

PATENTED SEPT. 20, 1904.

CHEESE CUTTER.

NO MODEL.

2 SHEETS—SHEET 1.

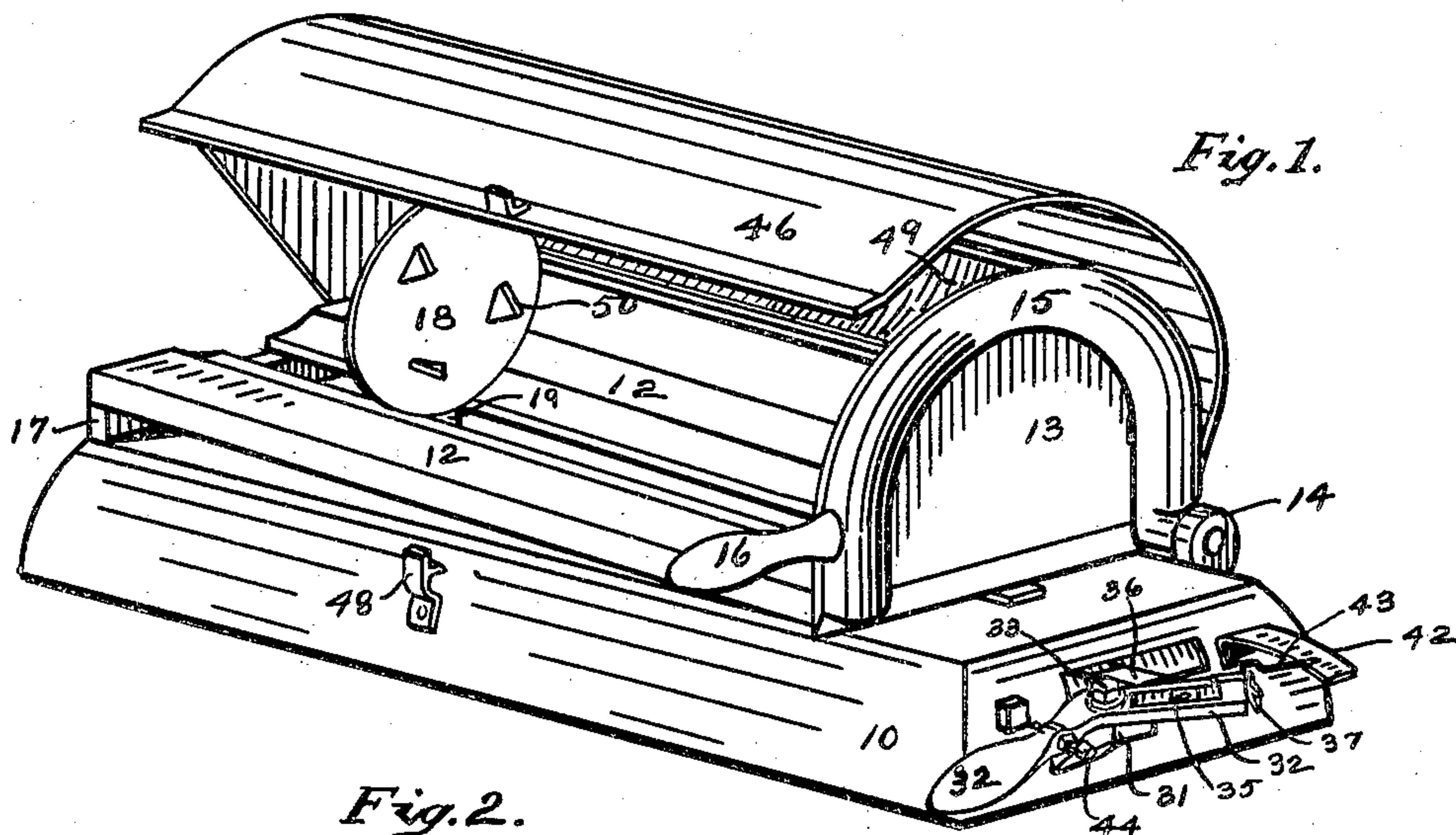


Fig. 2.

