

No. 635,724.

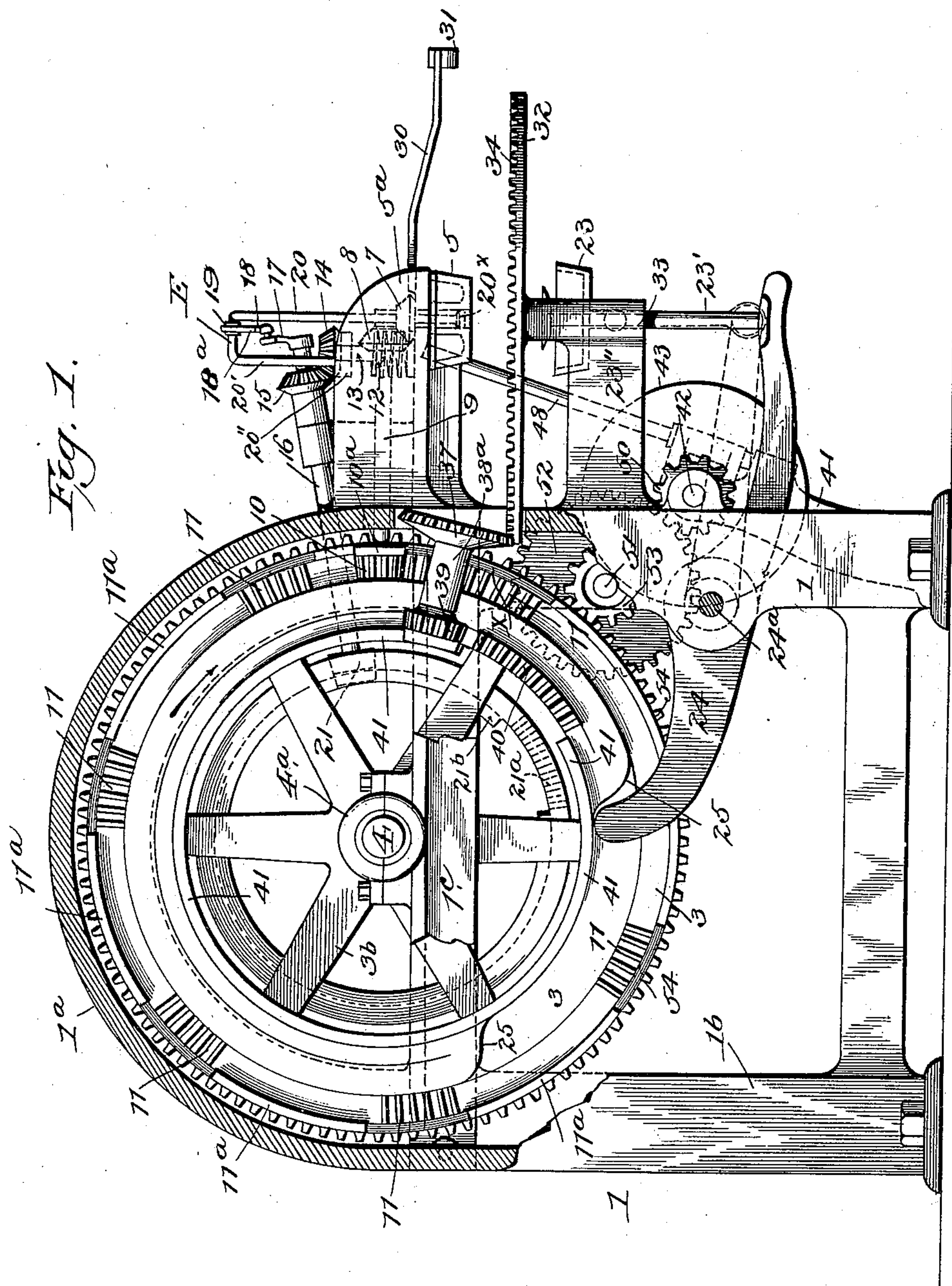
Patented Oct. 24, 1899.

E. HORTON.  
BASKET MAKING MACHINE.

(Application filed June 12, 1897.)

(No Model.)

6 Sheets—Sheet 1.



Witnesses  
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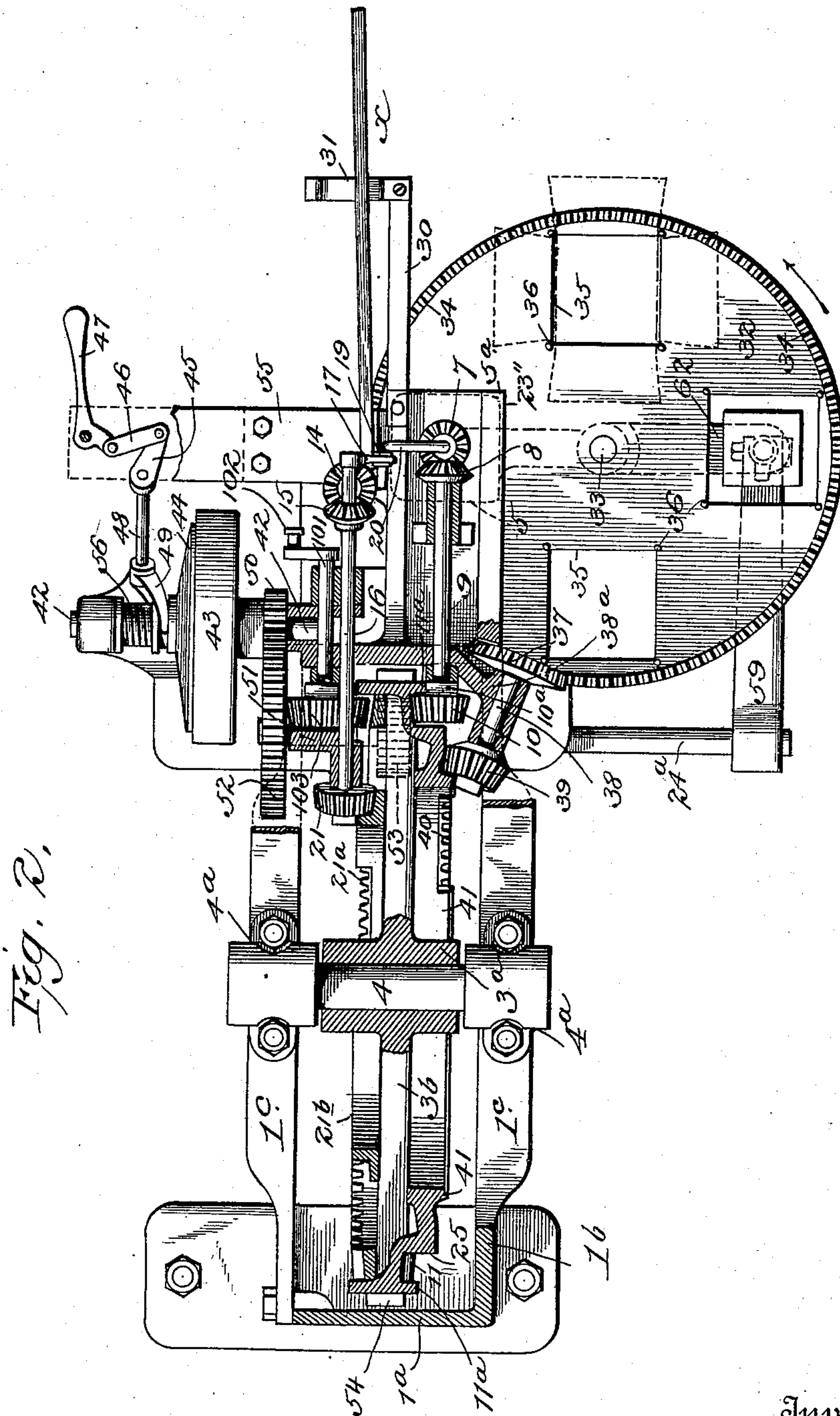


Fig. 2.

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Fig. 4.

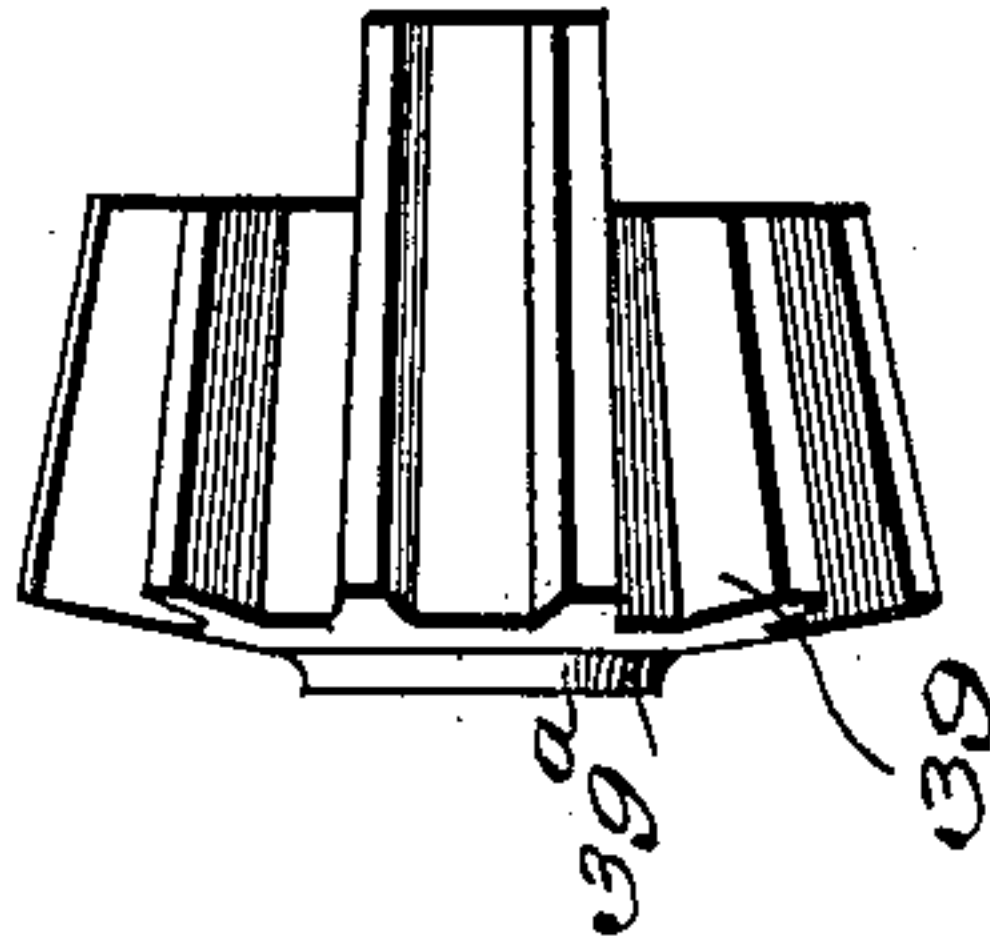


Fig. 5.

