

No. 796,161.

PATENTED, AUG. 1, 1905.

L. SWANK.
COMPUTING CHEESE CUTTER

APPLICATION FILED OCT. 5, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

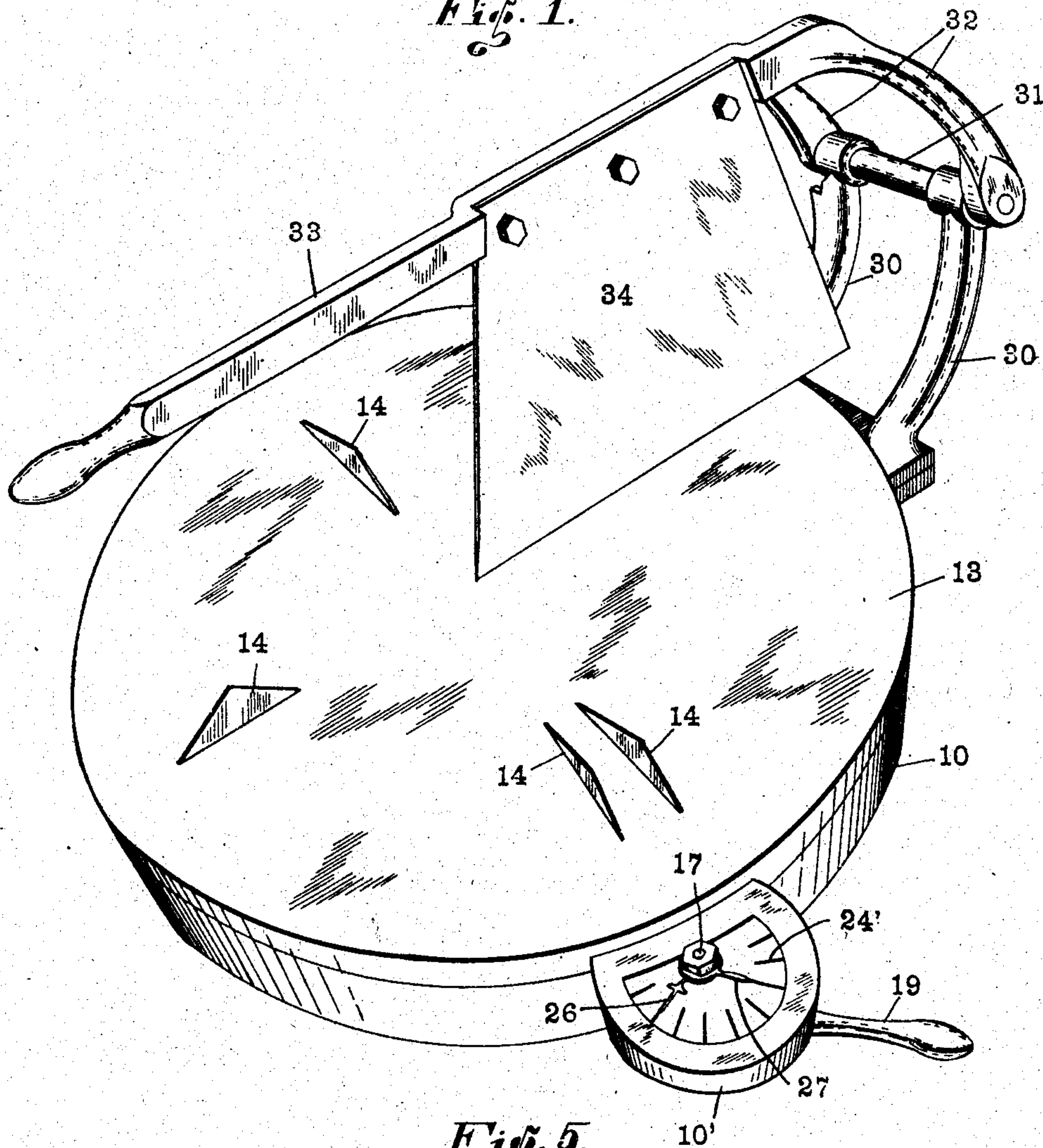
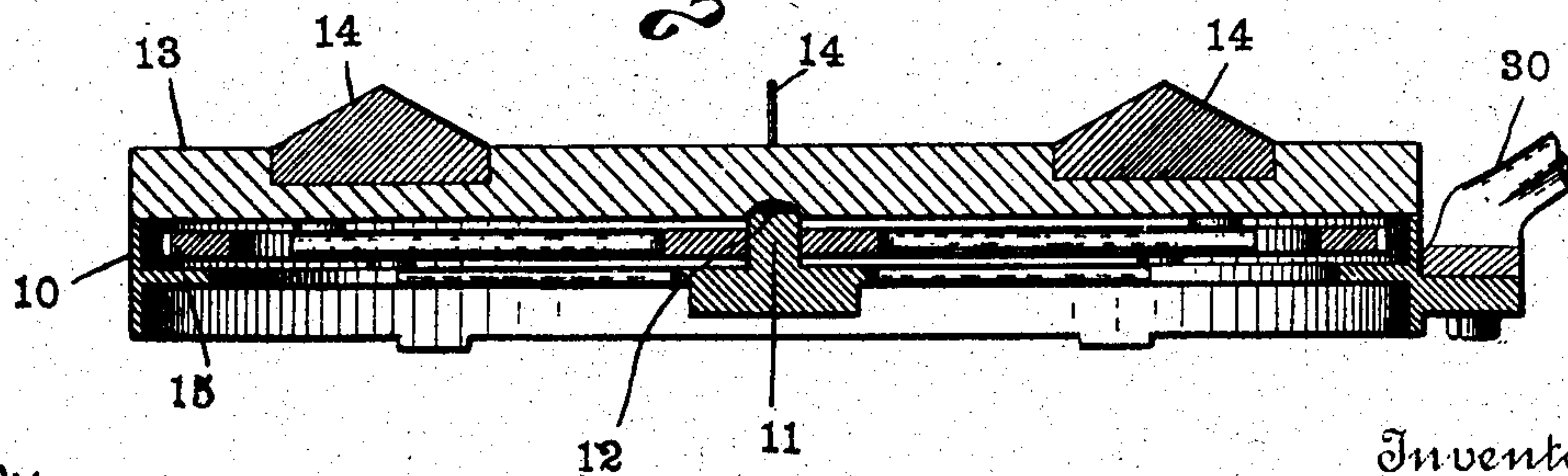


