

No. 689,581.

Patented Dec. 24, 1901.

W. M. EVANS.
COMPUTING CHEESE CUTTING APPARATUS.

(Application filed June 15, 1901.)

(No Model.)

2 Sheets—Sheet 1.

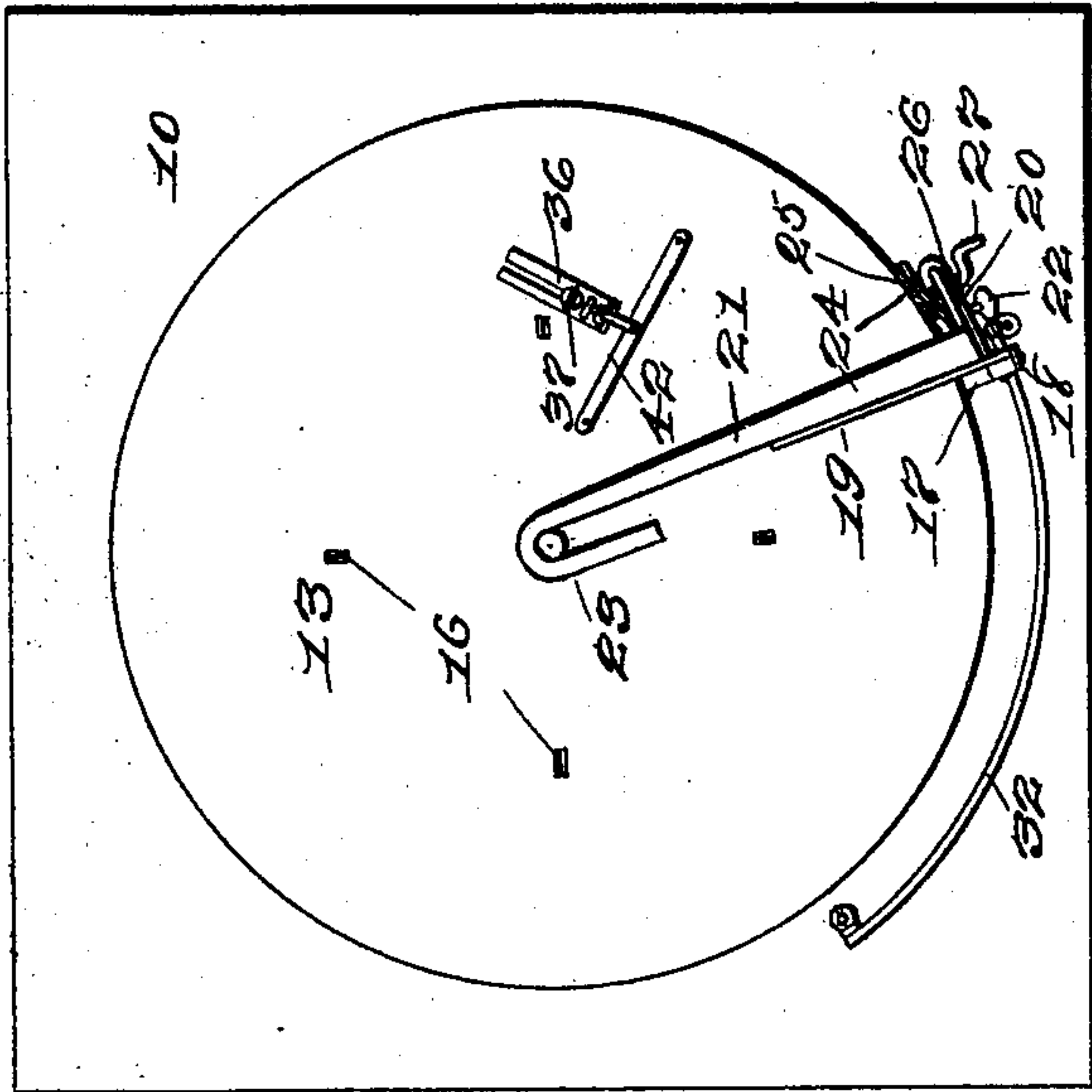


Fig. 2.

