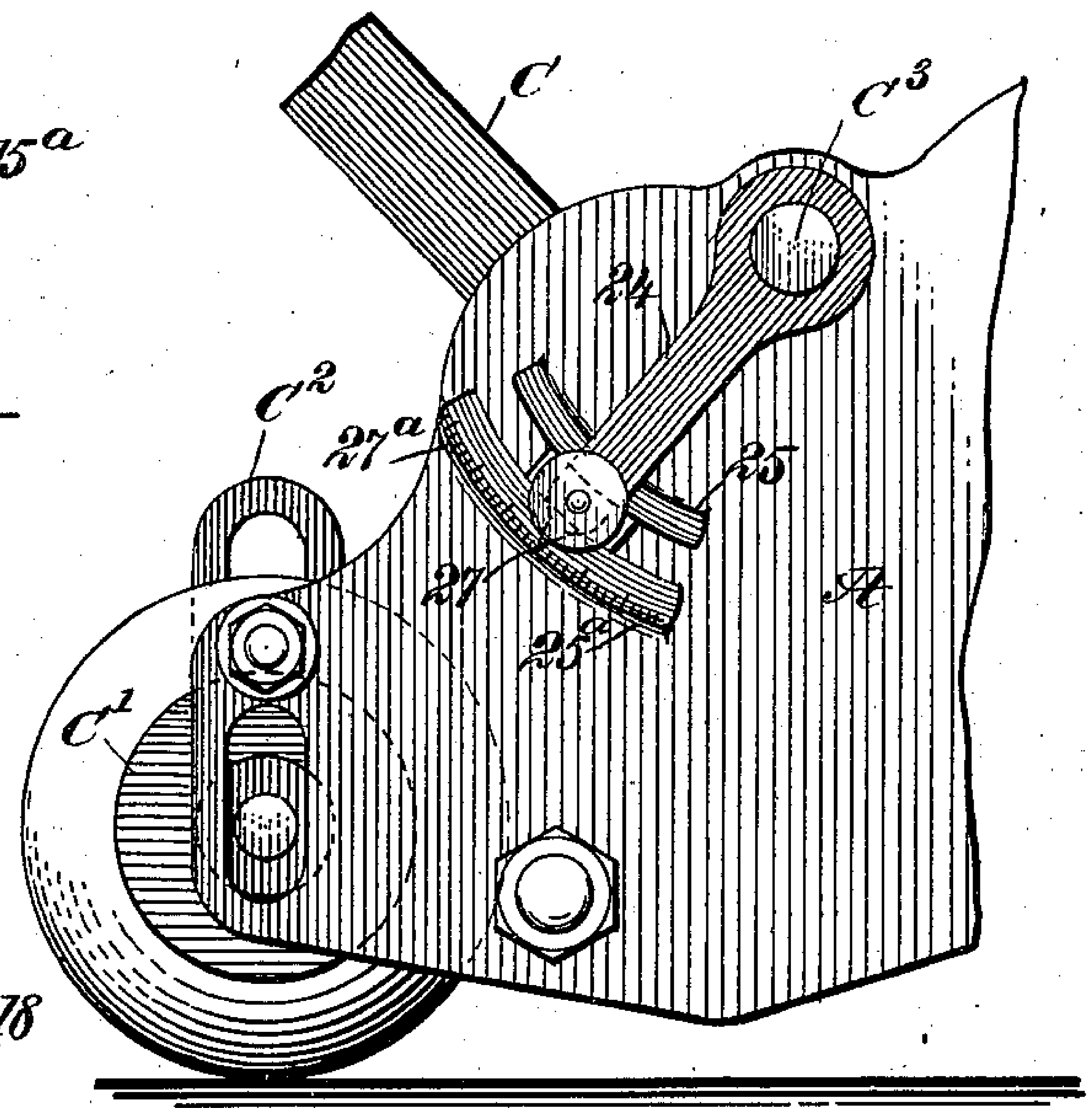