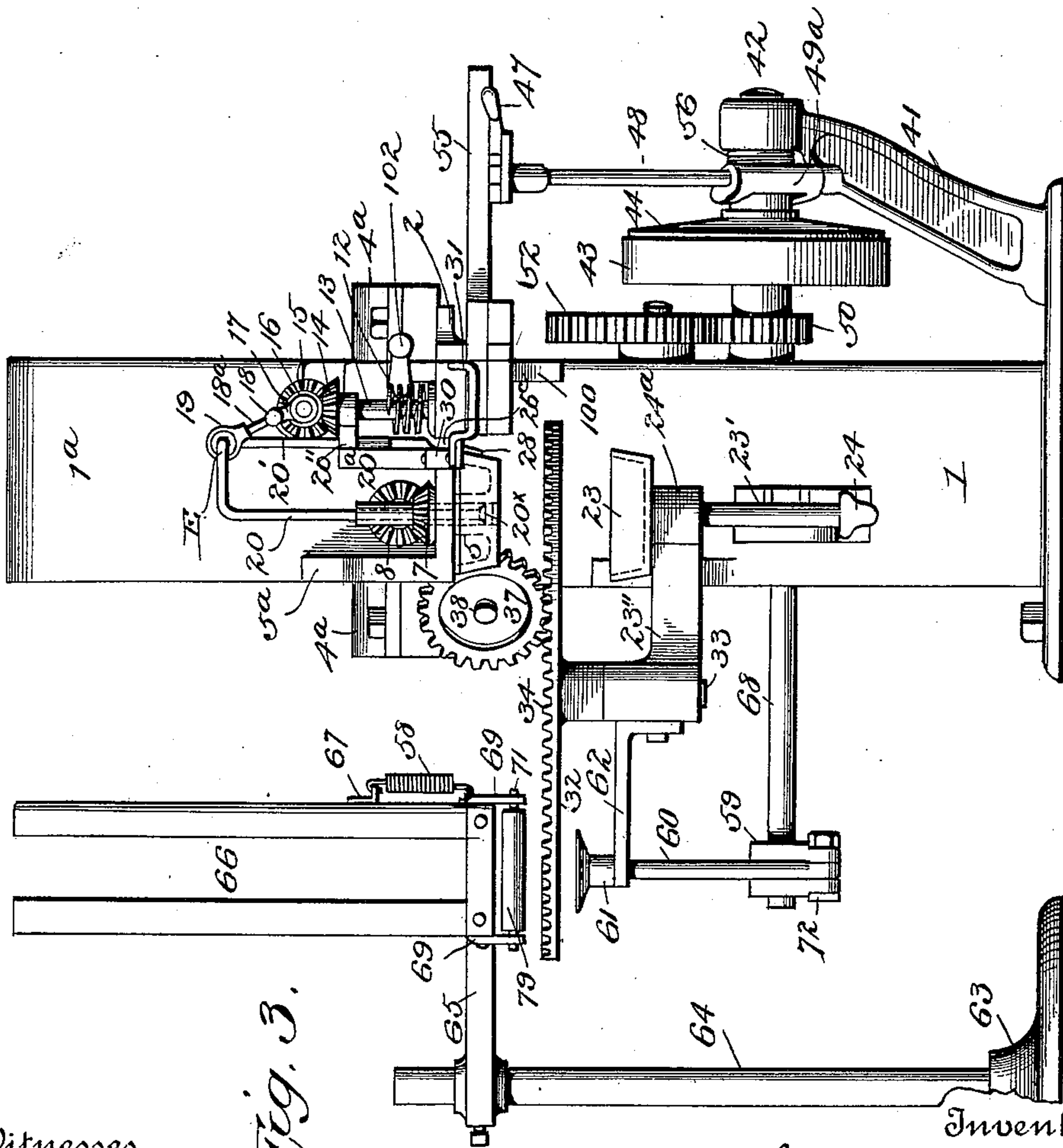
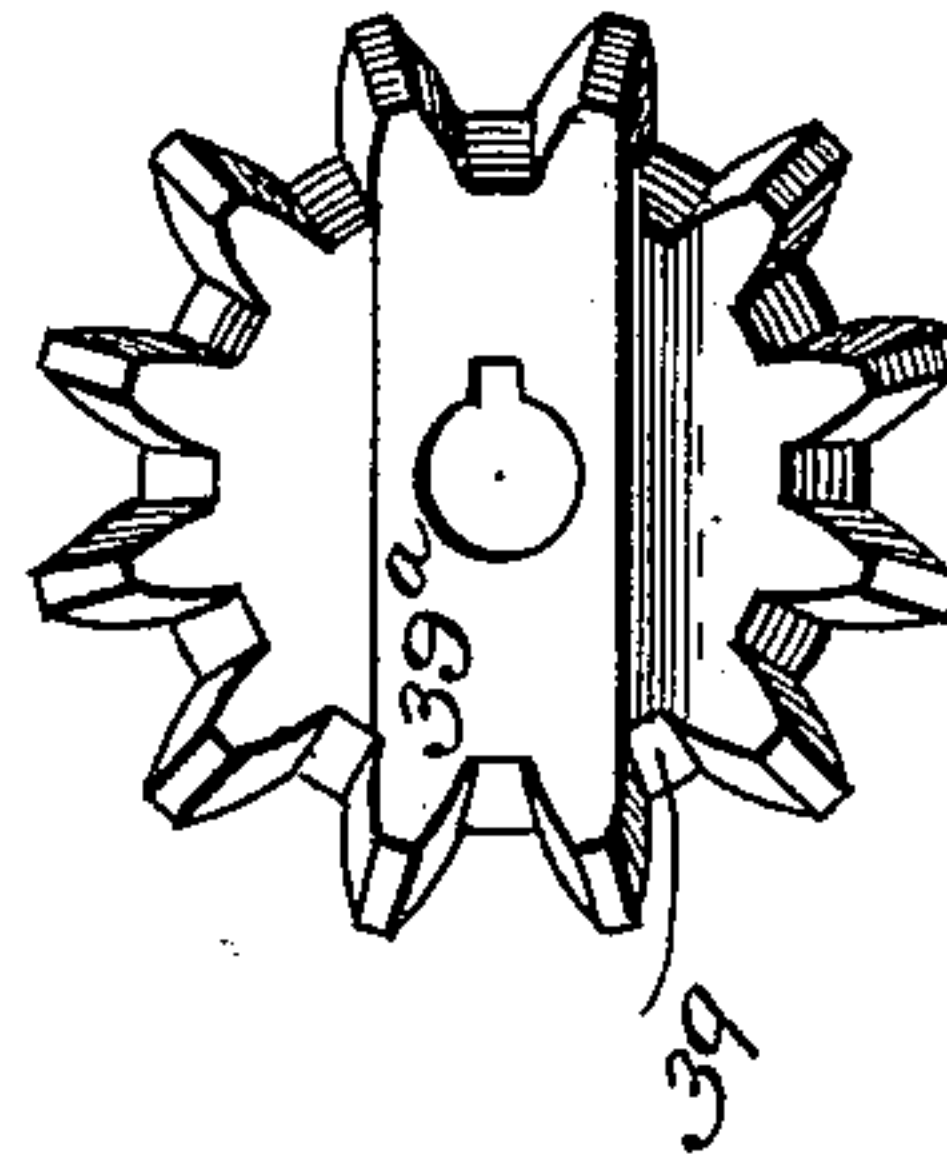


Fig. 3.