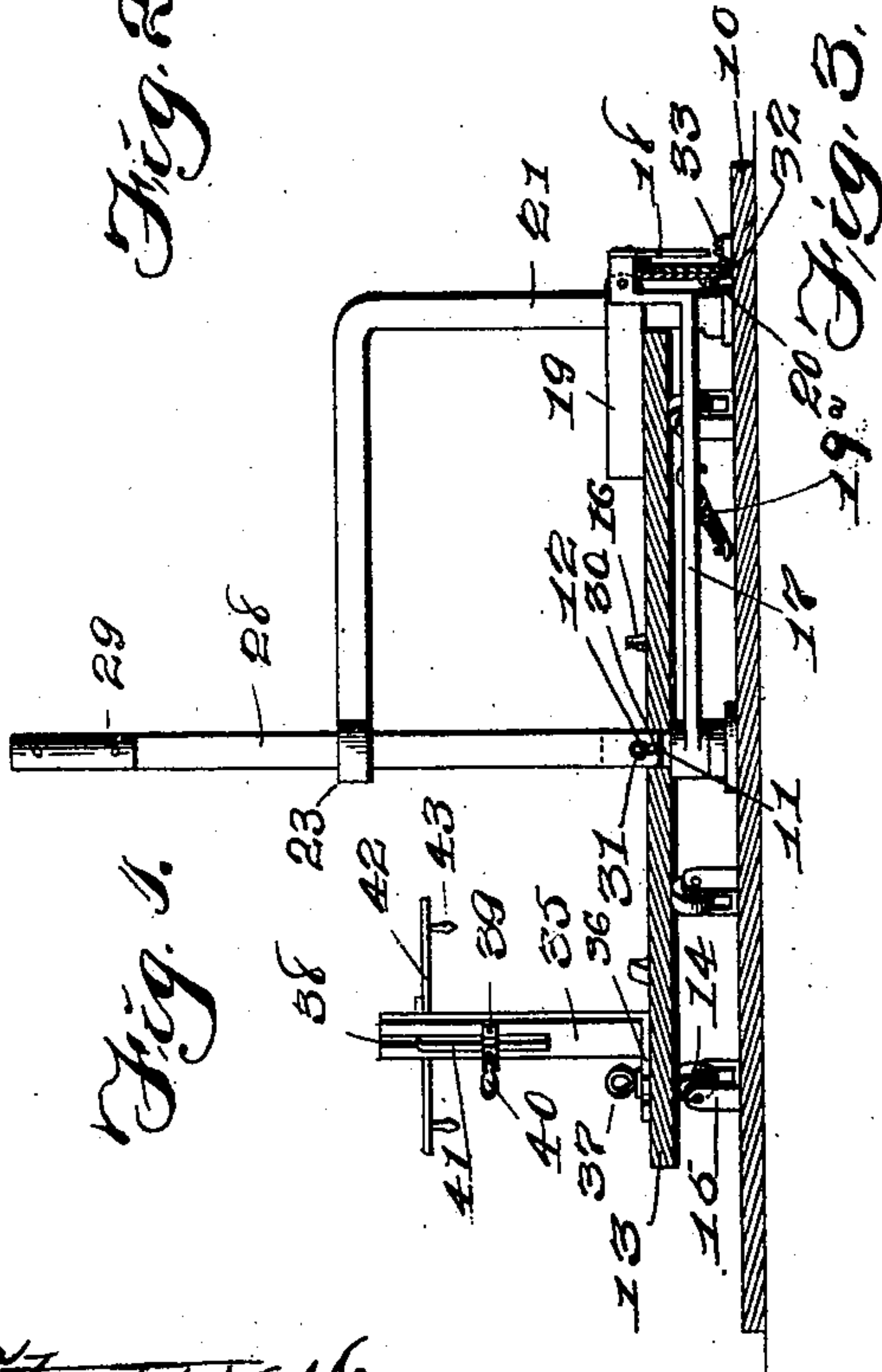


Fig. 1.

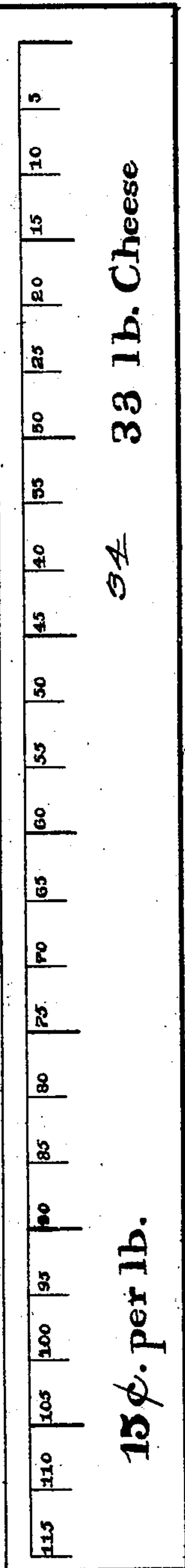
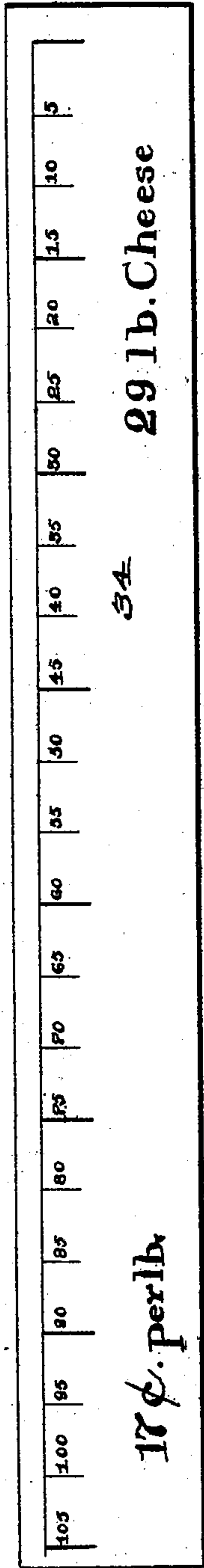


Fig. 4.