Fig. 4



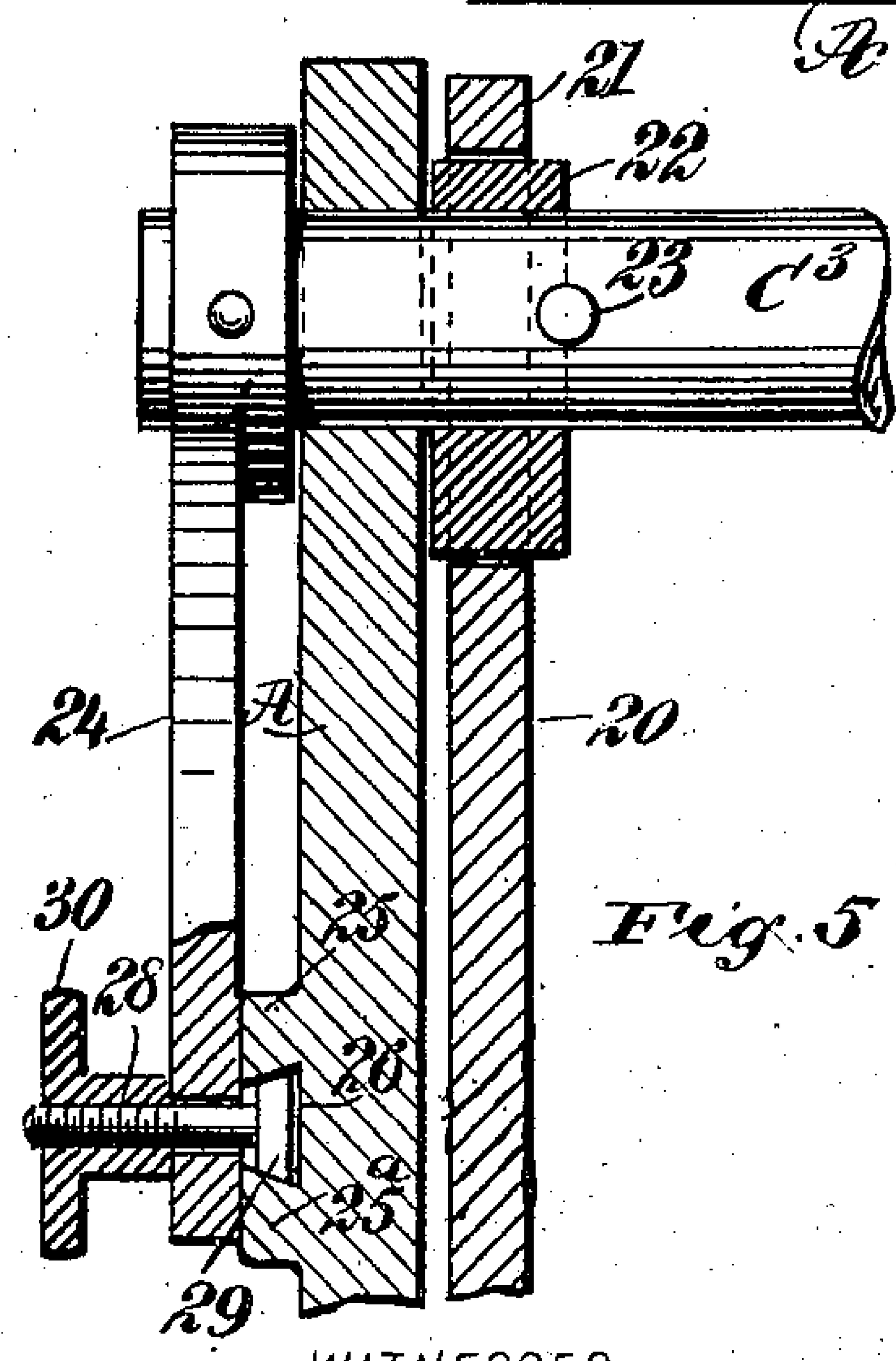