Fig. 5.

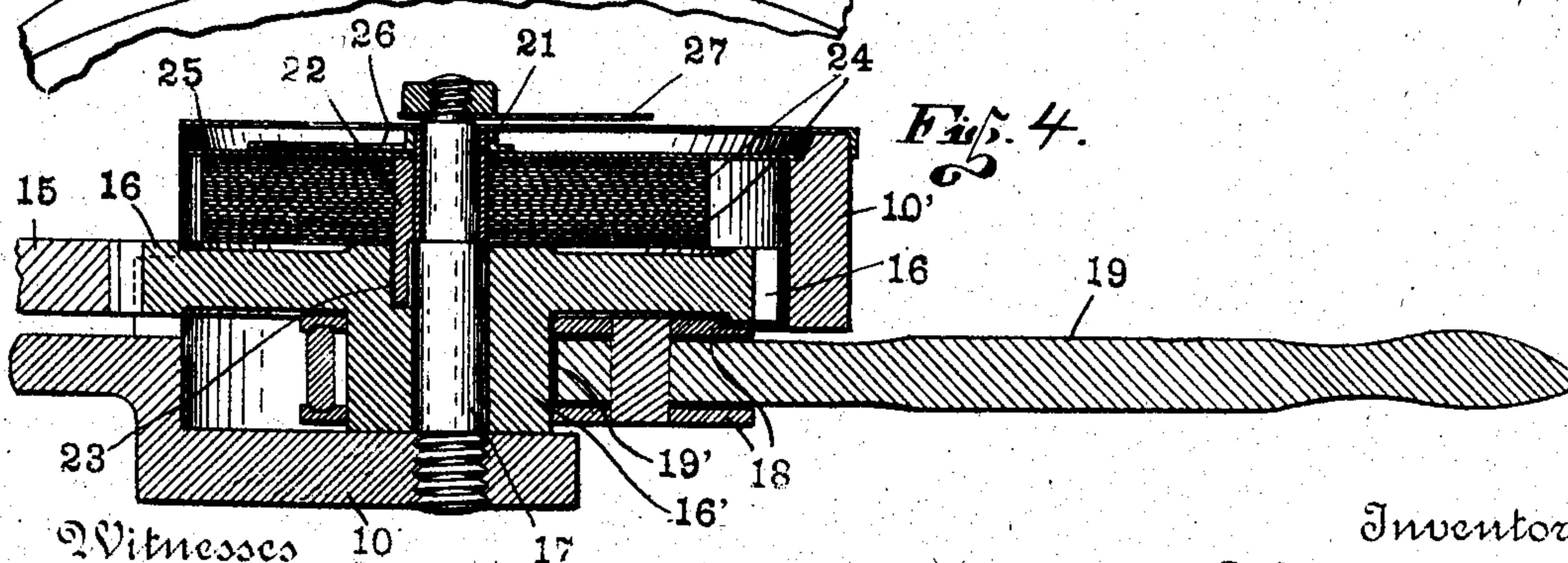