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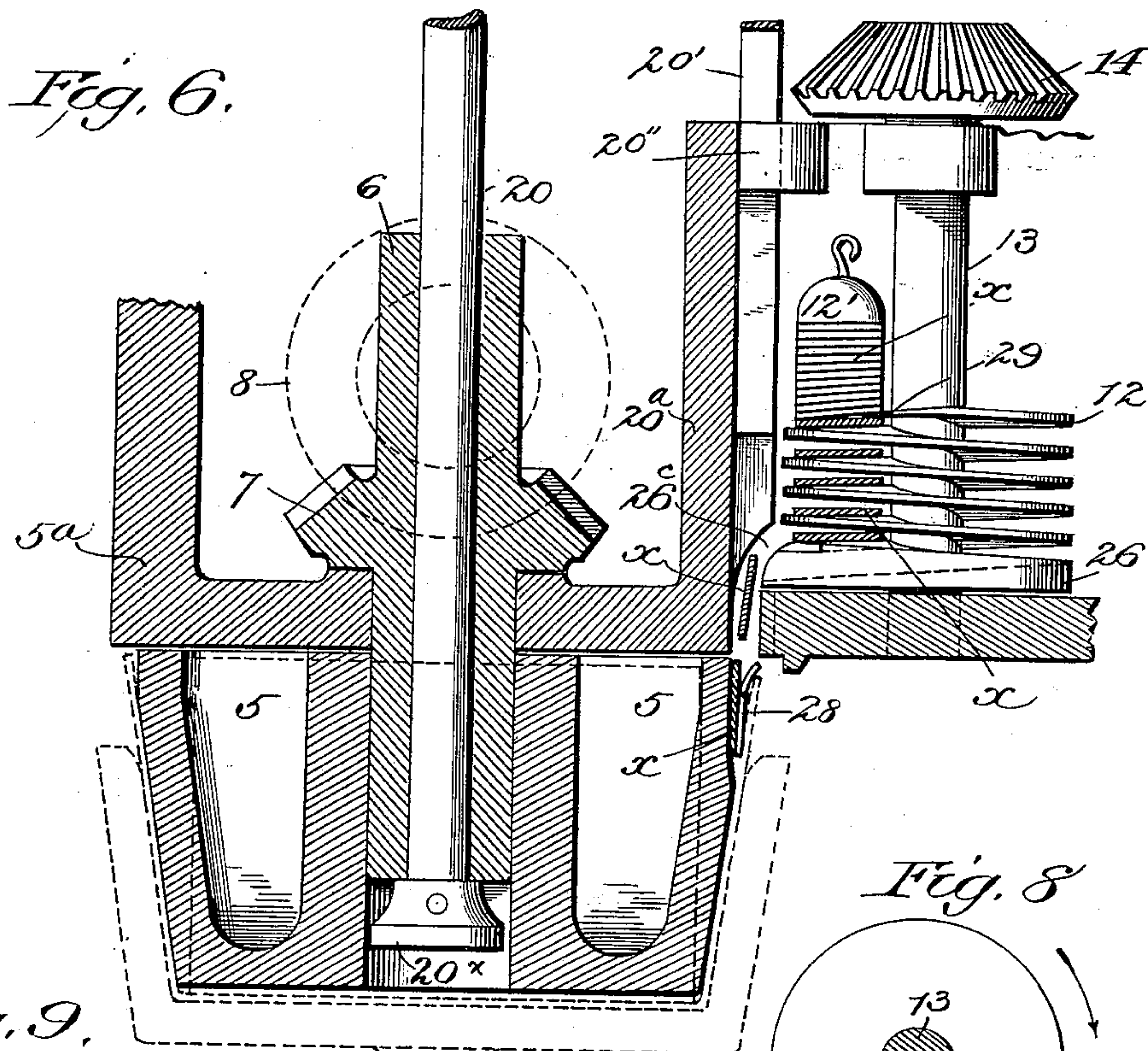
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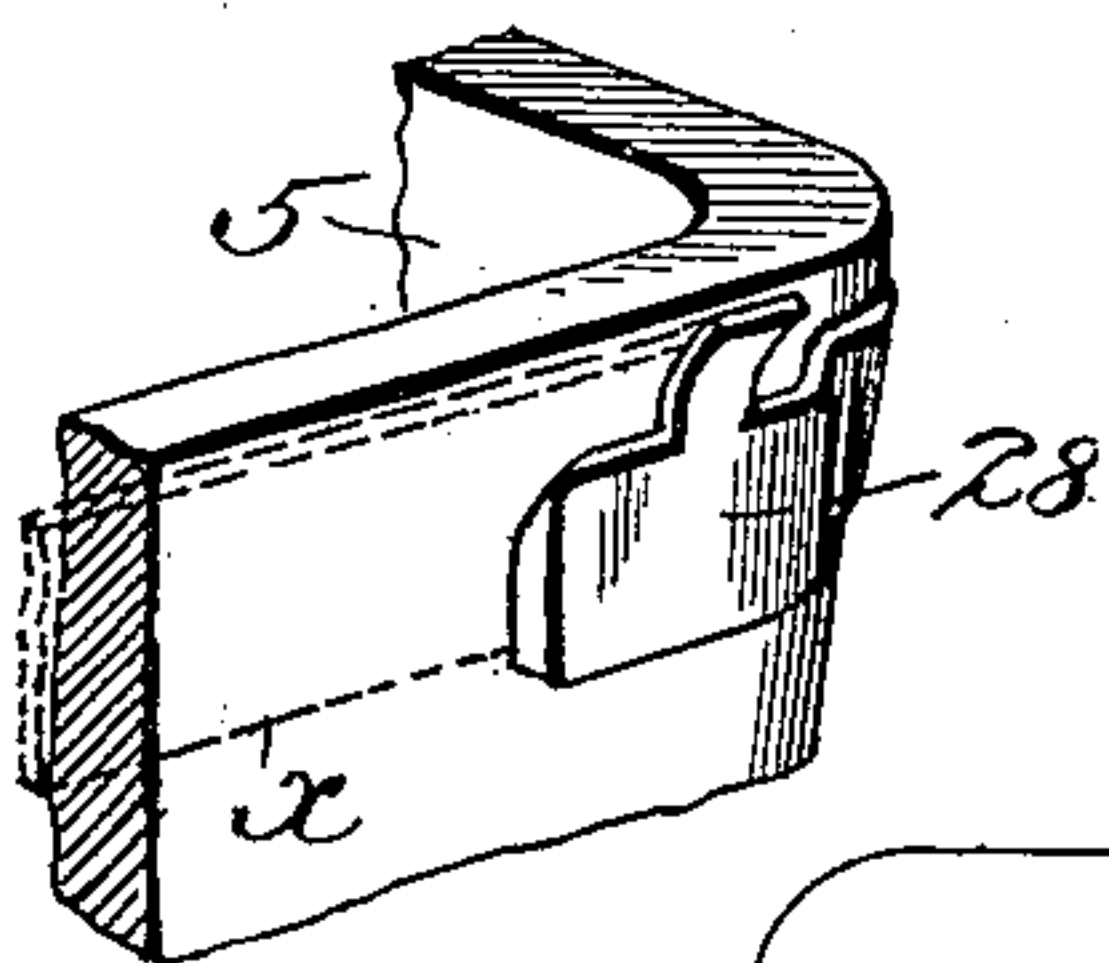