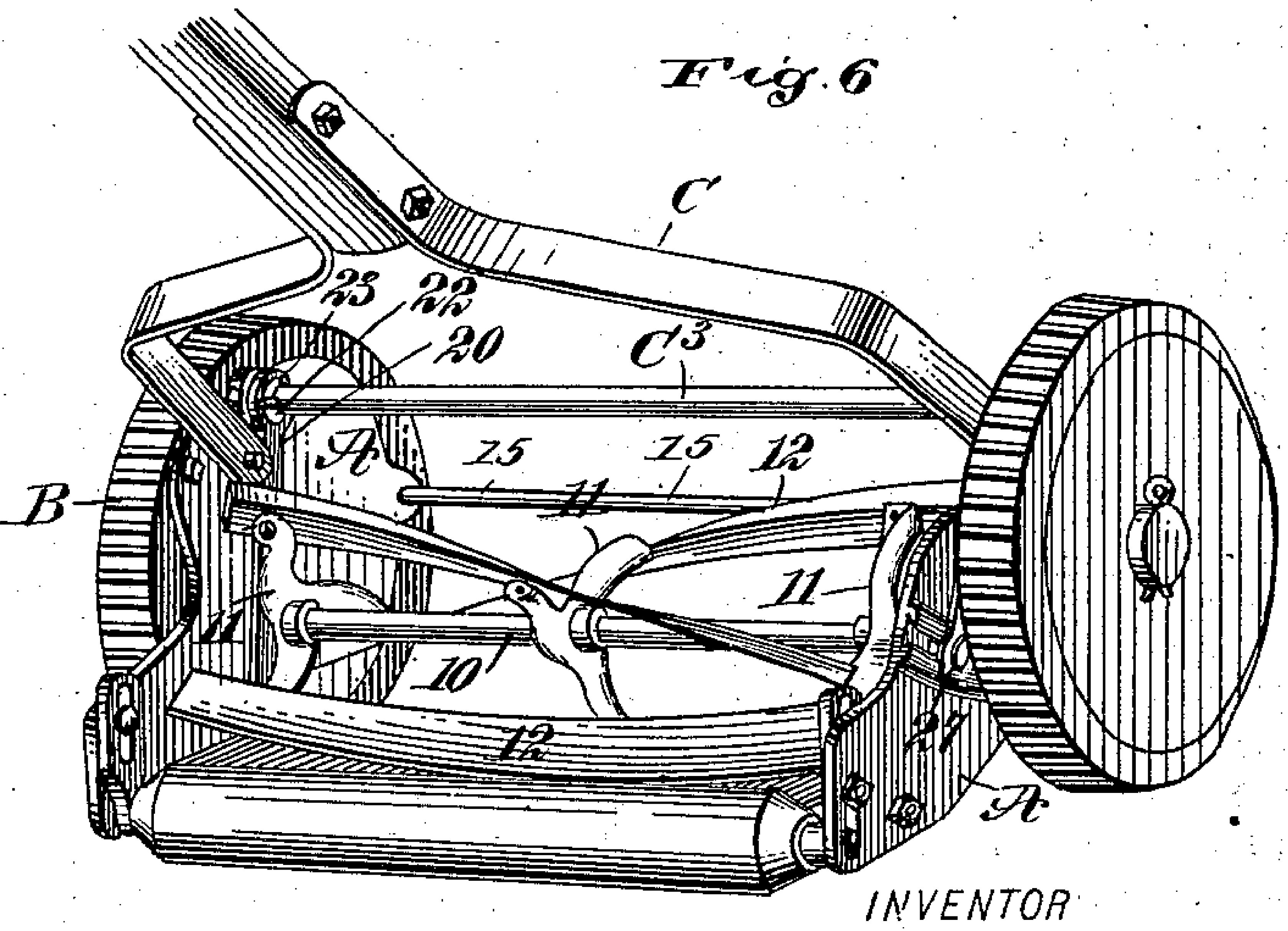