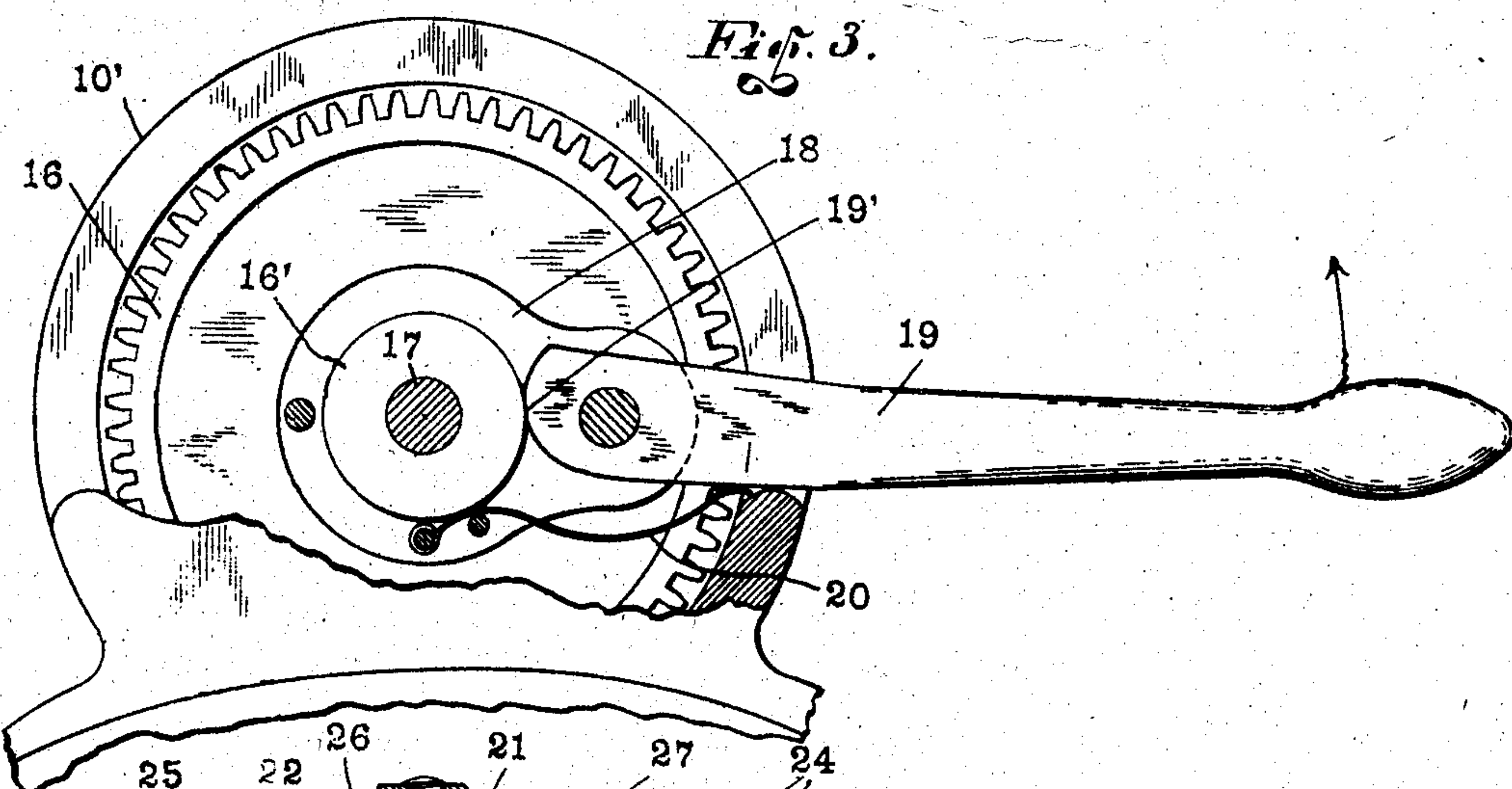