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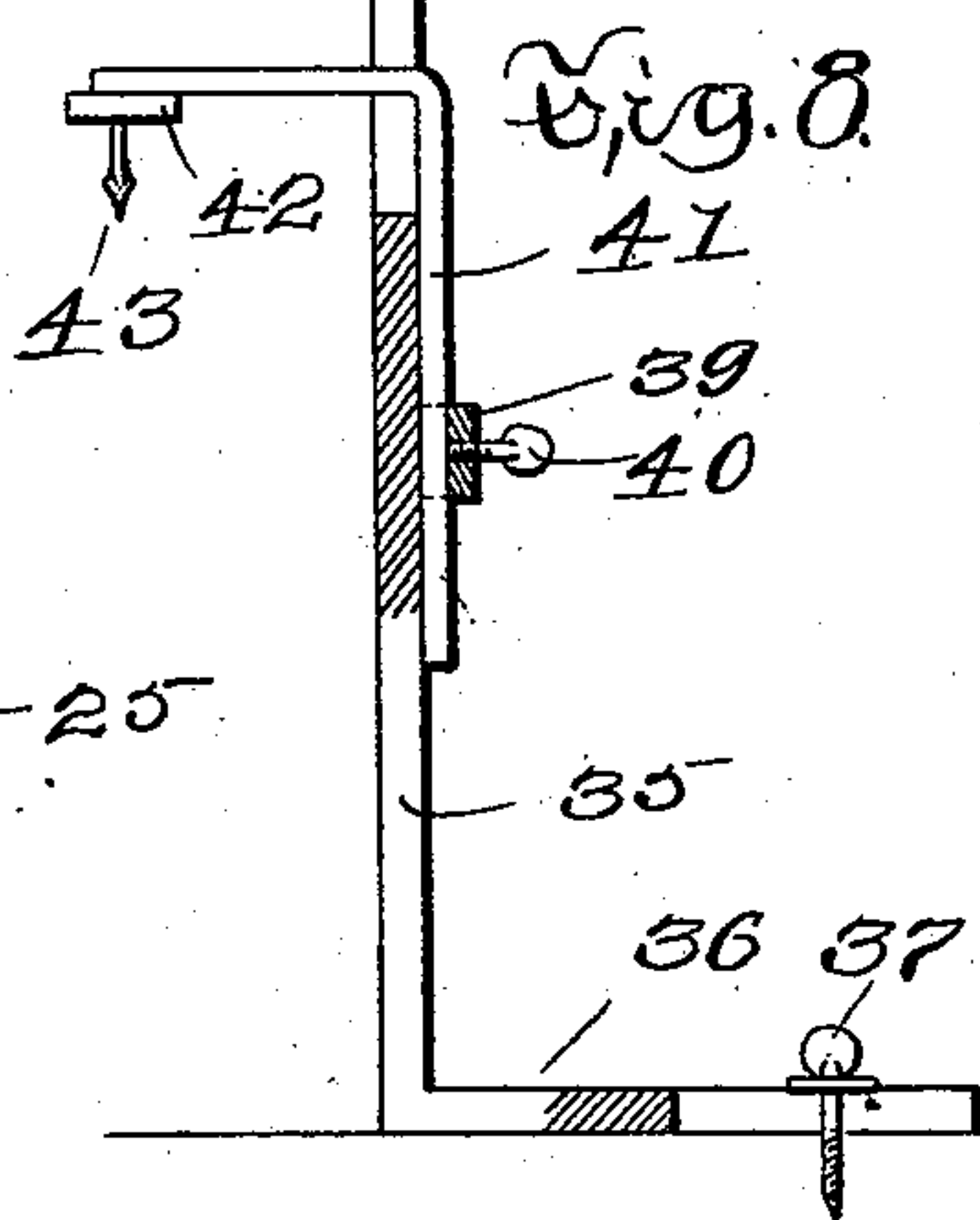