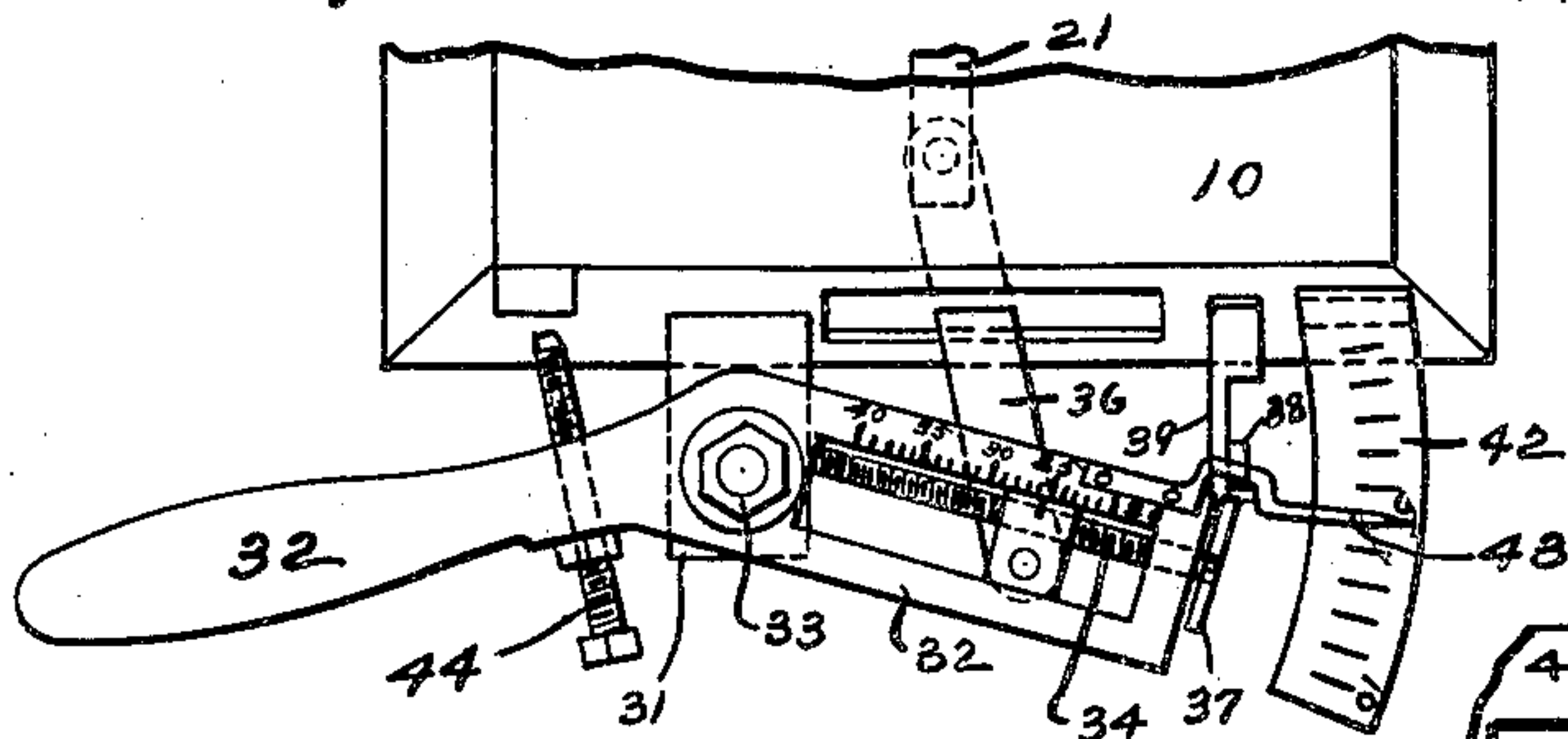


Fig. 3.

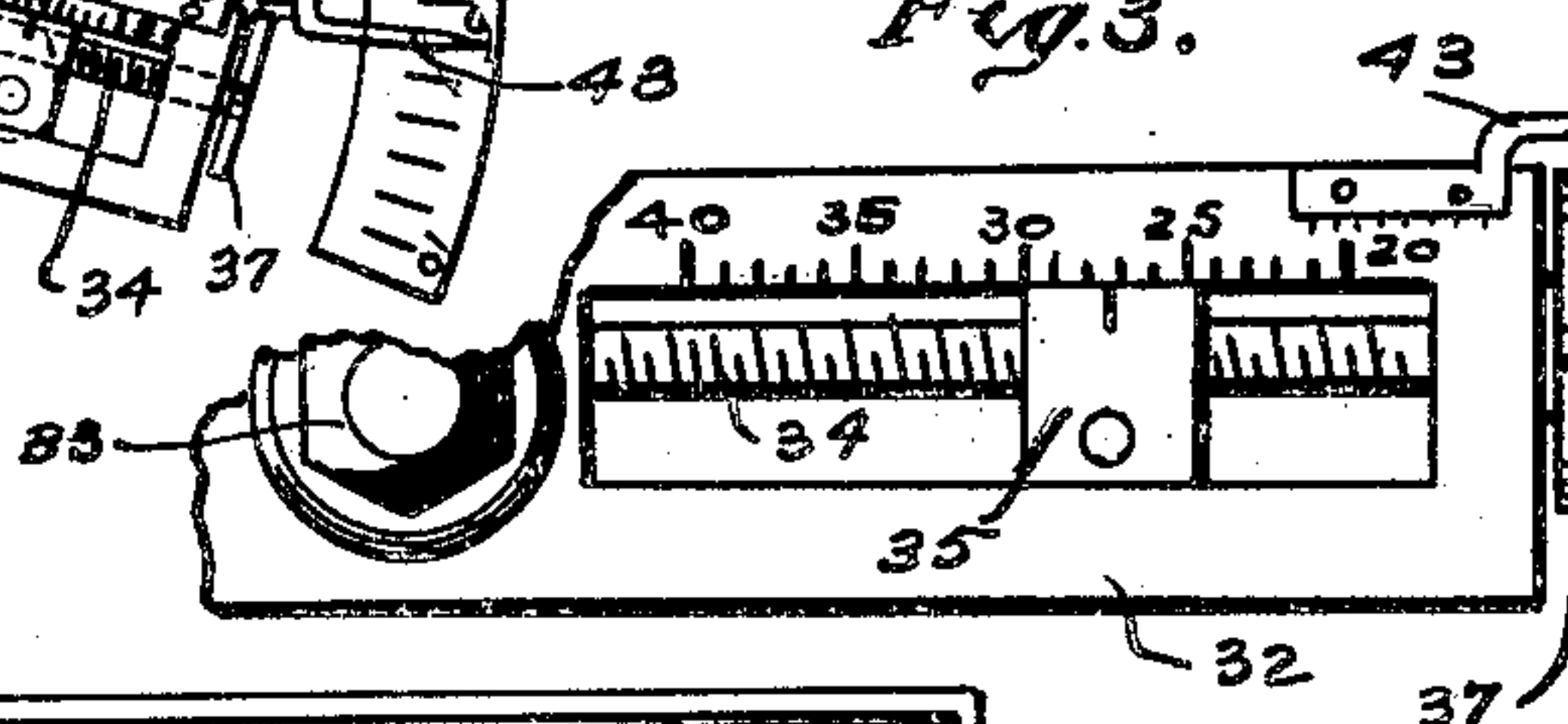


Fig. 4.