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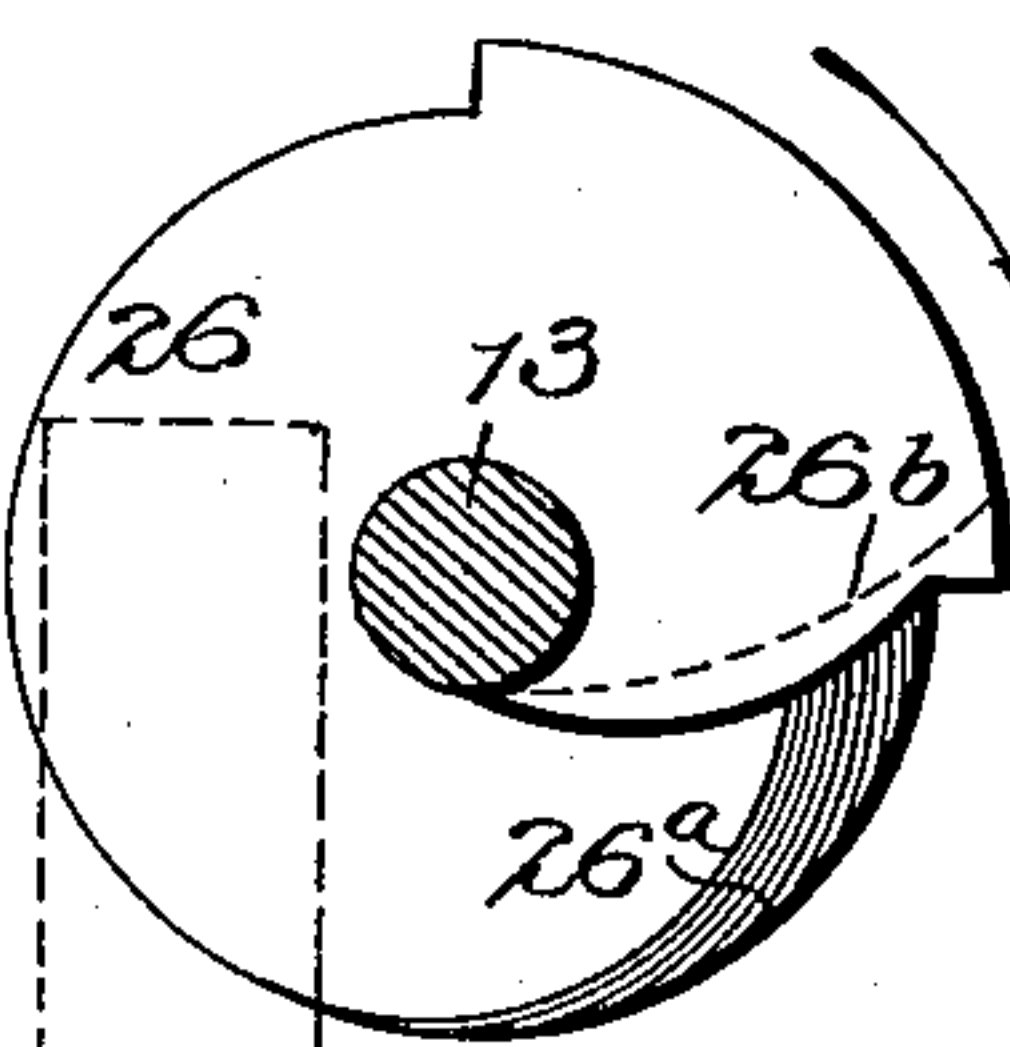
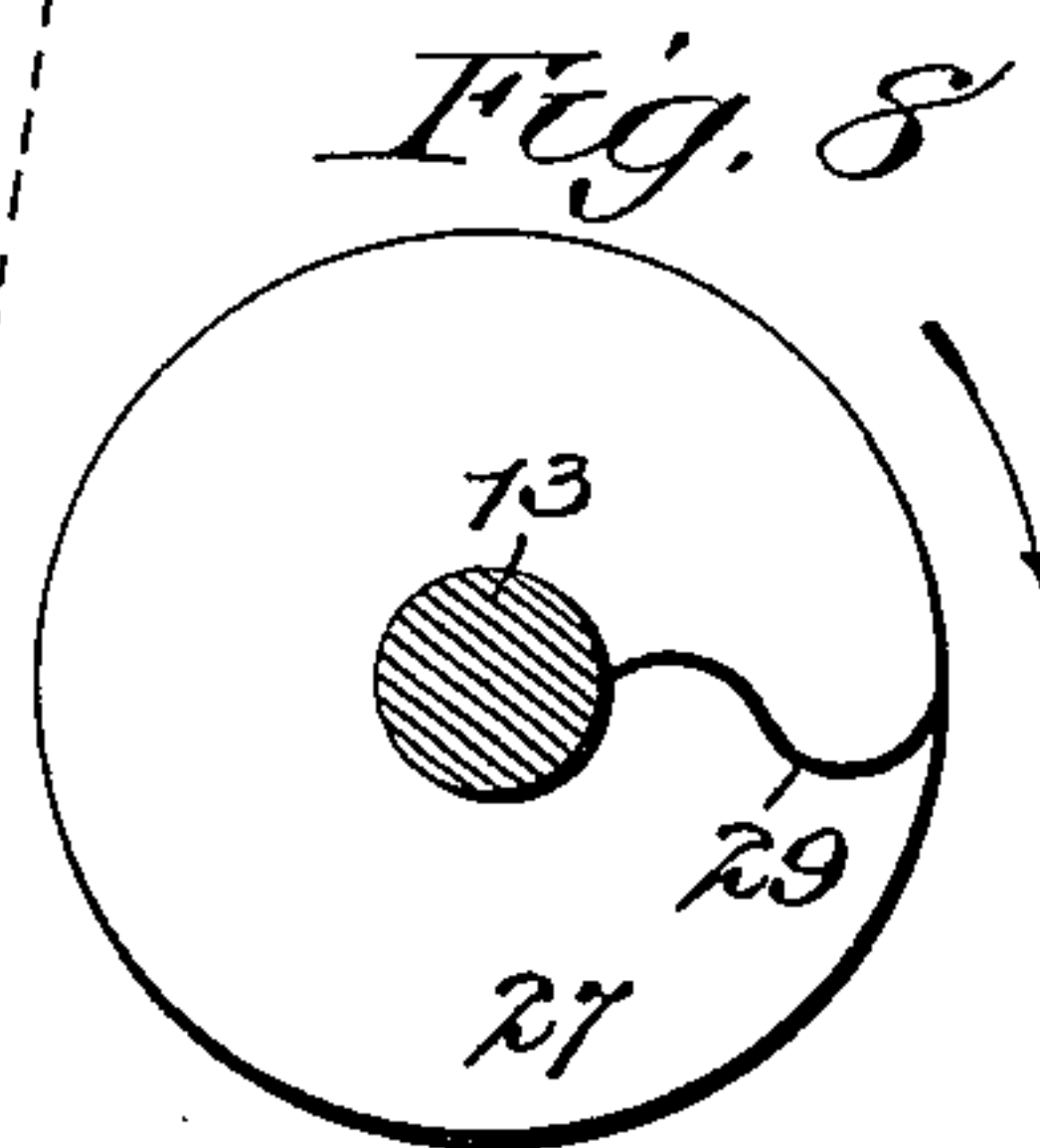
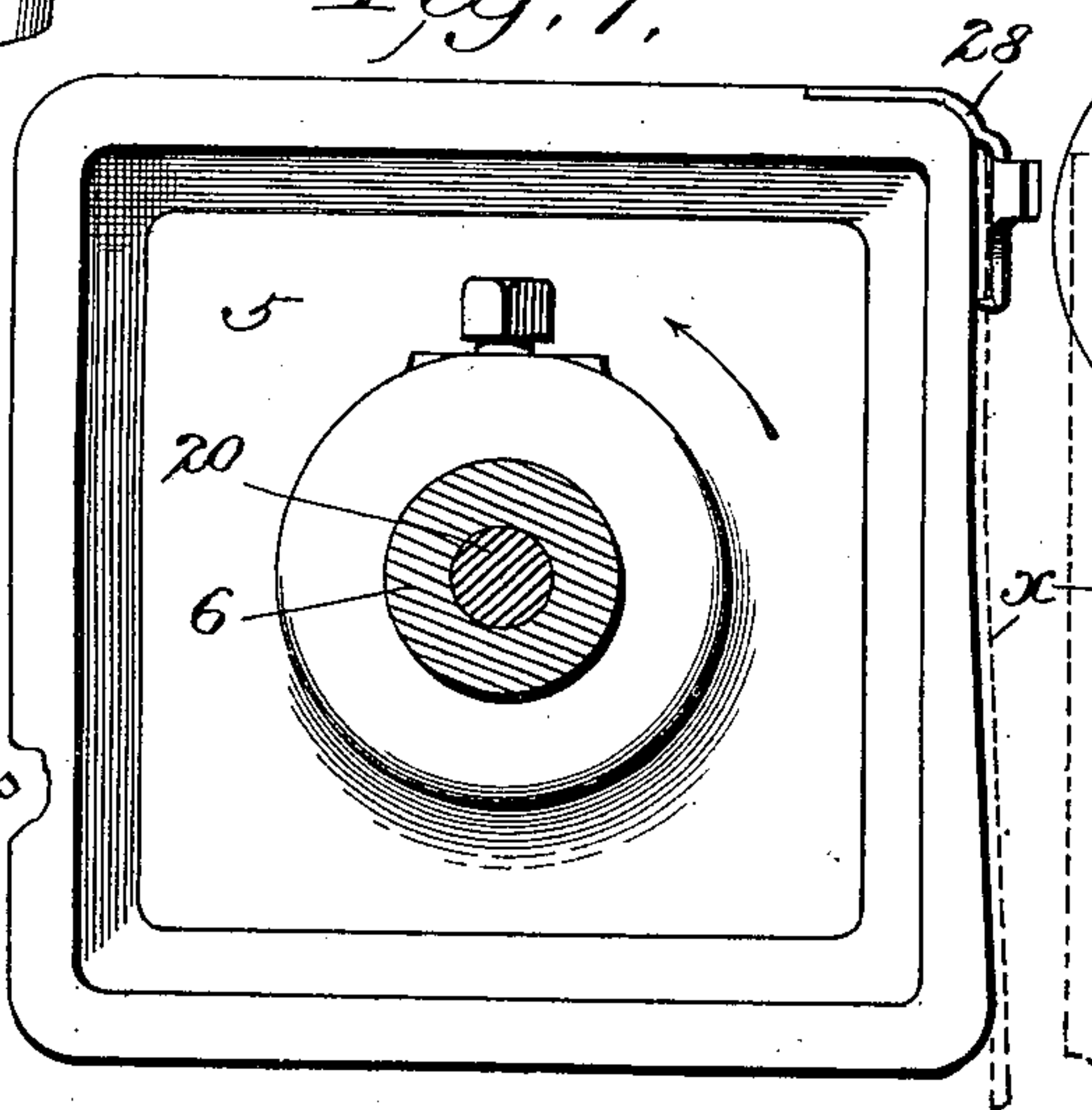
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*Fig. 9.*