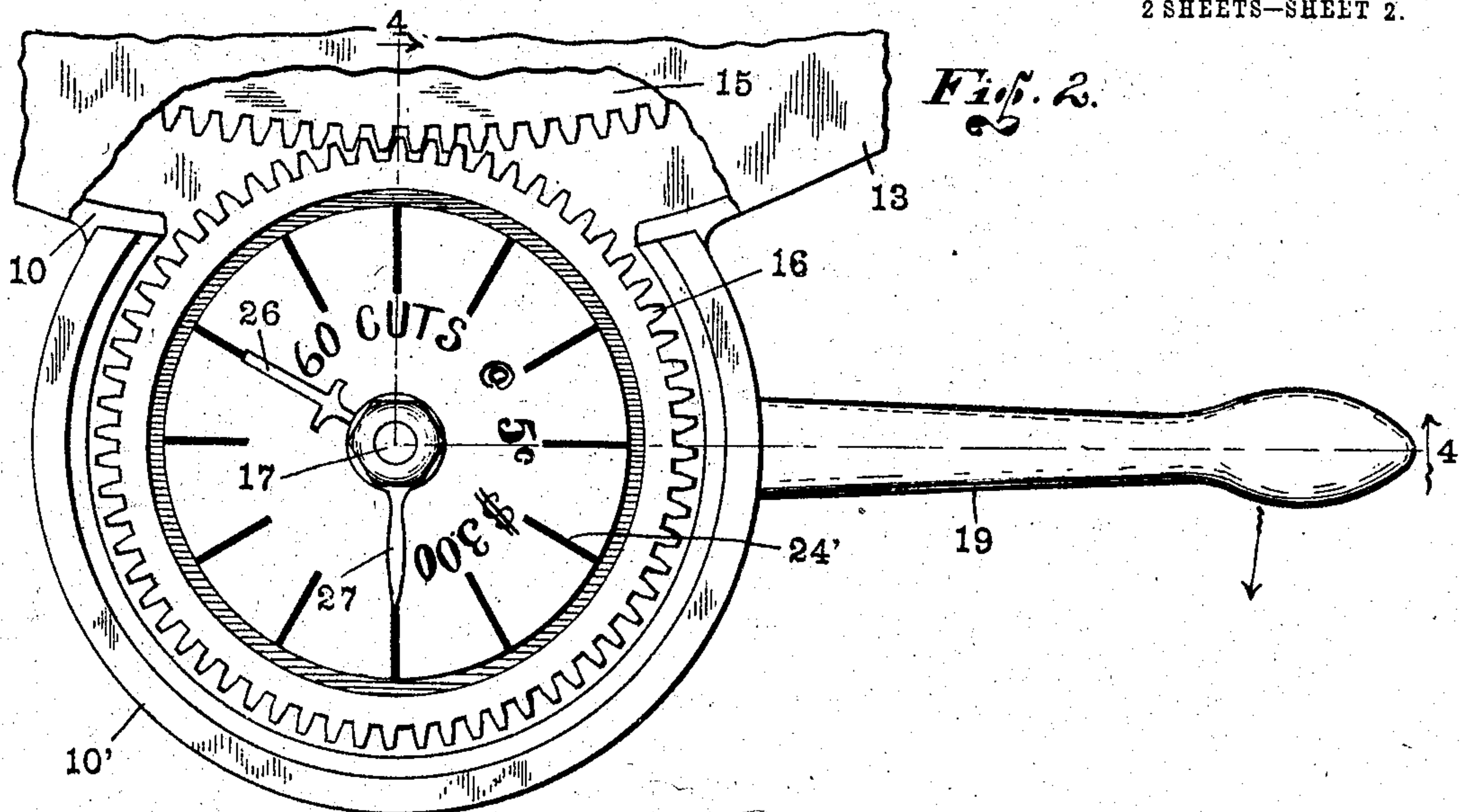