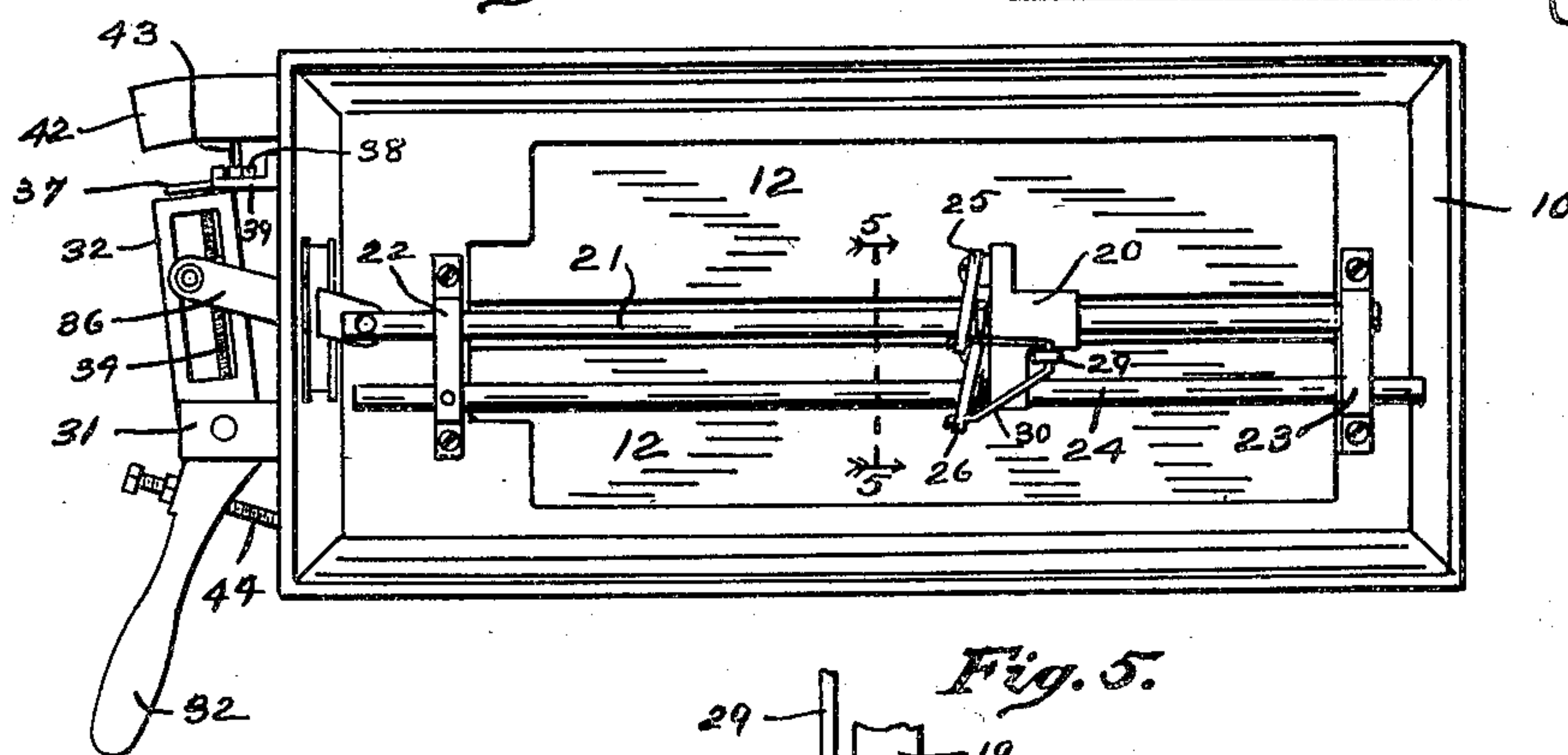
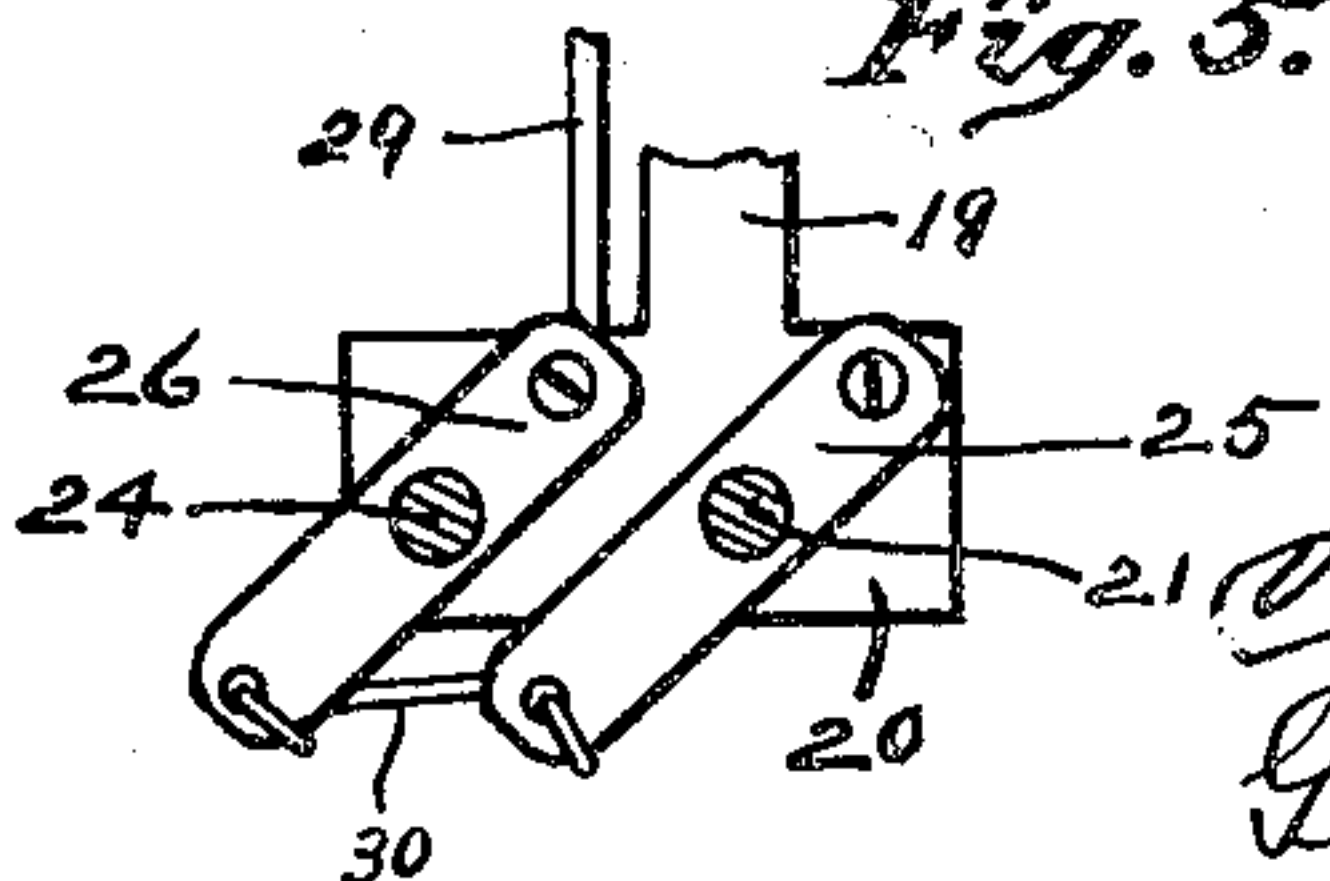