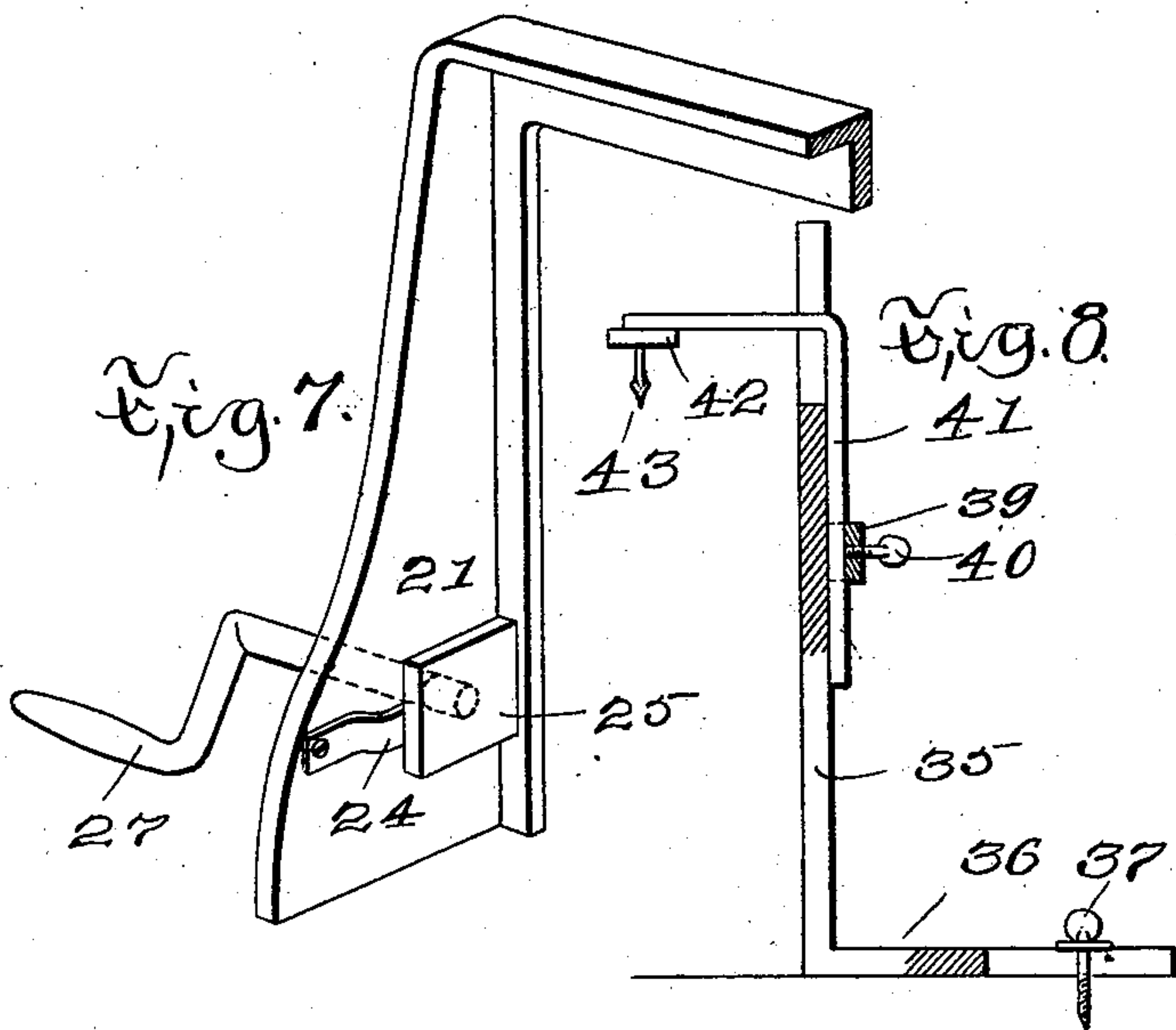
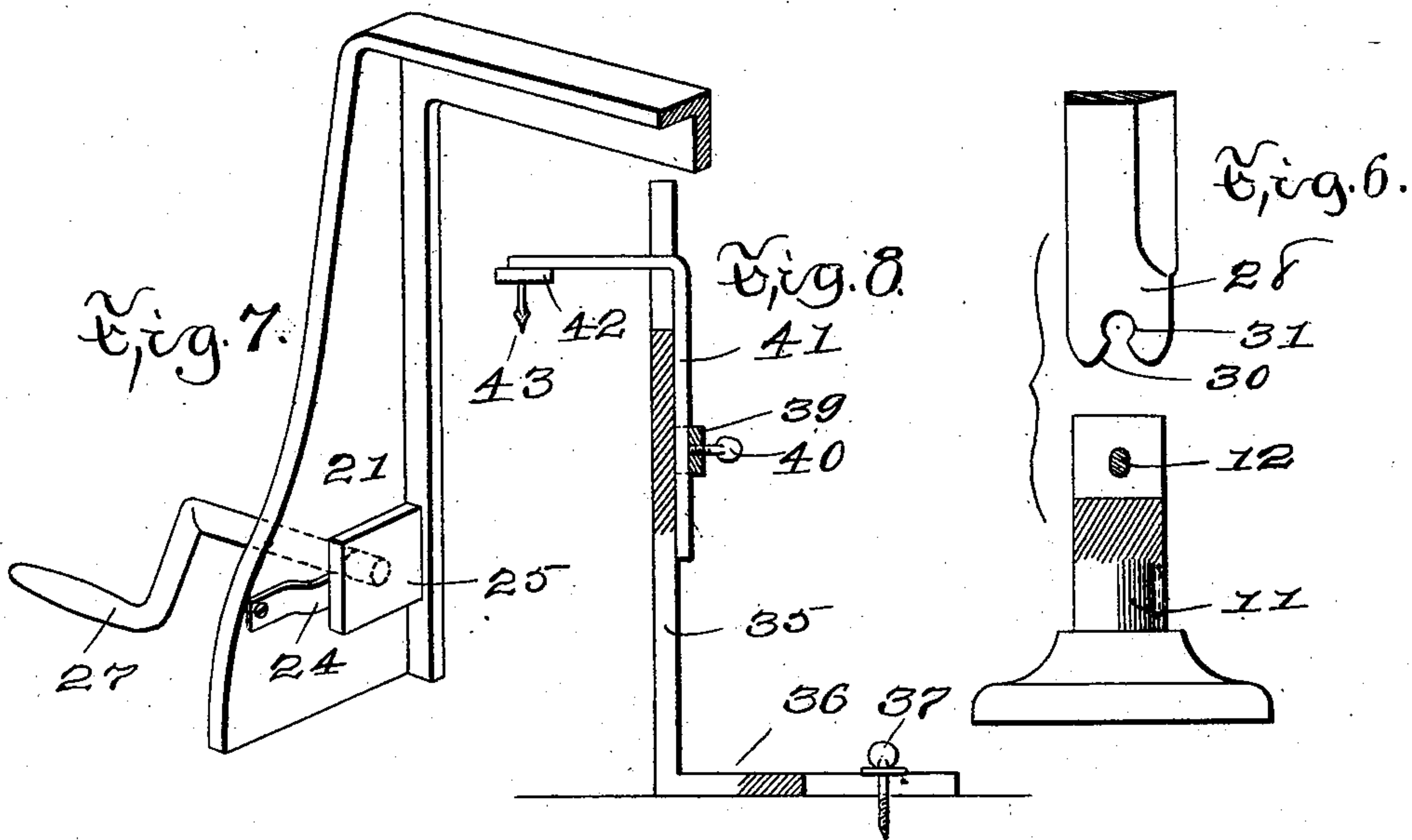