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2 SHEETS—SHEET 2.



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COMPUTING CHEESE-CUTTER.

No. 796,161.

Specification of Letters Patent.

Patented Aug. 1, 1905.

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To all whom it may concern:

Be it known that I, LAFE SWANK, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Computing Cheese-Cutters, of which the following is a specification.

The object of my invention is to produce a cheese-cutter construction by means of which the cheese-carrying table may be moved very accurately in order that a cheese placed thereon may be firmly and accurately subdivided, and to this end includes a peculiar single-acting driving connection which will not tend to move the table backward on the return stroke of the operating-lever.

A further object of my invention is to so arrange the parts that without sacrificing accuracy of movement the operating parts may not project above the level of the table, but may instead be down out of the way, yet so arranged that only a low base is required and also so that a considerable movement of the operating-lever may be required for a comparatively small movement of the cheese-carrying table.

A further object of my invention is to provide means for holding a multiplicity of measuring cards or charts for use in connection with cheeses of different weights and values and to provide such improvements in details of construction as shall be hereinafter pointed out.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of a cheese-cutter embodying my improvements; Fig. 2, a plan, about full size, of the operating elements for rotating the cheese-carrying table; Fig. 3, an under plan of the same parts; Fig. 4, a section on line 4 4 of Fig. 2; and Fig. 5 is a vertical section, on a smaller scale, through the base and table.

In the drawings, 10 indicates a base-casting provided at its center with a vertical pin 11, adapted to enter the central bearing 12 of the horizontally-rotating table 13. Table 13 is provided on its upper face with a plurality of retaining-prongs 14, upon which the cheese may be placed. On its lower face table 13 carries a gear 15, which is adapted to mesh with a pinion 16. Pinion 16 is journaled upon a vertical stationary pin 17, secured in the base-frame 10, and is provided on its lower side with a hub 16', having a smooth periphery. Journaled upon the hub 16' is a yoke 18,

in which is pivoted an operating-lever 19. The operating-lever 19 is provided with a cam-shaped inner end 19', adapted to engage the periphery of the hub 16', and the operating-lever is normally urged forward by means of a light spring 20, thus normally holding the cam end 19' in engagement with the periphery of hub 16'. Journaled upon the upper end of pin 17, above pinion 16, is a sleeve 21, provided upon one side with a key 22, which is parallel with the axis of the sleeve and so arranged that its lower end may project into an opening 23, formed in the upper face of the pinion 16, the arrangement being such that the sleeve 21 will rotate with the pinion 16, but may be easily removed therefrom. Slipped over the sleeve 21 are several charts or disks 24, which are keyed to the sleeve 21, so as to rotate therewith, by means of the key 22. Each chart or disk is provided upon at least one face with a series of division-marks 24', equally angularly spaced, and each of said disks is then marked to indicate the total price of the cheese to be cut and the number of cuts to be made in such cheese—as, for instance, if a cheese having a total value of three dollars is to be retailed in slices the minimum value of which shall be five cents one of the charts 24 will be provided with subdivisions 24' having such arrangement that a movement of the pinion 16 through a distance equal to one of subdivisions will cause the cheese-table 13 to move through six degrees, thus requiring sixty steps of the cheese-table to make a complete revolution, and thus providing means by which the cheese may be accurately cut into sixty equal slices the value of each of which shall be five cents and the total value of which shall be three dollars.

The pinion 16 is inclosed by a partial annulus 10', which is preferably integral with the main base 10 and a piece of clear celluloid or glass or other transparent body 25 slipped over sleeve 21 on top of the stack of disks 24. The upper end of sleeve 21 projects through the cover 25, and sleeved upon said upper end is an indicating-hand 26, said hand being mounted, as is common with the hour-hand of an ordinary clock, in such manner as to be held on sleeve 21 by friction, so that the hand 26 may be turned upon the sleeve 21, but so that said hand will turn with the sleeve whenever the sleeve is turned. The upper end of pin 17 projects above sleeve 21, and secured to this upper end is a hand or pointer 27, which remains fixed during op-

eration and serves as a guide to indicate the number of divisions—i. e., the angular distance through which the pinion 16 has been advanced at any operation.