*Fig. 7.*



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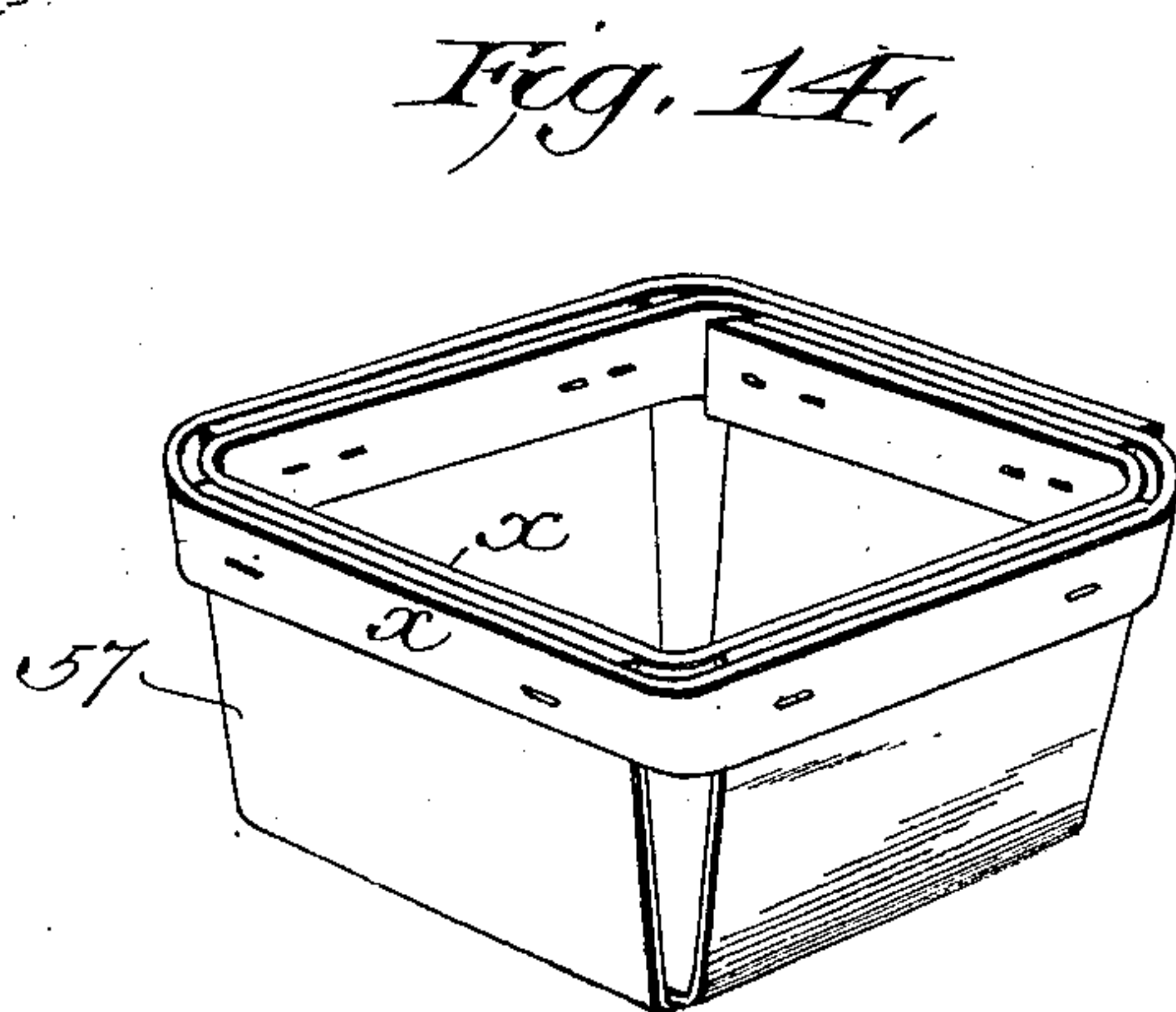
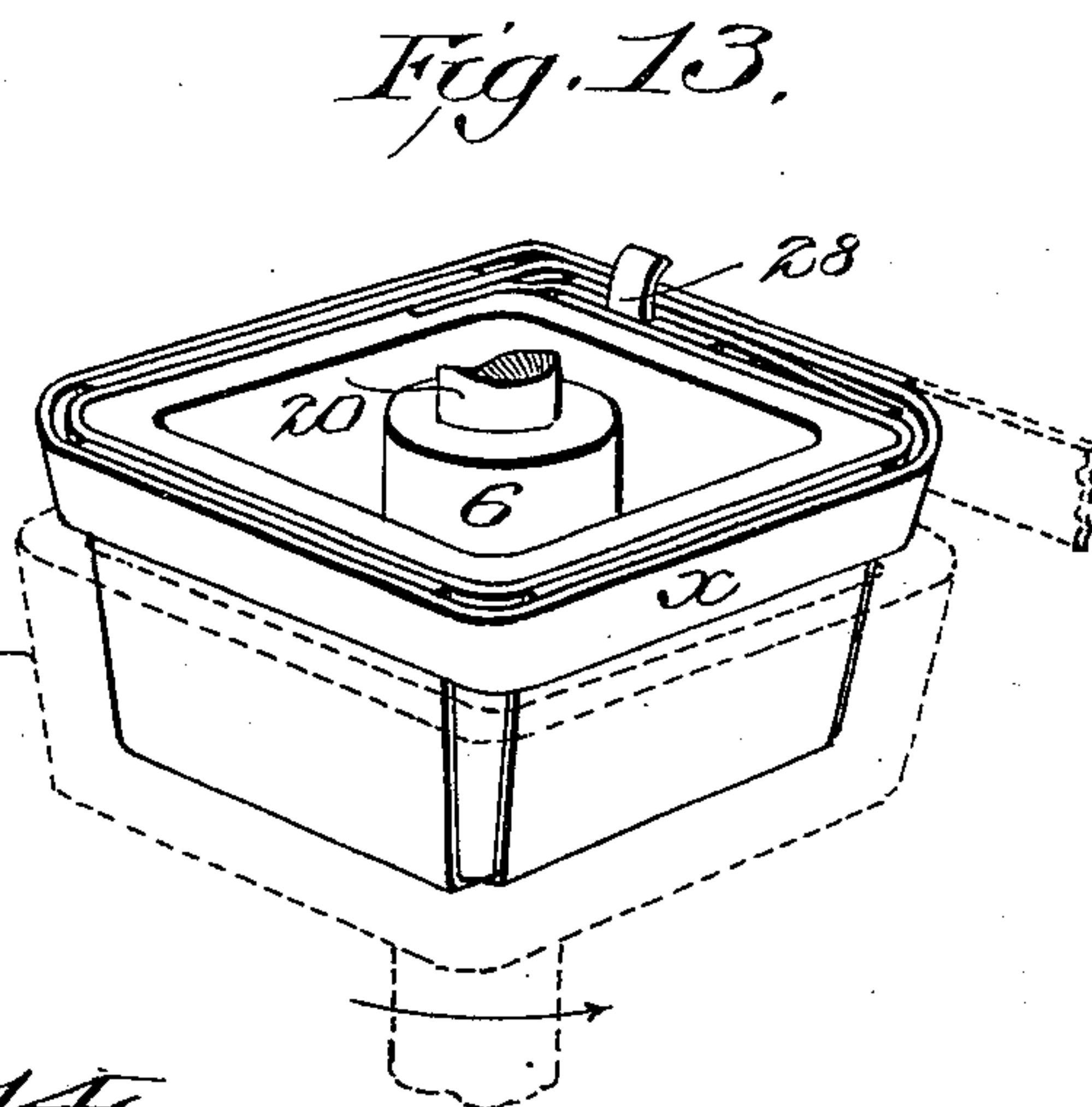