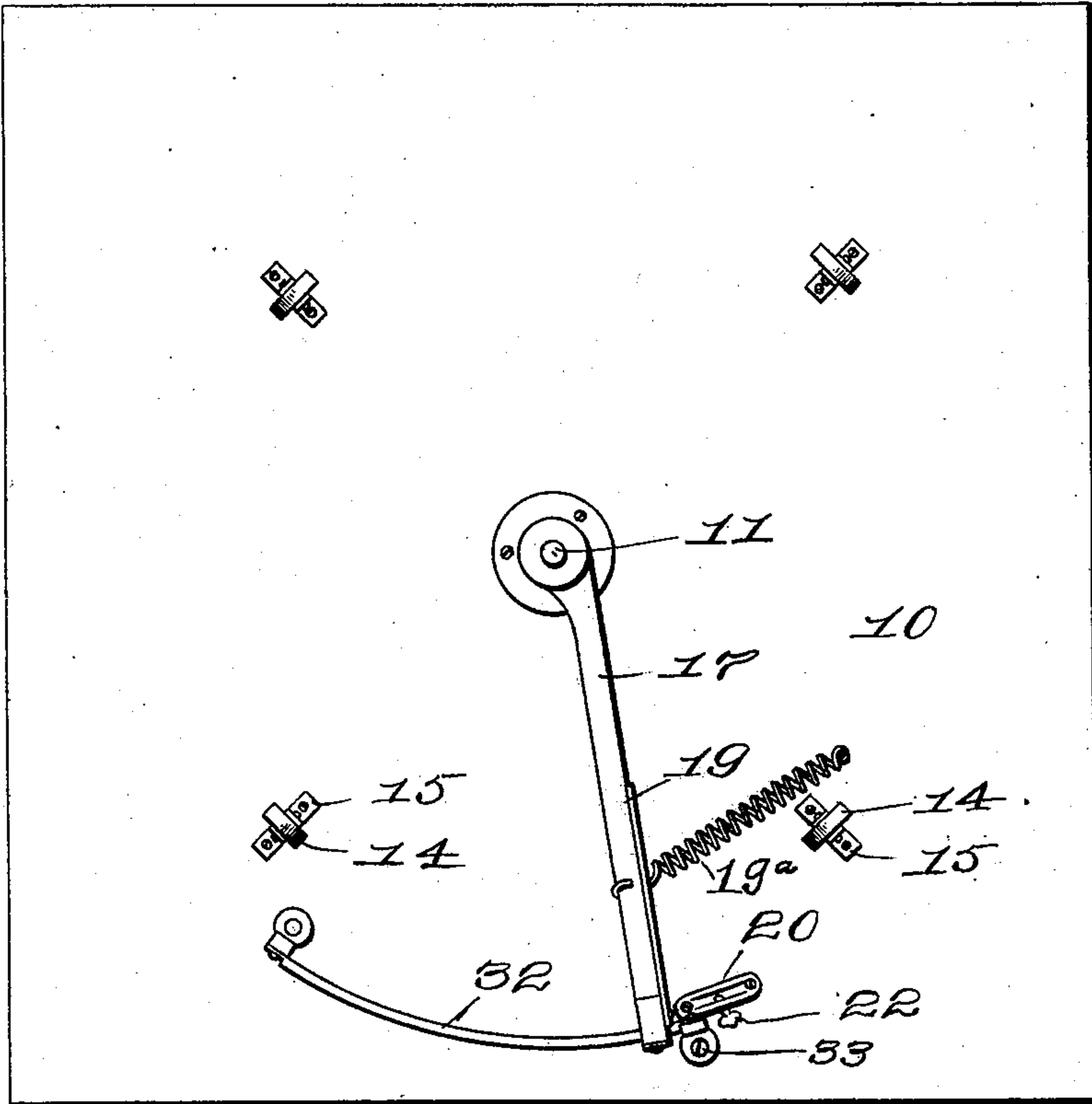
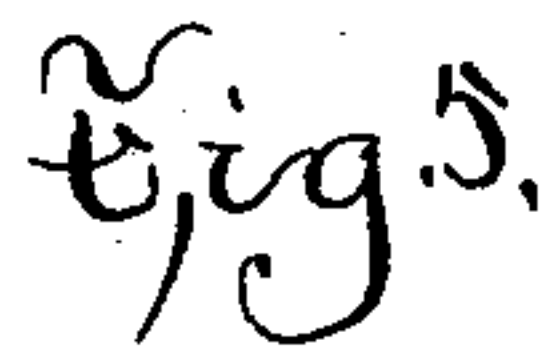
W. M. EVANS.