Fig. 5.



Inventor's

Edward L. Heizer,

Charles H. Hensley

George P. Louisa

By V. H. Lockwood, Attorney.

Witnesses

H. G. Stuart.

H. Allernong.

No. 770,524.

PATENTED SEPT. 20, 1904.

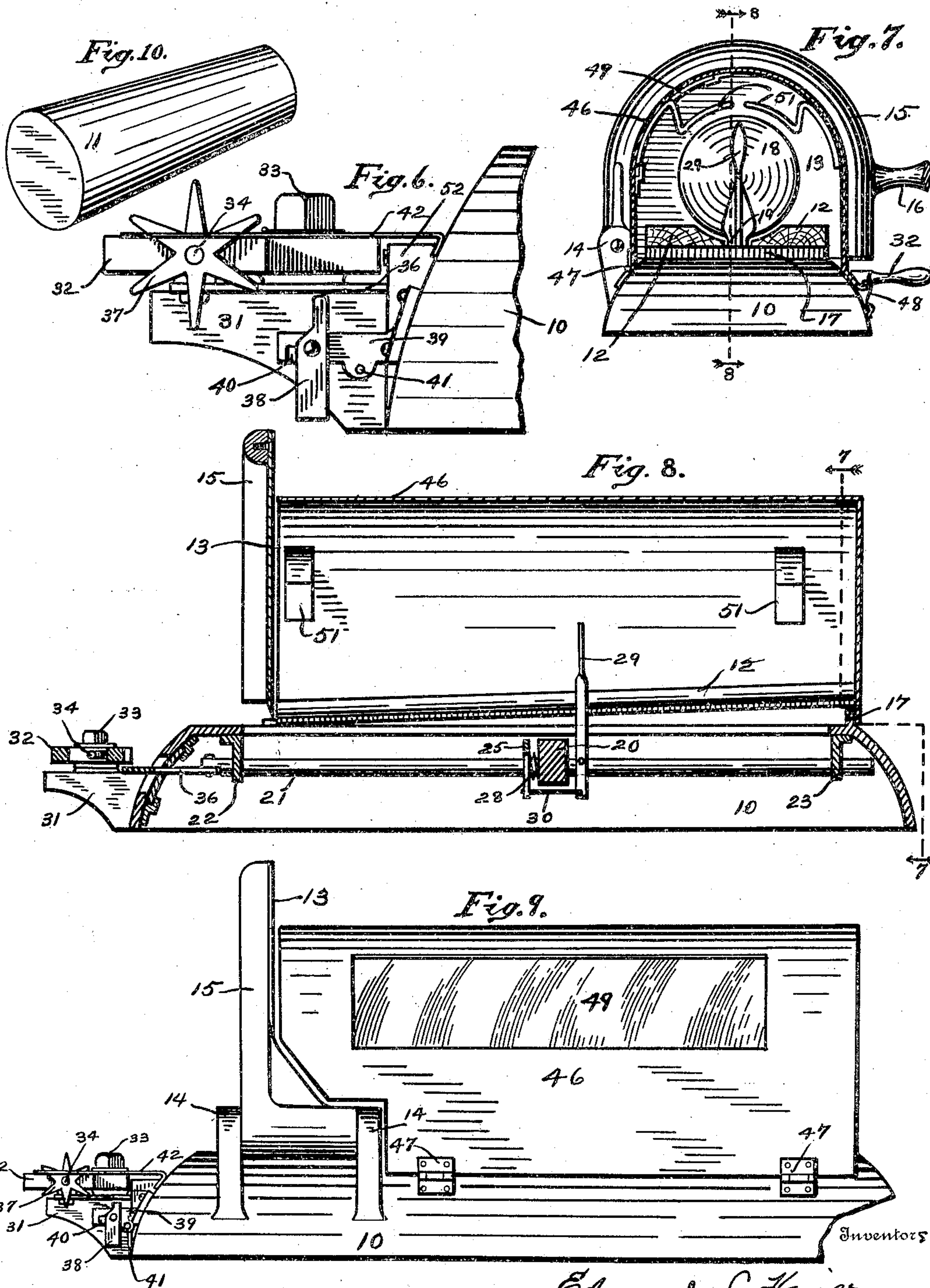
E. L. HEIZER, C. H. HENSLEY & G. P. LOUISO.