Fig. 5

Fig. 6



WITNESSES:

INVENTOR

Patrick J. Tunny

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

PATRICK J. TUNNY, OF NEW YORK, N. Y.

LAWN-MOWER.

SPECIFICATION forming part of Letters Patent No. 726,786, dated April 28, 1903.

Application filed November 8, 1902. Serial No. 130,583. (No model.)

To all whom it may concern:

Be it known that I, PATRICK J. TUNNY, a citizen of the United States, and a resident of the city of New York, (Spuyten Duyvil, borough of the Bronx,) in the county and State of New York, have invented a new and Improved Lawn-Mower, of which the following is a full, clear, and exact description.

The purpose of my invention is to provide a construction of lawn-mover whereby the lower or stationary knife may be effectually, quickly, and conveniently adjusted with reference to the revolving knife-blades by any person of ordinary intelligence in a manner to compensate for wear or the condition of the grass to be cut, such adjustment being made with respect to a scale at one side of the machine and by the movement of a single lever, which lever can be quickly set in adjusted position, serving at such time to maintain the desired adjustment relative to the fixed and the revolving blades.

Another purpose of the invention is to provide an attachment of the described type adapted to be used in connection with any form of lawn-mower and which may be applied in a simple, durable, and economic manner.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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

Figure 1 is a transverse section through a lawn-mower having the attachment applied. Fig. 2 is a vertical section taken practically on the line 2 2 of Fig. 1. Fig. 3 is a horizontal section through portions of the side sections of the frame of the machine and mainly a plan view of the stationary knife and its support. Fig. 4 is a partial side elevation of the cutting-section of the lawn-mower, showing the means for effecting the adjustment of the stationary or lower knife at one side of the machine. Fig. 5 is a detail sectional view through one side section of the frame of the machine and the adjusting device for the lower or stationary blade, and Fig. 6 is a perspective view of the body or cutting section of a lawn-mower having the improvement applied.

A represents the sides of a lawn-mower frame, which may be of any approved type.

B represents the customary wheels used in connection with lawn-mowers; C, the handle for moving the frame; C′, the rear roller, and C^2 the link carried by the frame, in which the trunnions of the roller C′ have play.

The shaft 10, carrying the rotary cutters, is provided with spiders 11, to which cutting-blades 12, preferably of the spiral type, are secured; but the said blades 12 may be of any suitable form. The shaft 10, carrying the aforesaid rotary cutters, is driven from the supporting-wheels B of the machine through the medium of the customary gearing or chain of gearing 14; but such gearing constitutes no portion of this invention.

The frame of the machine is shown connected by an upper forward fixed rod 15 and a lower rear fixed rod 15^a, and the side pieces A of the frame are further connected by an upper shaft C^3, located at the rear portion of the frame above the rotary cutters heretofore described and forward of the vertical plane of the lower rear fixed rod 15^a, as is particularly shown in Fig. 1.

The lower or stationary blade 16, with which the knives 12 on the rotary cutter are to engage, is beveled from the front rearward in the customary manner and is secured to a carrier 17, which carrier is in the form of a plate extending nearly from one side piece A of the frame to the other, as is best shown in Fig. 3, and the said carrier 17 for the fixed or stationary knife 16 is provided at each end with rearwardly-extending eyes 18, which are loosely mounted on the rear lower connecting-rod 15^a for the frame, as is also best shown in Fig. 3. The carrier 17 for the lower stationary blade 16 is likewise provided between its front and its rear edges at each end with downwardly and outwardly projecting lugs 19, as is best shown in Fig. 2. The lower ends of links 20 are pivotally mounted on the lugs 19, and these links extend upward inside of the side pieces A of the frame, being provided at their upper ends with preferably integral eccentric-straps 21, and these eccentrics-traps engage with the peripheral surfaces of eccentrics 22, secured upon the upper rear shaft C^3. These

eccentrics and the straps are preferably held in position on the aforesaid upper shaft C^3 in the manner shown in Fig. 5, in which it will be observed that pins 23 are passed through the shaft C^3 and through recesses in the inner faces of the eccentrics 22, which recesses are sufficiently deep to permit the pins 23 to constitute shoulders for the eccentric-straps 21, and thus hold the latter in position. It will be observed that by turning the shaft C^3 in one direction the carrier 17 for the lower or stationary knife 16 will be lowered and that by moving the said shaft C^3 in an opposite direction the said knife and its carrier will be raised, so that a nice adjustment may be obtained between the stationary knife 16 and the blades 12 of the rotary cutter, enabling the cutting members of the lawn-mower to be adjusted accurately and nicely with relation to each other in the event of wear or according to the character of the grass to be cut. The adjustment of the shaft C^3 is preferably made at one end of the said shaft only, and said adjustment may be made either at the right or the left hand side of the frame and is located at the exterior of one of its side pieces A. This adjusting device for the shaft C^3 consists of a lever 24, which is secured in any approved manner to an extremity of the shaft C^3 and extends normally downward and rearward, as is shown in Figs. 1 and 4, over segmental concentric guide-ribs 25 and 25^a, having a dovetail opening 26 between them, as is illustrated in Fig. 5. The end of the lever 24 is provided with a pointer 27, which extends over a scale 27^a on the outer face of the lower guide-rib or projection 25^a, and when the machine is constructed the pointer 27 is placed over the central division on the scale 27^a, at which time there will be a proper adjustment between the blades of the rotary cutter and the lower or stationary knife.