COMPUTING CHEESE CUTTING APPARATUS.

(Application filed June 15, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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COMPUTING CHEESE-CUTTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 689,581, dated December 24, 1901.

Application filed June 15, 1901. Serial No. 64,699. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. EVANS, a citizen of the United States, residing at Newton, in the county of Jasper and State of Iowa, have invented certain new and useful Improvements in Computing Cheese-Cutting Apparatus, of which the following is a specification.

The object of my invention is to provide a computing cheese-cutting apparatus of simple, durable, and inexpensive construction by which cheeses of any ordinary size or weight may be quickly and easily cut into portions of predetermined values without waste and with a maximum of accuracy.

My invention consists in certain details in the construction, arrangement, and combination of the various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a vertical central sectional view of the complete device. Fig. 2 shows top or plan view of same. Fig. 3 illustrates one of the detachable rules, and Fig. 4 shows similar rule detached for use in connection with a cheese of different weight and value. Fig. 5 shows a top or plan view of the stationary base and parts connected therewith, the rotary platform and the parts above the platform being detached. Fig. 6 shows an enlarged detail view of the lower end portion of the knife and standard to which the knife is connected, said parts being slightly separated. Fig. 7 shows in perspective the straight-edge for the knife detached and also illustrating the device for clamping the rotary platform in position, and Fig. 8 shows a vertical central sectional view of the device for supporting a small segment of cheese.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate a base designed to stand upon a counter or table. Fixed to the central portion of the base is an upright 11, provided at its upper end with a vertical slot. Extending horizontally through the top of the apparatus is a

pin 12, oblong in cross-section for purposes hereinafter made clear.

The reference-numeral 13 indicates a circular cheese-supporting platform having an opening in its center, through which the upright 11 is passed. This platform is supported against tilting movements and at the same time may freely rotate by means of the supporting-wheels 14, mounted in the bearings 15, which are fixed to the base 10, said wheels engaging the under surface of the platform. On top of the platform are a number of sharpened projections 16 to prevent the cheese from moving laterally upon the platform. Beneath the platform I have rotatably mounted upon the upright 11 an arm 17, projecting outwardly to a point beyond the periphery of the platform and then upwardly and provided at its outer end with a downwardly-projecting indicator 18. To the outer end of this arm I have pivoted a stop 19, capable of slight vertical movement and normally standing in a position directly above the top of the rotatable platform. A contractile coil-spring 19^a is fixed at one end to the arm 17 and at its other end to the base 10, so that the said arm is normally held to the limit of its movement in one direction and can be moved in the other direction only against pressure of the said spring.