CHEESE CUTTER.

APPLICATION FILED FEB. 12, 1904.

NO MODEL.

2 SHEETS—SHEET 2.



Witnesses
H. G. Stuart.
N. Allemon.

Edward L. Heizer,
Charles H. Hensley, and
George P. Louiso
By V. H. Lockwood, Attorney

UNITED STATES PATENT OFFICE.

EDWARD L. HEIZER, CHARLEY H. HENSLEY, AND GEORGE P. LOUISO,
OF ANDERSON, INDIANA, ASSIGNORS, BY DIRECT AND MESNE AS-
SIGNMENTS, TO HOOSIER CHEESE CUTTER COMPANY, OF ANDERSON,
INDIANA, A CORPORATION OF INDIANA.

CHEESE-CUTTER.

SPECIFICATION forming part of Letters Patent No. 770,524, dated September 20, 1904.

Application filed February 12, 1904. Serial No. 193,352. (No model.)

To all whom it may concern:

Be it known that we, EDWARD L. HEIZER, CHARLEY H. HENSLEY, and GEORGE P. LOUISO, all of Anderson, county of Madison, and State of Indiana, have invented a certain new and useful Cheese-Cutter; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like numerals refer to like parts.

The object of this invention is to provide a machine for vending articles such as cheese and the like in definite portions; and one important feature of novelty is the use in said machine of a scale indicating the number of portions into which it is desired to cut the article. This scale indicating the number of portions is in connection with means for regulating the feed or movement of the cheese or article to the knife so that it will be cut into the number of portions indicated by the scale.

Another feature of the invention consists in the use of a scale indicating the price of portions and fractions thereof in connection with the feed-lever or other means for feeding the cheese or article to the knife, so that a person can readily move the article for cutting a portion the value of which may vary slightly from the value of the uniform portion or unit at which the machine is set. Thus a thirteen-cent slice can be cut instead of the uniform five-cent slice.

Another object of this invention is to provide a machine of the kind for vending what is known as "long-horn" cheese—namely, cheese that is cylindrical and tapering in the form of a frustum of a cone. Since one end is smaller than the other, the thickness of the slices must be gradually increased or diminished in order that there may be a uniform quantity in all the portions cut. The uniform dimensions of such cheese are twelve inches long, six inches in diameter at the large end, and five and a half inches in diameter at the small end. Therefore in this machine it is necessary and the mechanism shown and described is such as to vary the feed of the cheese

to the knife so that the thickness of the portions may be increased or diminished to cause the portions to be equal in quantity.

While the machine is shown as adapted for use in cutting long-horn cheese, we do not wish to limit it to that, for it may be also used in cutting brick cheese and other articles of merchandise of a character similar in form to long-horn cheese or brick cheese. The brick cheese is rectangular and of uniform thickness and width, so that the thickness of the slices or portions need not be varied.

The foregoing, as well as the other novel features of our invention, will appear from the accompanying drawings and the following description and claims.

In the drawings, Figure 1 is a perspective view of the device with the lid elevated. Fig. 2 is a plan view of the operating end of the device to the right of the knife, parts being broken away. Fig. 3 is a plan view of the slotted end of the feed-lever with a scale thereon and on a larger scale than that shown in Fig. 2, parts being broken away. Fig. 4 is a bottom view of the device. Fig. 5 is a section on the line 5 5 of Fig. 4. Fig. 6 is a rear elevation of the lower part of the operating end of the machine, showing the left-hand end of the base and the attached parts, on an enlarged scale, the base being broken away. Fig. 7 is a vertical transverse section on the line 7 7 of Fig. 8. Fig. 8 is a longitudinal vertical section of the device on the line 8 8 of Fig. 7. Fig. 9 is a rear elevation of the device, one lower corner being broken away. Fig. 10 is a perspective view of a long-horn cheese.