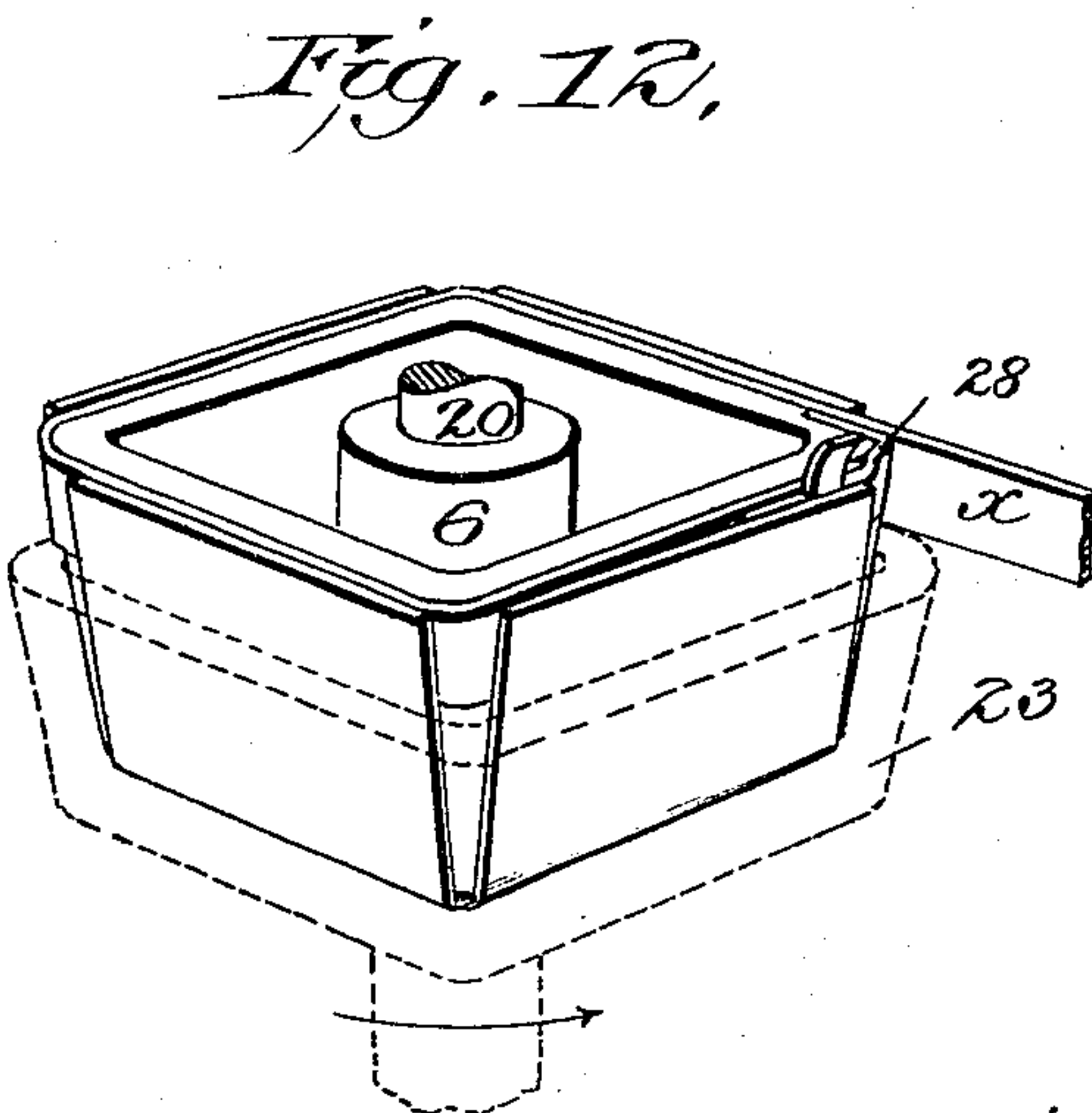
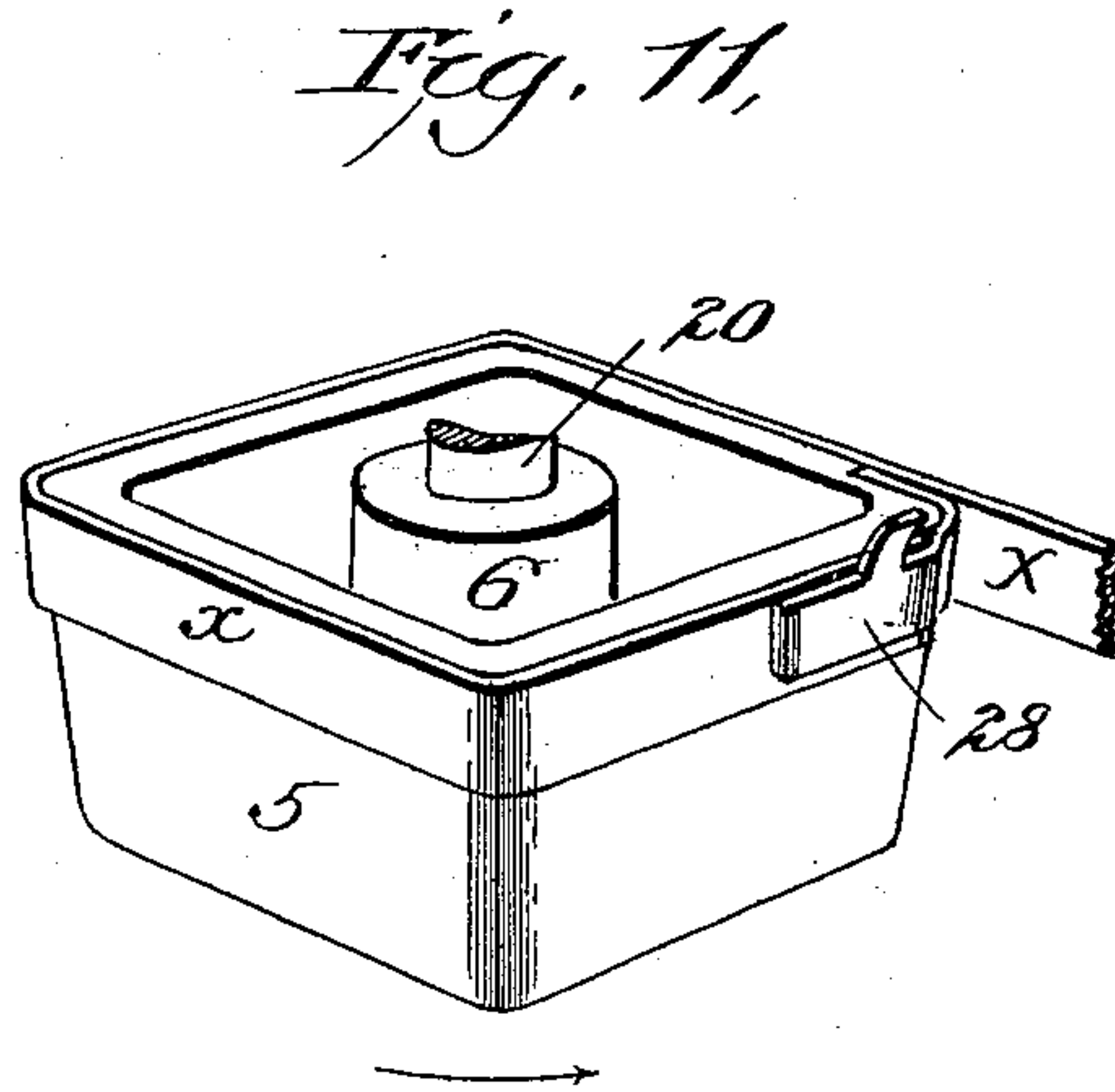
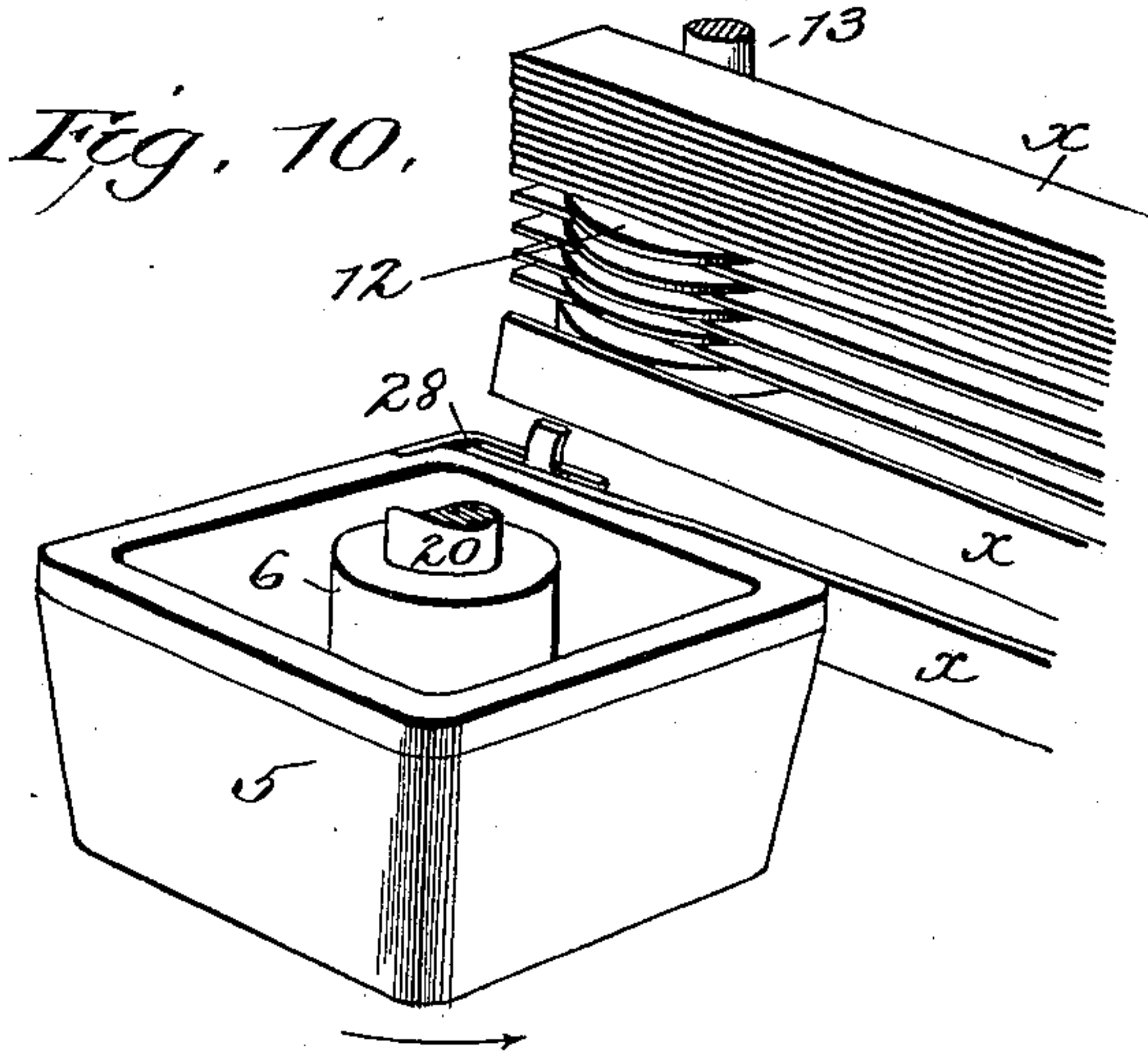
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(No Model.)