Fixed to the base 10, adjacent to the periphery of the platform, is a support 20, having a slot therein to receive the lower end of an arm 21, which arm is clamped in the support by means of a thumb-screw 22. The said arm 21 is provided on one edge with a straight-edged surface and is projected upwardly and then horizontally to a point directly above the upright 11, where a loop 23 is formed open at its side adjacent to the straight edge of the arm, said loop being designed to admit the blade of the knife when said knife is in its vertical position. Fixed to the under surface of the arm 21, adjacent to the periphery of the platform 13, is a flat spring 24, having a flexible pad 25 on its under surface designed to engage the periphery of the platform. Seated in the arm 21 is a screw-rod 26,

having a crank-arm 27, the inner end of the screw-rod engaging the outer surface of the spring 24. Obviously by a manipulation of the crank-arm 27 the flexible pad 25 will be held against the periphery of the platform and the platform thereby firmly held in position.

The cheese-cutting knife comprises a straight blade 28, having a handle 29 at its top and also having at its lower end a vertical slot 30, of a size to admit the oblong cross-piece 12, and at the top of said slot is an enlarged circular opening 31, of a diameter equal to the vertical dimension of the oblong cross-piece 12, so that the knife may be moved straight downwardly to receive the cross-piece 12 into the opening 31, and then when the knife is turned at any angle other than in a straight vertical position it cannot be detached from the cross-piece 12.

The scale-holder is segmental in shape, preferably made of sheet metal, and is indicated by the reference-numeral 32. Its upper and lower edges are shaped to overlap the front portion thereof and to receive a card bearing a scale. This scale-holder is secured to the base by means of screws 33 and one end thereof being in position adjacent to the arm 21.

The scale proper is preferably made of cardboard and is indicated by the reference-numeral 34, upon which scale-card are indicated the weight of the cheese with which the card is to be used and also the price of the cheese per pound, and at the upper edge of the card is a scale having marks thereon indicating the money values of portions of the cheese whose peripheral dimensions correspond to the marks on which the money values are placed.

I have also provided a device whereby a small segment of the circular cheese may be firmly supported upon the platform, so that portions thereof may be cut, as follows: The numeral 35 indicates an upright having a longitudinally-slotted base 36, through which a set-screw 37 is passed and seated in the platform. The top of the upright 35 is provided with a vertical slot 38, and a cross-piece 39 is secured to the upright, and the thumb-screw 40 is seated therein. An arm 41 projects vertically through the cross-piece 39 in position to be engaged by the thumb-screw 40, and the top of the arm 41 projects through the slot 38 and is provided with a cross-piece 42 on its end, said cross-piece being provided with downwardly-projected tines 43. Obviously by this arrangement of parts the upright 35 may be adjusted to almost any position on top of the platform, and the cross-piece 42 may be vertically adjusted, so that these tines will enter the top of a piece of cheese of any ordinary height, and obviously when the set-screws are tightened small pieces of cheese will be firmly held in position thereby.

In practical use the operator first determines the exact center of the cheese and then cuts a small opening vertically through the center thereof. Then the cheese is placed upon the platform, the projections 16 firmly holding it in position. When this is done, the arm 21 is clamped in position by means of the thumb-screw 22, and the knife 28 is passed downwardly through the opening in the center of the cheese and through the slot in the top of the upright 11. Then the knife is turned to a horizontal position and obviously the cheese is cut from the center outwardly. Before the cheese is placed in position its accurate weight and value are determined. Then a card corresponding to the weight and value of the cheese is placed in the scale-holder with the first mark thereon exactly in alignment with the cut previously made in the cheese. Then assuming that it is desired to cut from the cheese a piece of the value of twenty cents, the operator moves the rotary platform to a position where the cut previously made in the cheese will be directly in vertical alignment with the point upon the scale indicated by the numeral "20." Then the crank 27 is operated to firmly secure the platform in position. Then the knife is moved downwardly to a horizontal position, and a section is cut from the cheese, which section will be of the approximate value of twenty cents. After the first section has been taken from the cheese the stop 19 is moved to a position overlapping the top of the platform, and when the next section is to be cut from the cheese the cheese is turned until the stop engages the cheese and is turned with the cheese and platform until the indicator 18 points to the mark upon the card corresponding in value with the section of cheese it is desired to cut from. Then the crank 27 is turned until the platform is clamped in position, and the knife is then operated to cut a section from the cheese. Obviously the spring 19^a holds the stop 19 firmly against the cheese, so that the indicator will point to a place upon the scale in exact alignment radially from the portion of the cheese exposed by the last cut. This operation is continued until a comparatively small segment of the cheese remains. Then the device for holding this portion is placed upon the board by means of the set-screw 37, passing through the slot 36 and the arm 42, having tines 43, made to engage the top of the section of cheese. Thus this section is firmly held while being cut. It is obvious, of course, that this auxiliary cheese-holder is disengaged from the platform, except when only a small portion of the cheese remains to be cut.