A suitable base 10 is provided that extends longitudinally, so as to receive and support a cheese 11 of the long-horn type. Upon said base 10, along each side of the top thereof, there is a cheese-board 12, secured to the base. The two cheese-boards are parallel and separated from each other slightly, so as to leave an opening or space between them, and they are beveled on top of their approximate edges, so as to form a curved seat or place in

which the cheese may lie. At one end of said cheese-boards a knife 13 is pivotally mounted by the ears 14 to the frame. This knife extends transversely of the cheese-board and
 5 consists of a semicircular frame-piece or rim 15, to which the plate 13 is secured, and also a handle 16. A long-horn cheese tapers slightly, and the large end is placed on the machine against the knife. It is therefore
 10 necessary that the cheese-boards at their ends distant from the knife be elevated slightly in order that the knife may cut truly through and across the cheese. Therefore the flange 17 extends upward from the base at the end
 15 distant from the knife for supporting the outer ends of the cheese-boards in a slightly-elevated position. The cheese is moved toward the knife by the following means: A pusher or follower 18 substantially circular
 20 in form presses against the end of the cheese distant from the knife and is moved toward the knife, so as to move the cheese. This follower has an arm 19 extending down through the opening between the cheese-boards, and
 25 it has a head 20, apertured in one place to receive the feed-rod 21, which extends longitudinally of the device and operates loosely in brackets 22 and 23, secured to the under side of the frame. The head on the end of the fol-
 30 lower-arm also rides loosely on a guide-rod 24, secured stationary in said brackets parallel and to one side of the feed-rod. The follower is held on said rods by clutch-plates 25 and 26. They are pivoted to the head of the follower
 35 and have a hole in each through which the feed-rod and guide-rod, respectively, extend loosely. Each of these clutch-plates is pressed into a clamping position on said rods by the springs 28, coiled about the rods between the
 40 clutch-plates and the head of the follower-arm, so as to normally and continuously force said plates into clamping position on said rods. The result is that when the feed-arm is moved longitudinally by intermittent movement it will
 45 move the clutch-plate on it, and therefore the follower or cheese-pusher intermittently. This movement is toward the knife because the clutch-plates are on the side of the cheese-follower arm that is next to the knife. The sta-
 50 tionary rod prevents the back movement of the follower. The clutch-plates are released for moving the cheese pusher or follower back to its starting position by a finger-lever 29, that is pivoted between its ends to the head
 55 of the follower-arm and is connected by links 30 with the free ends of the clutch-plates, so as to move said clutch-plates backward and release them from clamping engagement with the feed-rod and guide-rod. Then the cheese-
 60 follower can be pushed back for the purpose of inserting another cheese without any difficulty.

The feed-rod for feeding the cheese to a knife is intermittently actuated by the following
 65 means: A bracket 31 extends horizontally

from the end of the frame on which the knife is mounted and on which the feed-lever 32 is pivoted between its ends by the bolt 33. Said lever has a handle on its outer end, and the inner end extends substantially parallel with the
 70 end of the frame and with the knife, and the lever oscillates in its operation horizontally. The inner end of the lever is slotted longitudinally, and a threaded rod 34 extends centrally and longitudinally through the slotted
 75 portion of said lever. It is rotatably mounted and carries on it a block 35, that is longitudinally movable within the slot in the lever and has a hole through it threaded for the passage of the threaded rod above referred
 80 to. The rotation of this threaded rod therefore moves said block longitudinally of the slotted lever. A link 36 is pivotally connected at one end with said block 35 and at the other end with the feed-rod, and in that way
 85 power is transmitted from the feed-lever 32 to the feed-rod.

If the block 35, above referred to, were maintained in one position in the feed-lever, it is obvious that the cheese pusher or follower
 90 would move the cheese toward the knife always the same distance, so that every slice or portion of the cheese that the knife would cut would be of the same thickness; but since the diameter of the cheese varies it is necessary
 95 that the thickness of the slices or portions be varied in order that the quantity of each portion shall be the same. Consequently it is necessary that the throw of the feed-rod be gradually increased as the small end of the
 100 cheese approaches the knife, so as to increase the thickness of the portions or slices cut. This result is accomplished in this mechanism by the movement of the block 35, with which the feed-rod is connected by the link 36 gradu-
 105 ally away from the fulcrum of the feed-lever, so as to gradually increase the length of throw or movement of said block and feed-rod. This gradual movement of the block 35 from the fulcrum of the feed-lever is effected by the
 110 threaded rod 34 being rotated slightly with every operation of the feed-rod. Such rotation of the threaded rod is caused by a star-wheel 37, secured on the outer end of the threaded rod, and a pawl 38, mounted in the
 115 bracket 39, which is placed in such position as to engage said star-wheel and actuate it at each movement of the feed-lever. In the machine shown the star-wheel has six points, and the pawl 38 will engage one of said points at
 120 every throw of the feed-lever and give to the star-wheel one-sixth of a revolution, and therefore the threaded rod will have one-sixth of a revolution and move the block 35 correspond-
 125 ingly in a direction away from the fulcrum of the feed-lever. Said pawl 38 is stopped in its movement in one direction by the stop 40, and in that position it actuates the star-wheel while the star-wheel is moving inward toward the
 130 base of the machine; but as the star-wheel is

moved outward with the throw of the feed-lever the pawl moves out of its way without actuating it. If the machine is used for cutting what is called "brick" cheese or any
 5 cheese of uniform thickness, width, or diameter, so that there be no need of variation in the thickness of the slices, the pawl 38 is thrown out of operative engagement with the star-wheel and held out of engagement by a
 10 pin 41 in the hole. Then the slices will be of uniform thickness.