6 Sheets—Sheet 5.



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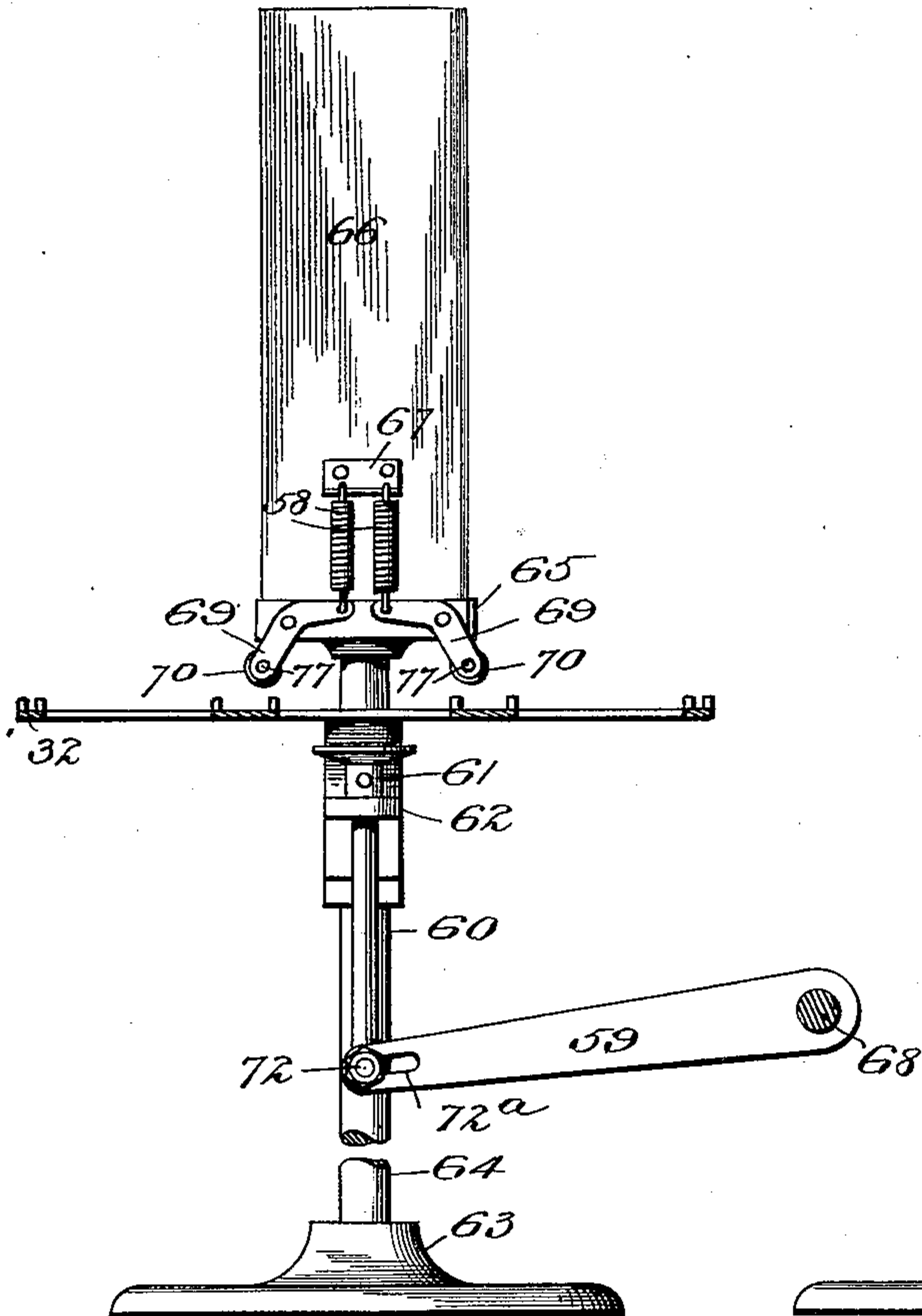
**E. HORTON.**  
**BASKET MAKING MACHINE.**

(Application filed June 12, 1897.)

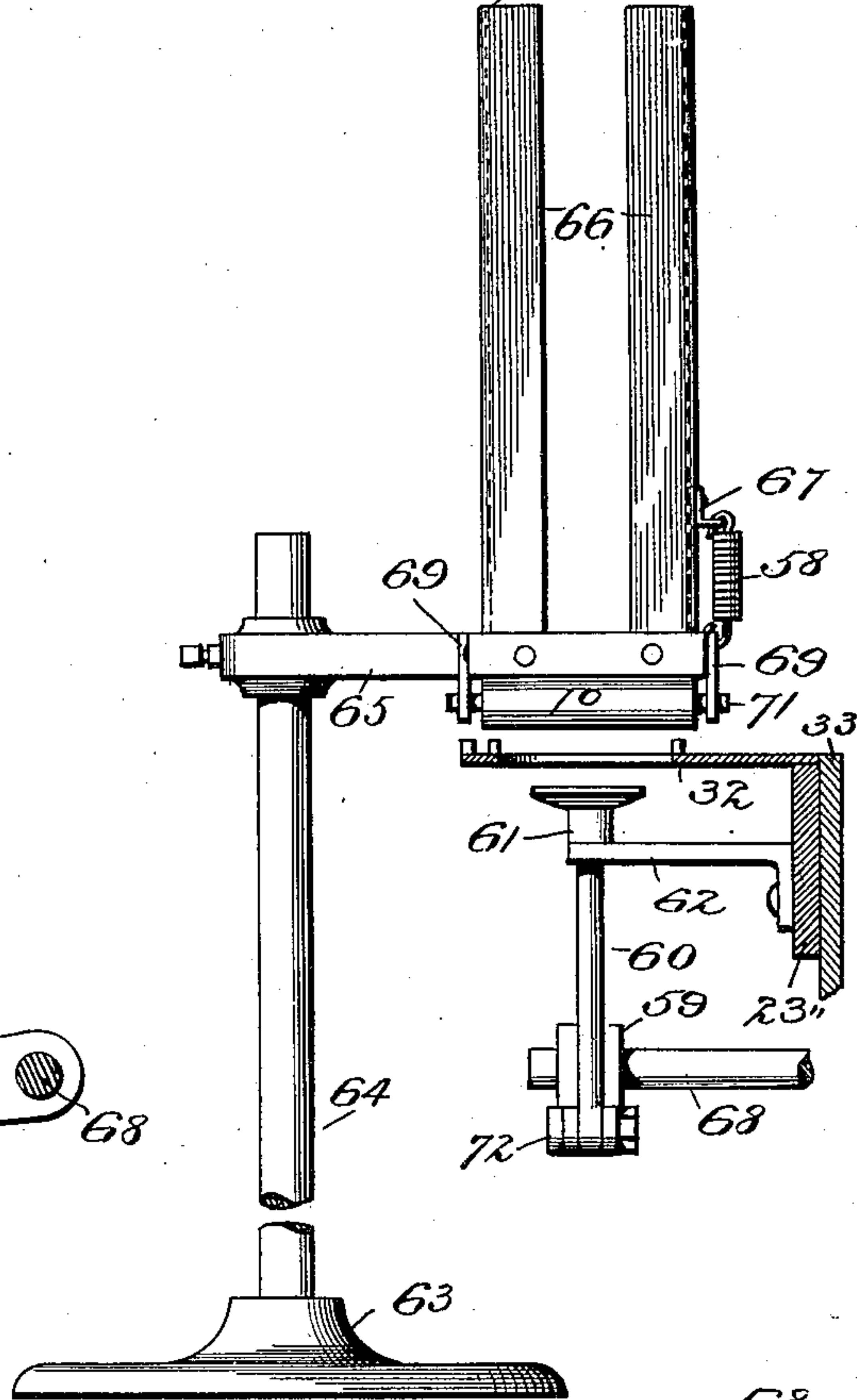
(No Model.)

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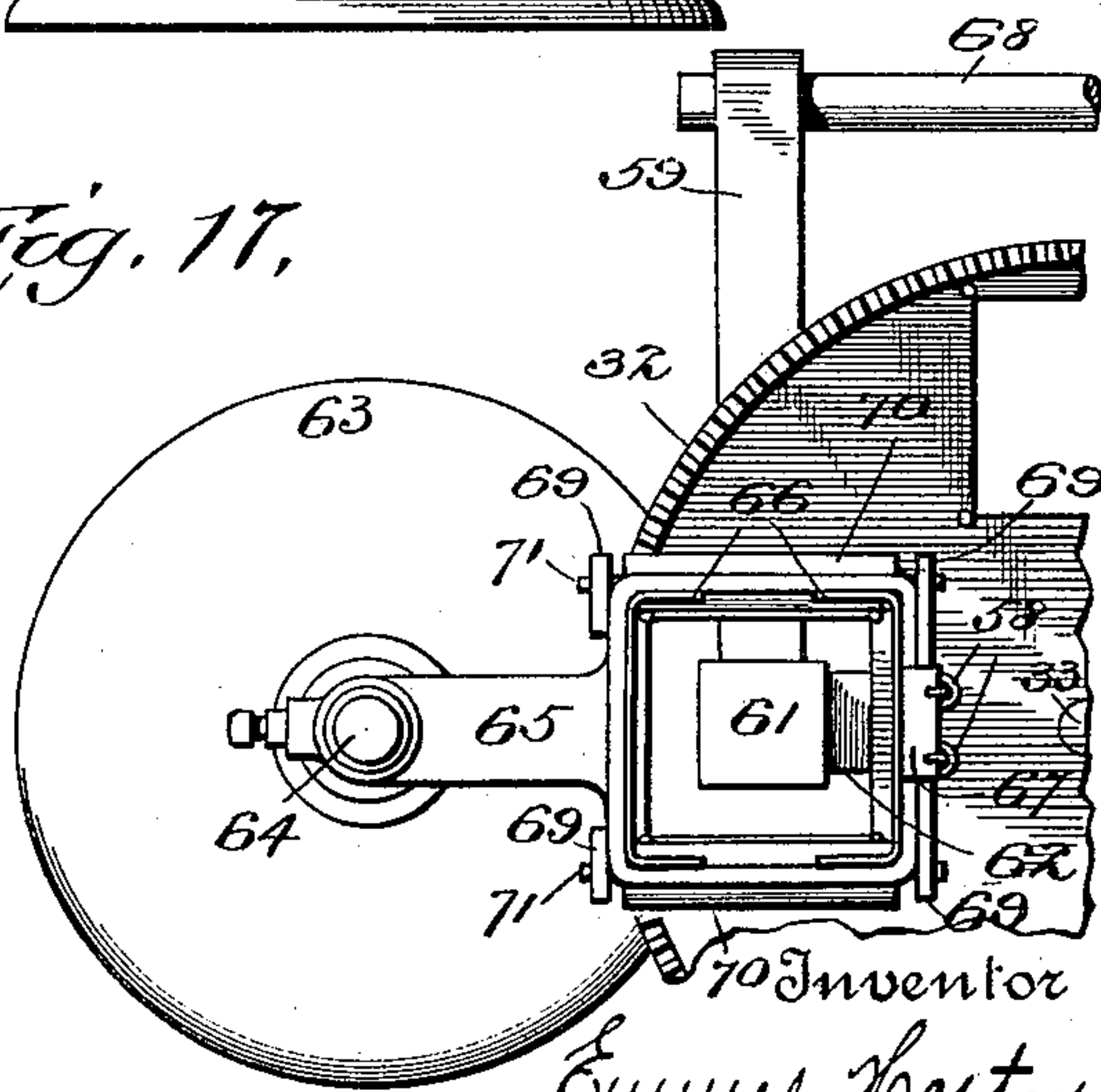
*Fig. 15.*



*Fig. 16.*



*Fig. 17.*



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# UNITED STATES PATENT OFFICE.