In this connection it is to be remembered that it is essential to the commercial practicability of a machine of this class that a maximum of accuracy be attained quickly and without measuring and that segments of

vastly-different weights and sizes may be cut without the adjustment of the parts. To accomplish this successfully in my machine, it is necessary that a scale-card be supported in position in the path of the knife and that the arm pivoted beneath the rotary platform be provided with an indicator pointing to the scale and also with a stop to engage the side of the cheese from which the segment made by the previous cut was taken and also that said indicator-arm may move from the knife-path over the scale-card, for by this combination quick and accurate work may be attained, and by the use of a series of detachable scale-cards the device may be adapted for cheeses of any ordinary size and value.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States therefor, is—

1. In a cheese-cutting apparatus, a cheese-holder comprising a body portion adjustably connected with a base, an arm vertically adjustable on the upright, and a cross-piece having downwardly-projecting tines on said arm.

2. In an improved computing cheese-cutting apparatus, the combination with a rotatable platform, a stationary support projected upwardly through the center of the platform, a knife pivoted to the support, an arm fixed to the stationary support to project over the platform and having a straight-edge to serve as a guide for the knife, and a scale fixed to the stationary support adjacent to the arm, an arm therefor pivoted beneath the platform and having a stop projecting over the platform and also having an indicator adjacent to the scale, and a spring fixed at one end to the said arm and at the other end to the stationary support and designed to yieldingly hold the said arm in a direction toward the stationary arm, for the purposes stated.

3. In an improved cheese-cutting apparatus the combination of a base, a stationary support on the base having a slotted upper end and having a pin passed through the slot and oblong in cross-section, and a knife having a narrow slot at its lower end terminating in a round opening, said knife being of such size as to enter the slot in the support, a slot in the knife being of such size as to admit the pin when presented vertically, and the opening at the upper end of the slot being large enough to permit the knife to rotate, for the purposes stated.

4. In an improved computing cheese-cutting apparatus the combination of a stationary support, a rotatable platform mounted on the support, an arm fixed to a stationary support and projecting over the rotatable platform, an arm rotatably mounted upon the stationary support and projecting beyond the edge of the platform, a stop pivoted to the arm to be capable of engaging the top of the platform, an indicator fixed to the end of the arm, a

contractile coil-spring fixed at one end to the arm and the other end to the stationary support to normally hold the arm adjacent to the stationary arm, and a segmental scale fixed to the stationary support adjacent to the indicator, for the purposes stated.

5. An improved, computing, cheese-cutting apparatus, comprising in combination, a rotary platform for a cheese, a knife arranged to cut radially from the center of the cheese, a scale-card mounted in a stationary support and arranged in position in the knife-path, an arm pivotally mounted concentric of the platform and capable of movement from the knife-path over the scale-card, and an indicator on the arm to project over the scale-card, for the purposes stated.

6. An improved, computing, cheese-cutting apparatus, comprising in combination, a rotary platform for a cheese, a knife arranged to cut radially from the center of the cheese, a scale-card mounted in a stationary support and arranged in position in the knife-path, an arm pivotally mounted concentric of the platform and capable of movement from the knife-path over the scale-card, and an indicator on the arm to project over the scale-card, and a stop on the arm to project over the platform and to engage the flat surface of the cheese formed by the last preceding cut of the knife.

7. An improved, computing, cheese-cutting apparatus, comprising in combination, a rotary platform for a cheese, a knife arranged to cut radially from the center of the cheese, a scale-card mounted in a stationary support and arranged in position in the knife-path, an arm pivotally mounted concentric of the platform and capable of movement from the knife-path over the scale-card, and an indicator on the arm to project over the scale-card, and a stop pivoted to said arm and capable of movement from a position above the rotary platform and inwardly beyond the periphery of the cheese, to a substantially vertical position.

8. An improved, computing, cheese-cutting apparatus, comprising in combination a rotary platform for a cheese, a straight-edged knife-guide arranged over the platform, a knife to cut radially from the center of the cheese and to bear against said knife-guide, a scale-card mounted in the stationary support adjacent to the end of the knife-guide, an arm pivoted concentric of the platform to rotate in a horizontal plane and having an indicator projected over the scale-card, a stop on the said arm to project over the rotary platform, and a contractile coil-spring fixed to the arm and to a stationary support and arranged to normally hold the said arm in a direction toward the knife-guide, for the purposes stated.

9. An improved, computing, cheese-cutting apparatus, comprising a base, a rotary platform for a cheese on the base, a knife arranged to cut radially from the center of the cheese, a scale-card holder on the base ad-

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jacent to the periphery of the rotary platform
and in the knife-path, a stationary guide, a
scale-card in the holder, an arm pivoted be-
neath the platform and having an indicator
5 to point to the scale-card and capable of mov-
ing from the knife-path over the scale-card, a
stop pivoted to the arm to project over the
platform and capable of movement from a
position projecting inwardly beyond the edge

of the cheese to an elevated position, and a 10
spring attached to the said arm and to the ma-
chine-base to normally hold the arm against
the knife-guide, for the purposes stated.

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