A penny-scale is marked or indicated on a scale-plate 42, that extends horizontally from the end of the frame of the machine and may
 15 be curved slightly to be concentric with the fulcrum of the feed-lever, and an indicating-finger 43 projects from the feed-lever over said scale-plate, so as to move horizontally over said plate when the feed-lever is operated. This is to enable one after the machine
 20 has been adjusted to a certain unit to still cut portions or slices of varying values. For instance, the machine may be set to cut a uniform five-cent portion or slice; but with this
 25 scale just mentioned if a person wishes an eight-cent slice the lever can be operated so as to move the indicating-finger to five cents and then thrown back and operated again to bring the lever to three cents, and then the
 30 knife can be operated and an eight-cent slice will be cut. If a thirteen-cent slice is wanted, two five-cent throws of the lever and one three-cent throw will set the machine for a thirteen-cent slice. Since a five-cent unit is found to
 35 be most convenient, the machine is usually set for a five-cent slice or portion, and that is done by means of a set-screw 44, that extends through the handle portion of the feed-lever and comes into engagement with and is stopped
 40 by the base of the machine. That screw is set usually to stop the action of the feed-lever when the indicating-finger is over the five-cent mark in the penny-scale mentioned. However, the set-screw may be changed so as to
 45 set the device for a ten-cent or a three-cent throw, as desired.

On the feed-lever adjacent the block with which the feed-rod is connected by the link 36 we place a scale indicating the total number
 50 of portions into which the cheese or other article of merchandise is to be cut. An indicating-mark is on said block 35 near said scale, and by setting said block 35 with the indicator-mark pointing to a certain number in that
 55 scale the number of portions into which the cheese may be cut will be predetermined mechanically. Therefore the grocer, knowing the amount that he wishes to realize from the cheese, by dividing such total selling price by
 60 the value of each portion at which he sets the machine as indicated on the scale-plate 42—say at five cents—he can determine the number of portions into which he wishes the cheese or article to be cut. Then by moving the block 35 so that the indicator will

point to that number in the scale on the feed-lever the machine will so feed the cheese or article to the knife as to cause it to be cut into that number of portions and the portions will be of the same quantity and value. 70
 For instance, if he wishes two dollars from the cheese he sets the block 35 at the numeral "40" of the scale, and then he will cut forty portions from the cheese. If he wishes fifty portions from the cheese, he would move the
 75 block until the indicator pointed to "50" on the scale. In carrying out this idea relating to a scale for indicating the number of portions into which the article is desired to be cut it is noted that in the scale on the feed-lever 80
 the numerals of the scale increase toward the fulcrum of the lever, so that when the machine is set for a large number of portions the block 35 will have to be set correspondingly nearer the fulcrum of the feed-lever, so 85
 that correspondingly less movement will at first be given to the cheese at each throw of the feed-lever, so as to bring about the desired larger number of portions into which the article is to be cut. On the other hand, if it 90
 be desired to cut the article into a smaller number of portions—say thirty portions—the block 35 is moved correspondingly farther away from the fulcrum of the feed-lever, so that at each throw of the feed-lever the 95
 cheese is moved to a correspondingly greater distance and the slices or portions of the cheese will be correspondingly thicker.

While the machine is made to operate in the manner just described, the parts can be reversed, so as to operate in a reverse way, the cutting commencing with the small end instead of the large end of the cheese and the other parts be correspondingly arranged, so as to bring about that result. 105

This machine is capable of accomplishing one peculiar result—namely, the changing of the number of portions after the cheese has been partially cut. If one wants to change the amount of money which he shall receive 110
 for the cheese—say after the cheese has been partially cut at fifteen cents a pound he wishes to increase the price to twenty cents a pound—he can set the block 35 at the total number of portions desired in the second place to be secured from the cheese in its original size and then move the cheese pusher or follower back to its original position and feed it forward. 115

A suitable cover 46 for the machine is provided that is adapted to envelop the cheese or 120
 article of merchandise. It is hinged at 47 to the base of the frame and is clasped at 48. It has a longitudinal slot 49 at the back next to the customer, through which the customer may see the cheese. This slot is closed, preferably, with glass or transparent celluloid. 125

One novel feature of this machine is means for holding the cheese in place and protecting the cut edge thereof. The cheese pusher or follower 18 has on it prongs 50, that engage 130

the end of the cheese. The cheese also rests in a trough-like seat made for it on the two cheese-boards. Springs 51 on the cover bear down upon the cheese to hold it exactly in place on the cheese-boards. Furthermore, the cheese pusher or follower 18 always forces the cut surface of the cheese against the broad knife 13, which is larger than the cross-surface of the cheese, and the knife covers and protects the cut edge, because the cut edge is pushed tightly against it and there is no chance for air to get to the cut edge or for moisture to evaporate therefrom. The rim 15 of the knife is heavy and that holds the knife down in place until another slice is to be cut.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. In a device for vending an article of merchandise in portions, a knife for severing the article into portions, a scale indicating the number of portions into which the article is to be severed, and means operative in connection with said scale for controlling the movement of the article to the knife.

2. In a device for vending an article of merchandise in portions, a scale indicating the total number of portions of said article, a knife, means for feeding the article to the knife, a mechanism operating said feeding means, and a movable connection between said feeding means and said mechanism whereby the degree of movement of said feeding means may be varied.