Base 10 is provided at one side with two arms 30, which rise upward just beyond the edge of the cheese-table 13 and extend up a distance approximately one-half of the height of the average round cheese. The upper ends of the arms 30 support a shaft or pivot-pin 31, upon which is pivoted the lower depending arms 32 of a knife-lever 33, which extends forward across the table 13 and carries at its inner or rear end a knife 34, the forward lower corner of which when the knife is in the position shown in Fig. 1 reaches approximately to the center of table 13.

In operation the cheese is placed upon the table 13, the knife 34 being thrown back out of the way. If the total value of the cheese is, say, three dollars, the operator will remove hands 26 and 27 and cover 25 and then select the desired disk 24 which will be so subdivided as to indicate sixty steps of the table 13 to complete a revolution. If desired, the entire stack, together with the sleeve 21, may be removed to facilitate the selection of the desired disk 24. The parts will then be returned to position, the selected disk 24 being on top. The operator then grasps the lever 19 and moves it in the direction indicated by the arrow in Fig. 2, thus drawing the cam-shaped end thereof against the hub 16' and rotating the pinion 16 in one direction, so as to cause the table 13 to rotate, this movement continuing until the hand 26 has been moved from the hand 27 an angular distance as indicated by the divisions on the visible disk 24 equal to the amount of cheese desired, whereupon the cutter will be operated and a wedge of cheese cut from the main body—as, for instance, if a wedge of cheese having a value of twenty cents is desired the hand 26 will be moved from the hand 27 an angular distance equal to four subdivisions of the visible disk 24. The operator will then return the hand 26 to a point immediately beneath the hand 27, the sleeve 21 and all of the parts, including the cheese-table and the operating-lever 19, remaining stationary while this is being done. When another wedge of cheese is to be cut, the operation is repeated by first swinging lever 19 backward to obtain a new hold upon hub 16' and then forward in the manner already described. The backward movement of lever 19 swings the end 19' away from the hub 16', so that there is no tendency to move the table 13 backward. By the use of the cam-shaped end of the operating-lever and the smooth periphery of the hub 16' an engagement between the two may be had at any point, thus increasing the accuracy of the operation.

I claim as my invention—

1. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable

table journaled thereon, a cutter carried by the main frame and coöperating with said table, a smooth hub journaled upon an axis substantially parallel with the axis of the table, intermediate driving connections between said hub and table below the upper face thereof whereby a plurality of rotations of the hub will be required to produce a complete rotation of the table, a pivoted yoke coaxial with said hub, an operating-lever pivoted in said yoke and provided with a cam-shaped end adapted to engage with said hub whereby reciprocation of said lever will operate to rotate the hub in one direction only, a spring carried by said yoke and engaging said lever to normally urge its cam-shaped end into engagement with said hub, and an indicator to indicate the angular movement of the hub.

2. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable table journaled thereon, a cutter carried by the main frame and coöperating with said table, a smooth hub journaled upon a suitable axis upon the main frame, intermediate driving connections between said hub and said table whereby a plurality of rotations of the hub will be required to produce a complete rotation of the table, a pivoted yoke coaxial with said hub, an operating-lever pivoted in said yoke and provided with a cam-shaped end adapted to engage with said hub whereby reciprocation of said lever will operate to rotate the hub in one direction only, a spring carried by said yoke and engaging said lever to normally urge its cam-shaped end into engagement with said hub, and an indicator to indicate the angular movement of the hub.

3. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable cheese-carrying table journaled thereon, a cutter carried by the main frame and coöperating with said table, a gear carried by said table, a pinion mounted upon a substantially vertical axis and meshing with said gear and having a smooth hub, a pivoted yoke journaled on said hub below the upper face of the table, an operating-lever pivoted in said yoke and having a cam-shaped end adapted to engage said smooth hub, a spring for normally urging the cam-shaped end of said lever into engagement with the hub, and an indicator to indicate the angular movement of the hub.

4. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable table journaled thereon, a cutter carried by the main frame and coöperating with said table, a smooth hub journaled upon an axis substantially parallel with the axis of the table and below the upper face thereof, intermediate driving connections between said hub and table whereby a plurality of rotations of the hub will be required to produce a complete rotation of the table, a pivoted yoke coaxial with said hub, an operating-lever pivoted in said yoke and provided with a cam-shaped end

adapted to engage with said hub whereby reciprocation of said lever will operate to rotate the hub in one direction only, a spring for normally urging the cam-shaped end of said lever into engagement with the hub, and means carried by the hub for accurately determining the angular movement of said hub.

5. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable table journaled thereon, a cutter carried by the main frame and coöperating with said table, a smooth hub journaled upon a suitable axis upon the main frame, intermediate driving connections between said hub and table whereby a plurality of rotations of the hub will be required to produce a complete rotation of the table, a pivoted yoke coaxial with said hub, an operating-lever pivoted in said yoke and provided with a cam-shaped end adapted to engage with said hub whereby reciprocation of said lever will operate to rotate the hub in one direction only, and means carried by the hub for accurately determining the angular movement of said hub.

6. In a cheese-cutter, the combination, with the main frame, of a horizontally-rotatable table journaled thereon, a cutter carried by the main frame and coöperating with said table, a hub journaled upon a suitable axis upon the main frame, intermediate driving connections between said hub and said table whereby a plurality of rotations of the hub will be required to produce a complete rotation of the table, a pivoted yoke coaxial with said hub, an operating-lever pivoted in said yoke and provided with a cam-shaped end adapted to engage with said hub whereby reciprocation of said lever will operate to rotate the hub in one direction only, a spring carried by said yoke and engaging said lever to normally urge its cam-shaped end into engagement with said hub, and means carried by the hub for accurately determining the angular movement of said hub.

7. In a cheese-cutter, the combination, with the main frame, of a cheese-carrying table journaled thereon, a cutter carried by the main frame and coöperating with said table, a gear carried by said table, a pinion mounted upon a substantially vertical axis meshing with said gear and having a smooth hub, a yoke journaled on said hub, an operating-lever pivoted in said yoke and having a cam-shaped end adapted to engage said smooth hub, a spring for normally urging the cam-shaped end of said lever into engagement with the hub, and means for accurately determining the angular movement of said pinion.

8. In a cheese-cutter, the combination, with the main frame, the cheese-carrying table journaled thereon and the cutter coacting therewith, of a rotatable element having interme-

diate driving connections with the table of such character that several rotations of said element are necessary to produce a single rotation of the cheese-carrying table, means for rotating said driving element, a fixed indicator extending over said element, an indicator carried by said rotating element capable of independent movement thereon, whereby said second indicator will be rotated by the rotating element but may be rotated independently thereof in a reverse direction, and means for indicating the angle between the two indicators.

9. In a cheese-cutter, the combination, with the main frame, a cheese-carrying table carried thereon, and a cutter coöperating therewith, of a gear carried by said table, a pinion meshing with said gear, means carried by said pinion for supporting an indicator-disk upon its upper face, an indicating-hand operatively connected to said pinion above the indicator-plate by means causing its movement with the pinion but permitting independent movement, and a fixed indicator arranged in conjunction with the indicator-disk.

10. In a cheese-cutter, the combination, with the main frame, a horizontally-rotatable cheese-carrying table carried thereon, and a cutter coöperating therewith, of a gear carried by said table, a rotatable driver, intermediate driving connections between said driver and table-gear requiring several rotations of the driver for one rotation of the table, a swinging operating-handle arranged in a plane substantially parallel with the plane of the table, and a clutch-driving connection in the train between the handle and driver for driving the table step by step in one direction only.

11. In a cheese-cutter, the combination, with the main frame, the cheese-carrying table journaled thereon and the cutter coacting therewith, of a rotatable element having intermediate driving connections with the table of such character that several rotations of said element are necessary to produce a single rotation of the cheese-carrying table, means for rotating said driving element, an indicator carried by said rotating element capable of independent movement thereon whereby it will be rotated by the rotating element but may be rotated independently thereof, and means associated with said indicator for indicating the angular movement thereof from a given position.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 29th day of September, A. D. 1904.

LAFE SWANK. [L. s.]

Witnesses:

ARTHUR M. HOOD,
JAMES A. WALSH.