The lever 24 may be held in adjustment in any suitable or approved manner. As illustrated, a bolt 28 is passed loosely through an opening in the said lever 24 near its free end, the outer end of the said bolt being its threaded end, and the head 29 of the bolt is shaped to travel in the dovetail opening 26 between the guide-ribs or projections 25 and 25^a, as is best shown in Fig. 5. A thumb-nut 30 is located upon the outer or threaded portion of the said nut 28, as is also particularly shown in Fig. 6, and when the said thumb-nut 30 is screwed down to a bearing against the lever-arm 24 the said arm 24 will be effectually held in the position to which it has been adjusted and the lower and the upper rotary cutters will be held in the desired relation to each other. This adjusting attachment to the lawn-mower for the lower knife is exceedingly simple, durable, and economic and may be readily and effectively operated by any person capable of working a lawn-mower, and the adjustment of the cutting members of the machine relative to each other is made at one side of the machine instead of at both sides, as is usually necessary. Furthermore, through the medium of the adjusting-lever 24 and the scale on the guide-rib or projection 25^a a close and accurate adjustment of the cutting members relative to each other may be obtained.

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

1. In a lawn-mower, a revolving cutter, a pivotally-mounted lower knife adapted to coact with the blades of the revolving cutter, an adjustable shaft for the lower knife, means for operating said shaft at one outer side of the frame of the machine, and connections between said shaft and the lower knife, for turning the knife on its pivots, substantially as described.

2. In a lawn-mower, a revolving cutter, a lower knife adapted to coact with the blades of the revolving cutter, a support carried by the frame of the mower and by which the said lower knife is pivotally carried, an upper shaft, eccentrics on the said shaft, links pivotally connected with the end portions of the said lower blade and provided with eccentric-straps receiving said eccentrics, and means for turning the said upper shaft, which means are located at one outer side portion of the frame of the mower, whereby the single adjusting medium effects an equal adjustment at each end of the said lower knife, as described.

3. The combination with the frame of a lawn-mower and a rotary cutter mounted to revolve in the said frame, of a support extending from side to side of the frame at the rear of the said rotary cutter, a carrier pivoted on the said support, provided with lugs at its ends between its front and rear edges, a lower knife secured to the said support, adapted to coact with the blades of the rotary cutter, links pivoted to the lugs from the ends of the support for the lower knife, a shaft journaled in the upper portion of the said frame above the said rotary cutter and at the rear thereof, eccentrics secured on the said shaft within the frame of the lawn-mower, eccentric-straps carried by the said links in engagement with the said eccentrics, and an adjusting-lever secured to one extremity of the said upper shaft, as described.

4. The combination with the frame of a lawn-mower and a rotary cutter mounted to revolve in the said frame, of a support extending from side to side of the frame at the rear of the said rotary cutter, a carrier pivoted on the said support, provided with lugs at its ends between its front and rear edges, a lower knife secured to the said support, adapted to coact with the blades of the rotary cutter, links pivoted to the lugs from the ends of the support for the lower knife, a shaft journaled in the upper portion of the said frame above the said rotary cutter and at the rear thereof, eccentrics secured on the said shaft within the frame of the lawn-mower,

eccentric-straps carried by the said links in engagement with the said eccentrics, an adjusting-lever secured to a terminal of the said upper shaft at the outside of the frame, concentric segmental ribs located on the side of the frame over which the said lever passes, the space being dovetailed, a scale on one of the ribs, a pointer carried by the lever, extending over the said scale, and means carried by the said lever and extending into the space between the said guide-ribs whereby to lock the lever in adjusted position, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PATRICK J. TUNNY.

Witnesses:

J. FRED. ACKER,

JNO. M. RITTER.