3. In a device for vending an article of merchandise in portions, a scale indicating the total number of portions of said article, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means, and a connection between said feeding means and said lever movable on said lever, so that the degree of movement of the feeding means may be varied.

4. In a device for vending an article of merchandise in portions, a scale indicating the total number of portions of said article, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means, a connection between said feeding means and said lever movable on said lever so that the degree of movement of the feeding means may be varied, and a scale on said lever along which said connection moves indicating the number of portions of said article.

5. In a device for vending an article of merchandise in portions, a scale indicating the total number of portions of said article, a knife, means for feeding the article to the knife, mechanism for operating said feeding means, movable connection between said feeding means and operative mechanism, and means for moving said movable connection toward or away from the fulcrum of the operating means at each action of said operating mechanism.

6. In a device for vending an article of merchandise, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means, a block mounted in connection with said lever that is movable toward and away from the fulcrum thereof, and a scale on said lever indicating the number of portions of said article and the position of said block for causing the article to be cut into the desired number of portions.

7. In a device for vending an article of merchandise, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means, a block mounted in connection with said lever that is movable toward and away from the fulcrum thereof, a scale on said lever indicating the number of portions of said article and the position of said block for causing the article to be cut into the desired number of portions, and means for moving said block a certain distance toward or away from the fulcrum of said lever at each operation of the lever.

8. In a device for vending an article of merchandise in portions, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means, a threaded rod rotatably mounted in connection with said lever substantially in line with the fulcrum thereof, a block mounted to move on said threaded rod, a connection with said block, feeding means and scale on said lever indicating the number of portions of said articles and the position of said block to cause the article to be cut into the desired number of portions, and means for actuating said threaded rod a certain extent at each movement of said lever.

9. In a device for vending an article of merchandise in portions, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means that is longitudinally slotted substantially in alignment with the fulcrum thereof, a threaded rod rotatably mounted in said lever and extending longitudinally through said slot, a block mounted on said rod within said slot so that it will be moved by the rotation of the rod toward or away from the fulcrum of the lever, a link connecting said block with the feeding means, and means for partially rotating said threaded rod at each operation of the lever.

10. In a device for vending an article of merchandise in portions, a knife, means for feeding the article to the knife, a pivoted lever for operating said feeding means that is longitudinally slotted substantially in alignment with the fulcrum thereof, a threaded rod rotatably mounted in said lever and extending longitudinally through said slot, a block mounted on said rod within said slot so that it will be moved by the rotation of the rod toward or away from the fulcrum of the lever, a link connecting said block with the feeding means, a star-wheel secured on said threaded rod at

the free end of said lever, and a pawl mounted in the path of said star-wheel that actuates said star-wheel at each operation of the lever.

11. In a device for vending an article of merchandise in portions, means for severing the article into portions, a scale indicating the number of portions into which the article is to be severed, mechanism operative in connection with said scale for controlling the dimensions of the portions as they are cut and a penny-scale in connection with said mechanism that indicates the extent of movement of said operating mechanism necessary to cut a portion of a certain value.

12. In a device for vending an article of merchandise in portions, a knife, means for feeding the article to the knife, a pivoted lever, a connection between the feeding means and the lever that is movable toward and away from the fulcrum of the lever, a scale on said lever indicating the number of portions into which the article is to be cut, means for moving said movable connection toward or away from the fulcrum of the lever at each operation of the lever, and a penny-scale located concentric with the fulcrum of the lever for indicating the extent of movement of said lever necessary to obtain a portion of a certain value.

13. In a device for vending an article of merchandise in portions, a frame, a knife mounted thereon, and means for feeding the article toward the knife with a predetermined variable movement.

14. In a device for vending an article of merchandise in portions, a frame, a knife mounted on said frame, and means for feeding the article to the knife with a regular increase or diminution of movement.

15. In a device for vending an article of merchandise in portions, a frame, a knife, and means for automatically feeding the article to the knife so as to vary the thickness of the portion of the article to be cut for the same price.

16. In a device for vending an article of mer-

chandise in portions, a frame, a knife mounted thereon and means for feeding the article to the knife so that there will be a regular increase or diminution in the thickness of the portions of the articles to be cut.

17. In a device for vending an article of merchandise in portions, a frame, a knife mounted on said frame, a follower for moving the article toward the knife with an arm extending down into the frame, two parallel rods, one stationary and the other movable, clutch mechanisms connecting said arm with each of said rods that permit the arm and follower to move forward at the forward movement of said movable rod, means for reciprocating said movable rod, whereby the stationary rod will prevent the rearward movement of said arm and follower, and means for releasing said clutch mechanism when it is desired to move the follower back to its starting position.

18. In a device for vending an article of merchandise in portions, a knife, a support for the article that is inclined with reference to the knife, and means for feeding the article along such support to the knife.

19. In a device for vending an article of merchandise in portions, a frame that is substantially horizontal, a vertical knife mounted to operate transversely to the frame, an extension upward from the frame at a point distant from the knife, a support for the article that is to be cut that is mounted on said extension at one end and on the top of the frame near the knife so that said support will be inclined with reference to the knife, and means for feeding the article toward the knife.

In witness whereof we have hereunto affixed our signatures in the presence of the witnesses herein named.

EDWARD L. HEIZER.

CHARLEY H. HENSLEY:

GEORGE P. LOUISO.

Witnesses:

V. H. LOCKWOOD,

NELLIE ALLEMONG.