EMMET HORTON, OF ELMIRA, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE HORTON BASKET MACHINE COMPANY, OF WASHINGTON, DISTRICT OF COLUMBIA.

## BASKET-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 635,724, dated October 24, 1899.

Application filed June 12, 1897. Serial No. 640,537. (No model.)

*To all whom it may concern:*

Be it known that I, EMMET HORTON, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Basket-Making Machines, of which the following is a specification.

The object of my invention is to provide improved mechanism for making baskets from sheets of veneer. In my Patent No. 530,048, of November 27, 1894, I have shown a machine which automatically makes such baskets, the particular style of basket made by such machine being what is known as the "Climax" grape-basket, in which sheets of veneer are nailed to an oblong bottom and are secured at the top by inner and outer bands. My Patent No. 578,876, of March 16, 1897, shows a machine particularly designed to make the "Excelsior" basket, in which sheets of veneer are crossed, bent into shape, and secured at the top by bands. The machines shown in these patents were pioneers in the art of automatically making these kinds of baskets, and while they are efficient in operation are yet capable of being improved and simplified.

My present invention relates more particularly to making baskets of sheets of veneer, which without the use of a separate bottom piece are crossed, bent, and secured to the top by inner and outer bands. The invention therefore more particularly relates to the kind of machine shown in my Patent No. 578,876 above mentioned.

The first important feature of my invention consists in certain improved mechanism for feeding the veneer blanks to the shaping-dies and for delivering the baskets after they have been shaped and bound. The mechanism which I now use for this purpose comprises a rotary feed-table constructed and operating in an improved way and provided with openings over which the veneer blanks are first placed and through which the shaping-dies operate to bend and shape the blanks.

This improved feed-table also performs the function of receiving the baskets when they are ejected from the shaping-dies and of carrying them to a point of delivery.

The next important feature of the invention is an improved automatic stacking device which receives the baskets from the feed-table as fast as they are completed and stacks or nests them so as to economize space and prepare them for transportation.

I have also devised improved mechanism for feeding the wrapping-bands of the basket. This mechanism includes as an essential and the most important element a screw which separates the bands successively from a pile and delivers them. Certain other mechanism is used in connection with the screw to properly deliver the bands separately and successively to the form, the details of which will be hereinafter described.

Another important feature of my invention is novel mechanism for wrapping a single band around both the inside and the outside of the basket instead of employing two separate bands for this purpose, as heretofore.

The machine shown in the drawings, which embodies all my present improvements in a simple and efficient manner, is power-driven and entirely automatic—that is to say, the attendant merely supplies veneer blanks to the feed-table and keeps the band-reservoir supplied, while the machine feeds the blanks to the shaping-dies, bends them into form, applies the bands, and stacks or nests the completed baskets. I wish it understood, however, that certain parts of my machine may be used without the others. The feed-table may be used without the stacking mechanism and with a different kind of band-feeding mechanism. In like manner the stacking mechanism may be used in machines differing entirely from that herein shown, the band-feeding mechanism may be used in other kinds of machines, and such mechanism may be used not only for feeding bands but for feeding other parts used in constructing the basket. The machine illustrated, however, embodies my improvements for conjoint operation in a very efficient manner, and I therefore not only consider important the separate features and the general organization above mentioned, but also the details of construction of the machine, which I will now proceed to describe.



In the accompanying drawings, Figure 1 represents a side elevation of the machine, some of the parts being broken away and others omitted the more clearly to illustrate other parts. Fig. 2 represents a view, partly in plan and partly in longitudinal section, of the machine, some of the parts being broken away, some omitted, and some shown by dotted lines to more fully illustrate details of construction. Fig. 3 represents a front elevation of the machine. Fig. 4 is a detailed view, on an enlarged scale, of the slide-pinion which communicates motion from the main cam and gear wheel to the shaft of the pinion which drives the feed-table. Fig. 5 represents an end elevation of this pinion. Fig. 6 is a view, on an enlarged scale, partly in elevation and partly in section, illustrating more particularly the band-feeding mechanism. Fig. 7 is a plan view, on an enlarged scale, of the form, its shaft and the ejector-shaft being shown in transverse section. This figure also illustrates a part of the band-feeding mechanism. Fig. 8 represents a plan of the band-feeding screw, the shaft thereof being shown in transverse section. Fig. 9 is a detail view of one corner of the form. Figs. 10 to 13, inclusive, are perspective views of the form, showing it in different positions and illustrating the manner of wrapping the bands around the form and of applying the crossed veneer pieces thereto. Fig. 10 shows part of the band-feeding mechanism and illustrates the position of the band before the form is turned. Fig. 11 illustrates the position of the form after the band has been wrapped once around it. Fig. 12 shows the band as wrapped once around the form. It also shows in dotted lines the former in the position it occupies after having bent the crossed blanks around the form. Fig. 13 shows the band wrapped around the form inside the crossed blanks and also wrapped around the outside of the blanks. Fig. 14 is a perspective view of the completed basket. Fig. 15 shows a side elevation of the stacking mechanism, the feed-table being shown in vertical section. Fig. 16 is a front elevation of the stacking mechanism, and Fig. 17 is a plan view of the stacking mechanism and part of the feed-table.

The main cam and gear wheel 3 is secured to a shaft 4, revolving in bearings 4<sup>a</sup> in the frame 1, which latter is suitably shaped to support the principal moving parts of the machine. The wheel 3 is provided with a hub 3<sup>a</sup> and spokes 3<sup>b</sup>, and it is also provided with a toothed periphery and with toothed flanges on opposite sides constructed as hereinafter described. The frame 1 is a skeleton frame. It is closed on its front and rear sides and has a flange 1<sup>b</sup> on its right-hand side. This flange extends from the bottom of the frame at the rear end upwardly and over the axis of the wheel 3 and downwardly along the front of the frame, as illustrated in Fig. 1, the upper part of the frame in this figure being broken away, as indicated by dotted lines.

On the right-hand side the frame is provided with a horizontal cross-piece 1<sup>c</sup>, which supports one of the bearings for the shaft 4. On the opposite or left-hand side the frame is open; but the bearings for the shaft 4 on the left-hand side of the machine are carried by a cross-piece 2, which is secured to the frame as indicated or in any suitable way. The exact shape of the frame is unimportant, but that shown is preferred. The frame is provided with a curved top portion 1<sup>a</sup>, which covers the upper portion of the wheel 3. A bracket 23<sup>''</sup> projects forwardly from the frame 1 and is provided with a tubular bearing for a vertical shaft 33, to which is secured a rotary feed-table 32. This table is provided on its periphery with a circular uninterrupted series of teeth 34, with which mesh the teeth of a pinion 37, secured to a short shaft 38, mounted in bearings formed in a bracket 38<sup>a</sup>, projecting from the frame 1, and carrying at its opposite end a pinion 39, gearing with a set of teeth 40 on the right-hand side of the cam and gear wheel 3.

The pinion 39 is shown in detail in Figs. 4 and 5. It is formed with a slide 39<sup>a</sup>, which engages at each revolution of the wheel 3 with a flange or rail 41 on this wheel. This flange is interposed between the ends of the segment of teeth 40, with which the teeth of the pinion 39 engage, the arrangement being such that when the pinion is not in engagement with the teeth 40 the slide 39<sup>a</sup> will engage the flange or rail 41, thereby preventing the accidental movement of the table 32 when not in the act of feeding blanks to the shaping-dies or delivering completed baskets to the stacker.

It will be observed that the arrangement is such that during each complete revolution of the wheel 3 the table 32 is given a partial turn, but that this movement of the table is only during part of the revolution of the wheel 3. During the remainder of the revolution of this wheel the table is stationary.

The feed-table is provided with a series of openings 35, around which are engaged centering-pins 36. The table is revolved in the direction indicated by the arrow, and the attendant places the veneer blanks between the pins over the openings as the table turns. The blanks, which are crossed as they are placed on the table, are carried around to the shaping-dies, and when the dies operate the blanks are pressed into shape and receive the securing-bands. The table is moved intermittently, stopping each time that a set of blanks arrives at the dies, the segment of teeth 40 on the wheel 3 being arranged to move the table to the proper extent—that is to say, one-fourth of a revolution each time that the wheel 3 revolves once and to cause the table to dwell during the remainder of the revolution of the wheel 3 while the basket is being completed and delivered.

The shaping-dies consist of a form 5 and a former 23. The form is frustum-shaped and rectangular in horizontal section, correspond-



the end of the band is caught by the bevel-surface and guided into a curved groove 26<sup>b</sup>, and the band is then moved into the guide-passage 26<sup>c</sup>, through which it is delivered to the holder 28, as above described. A weight or follower 12' rests on the inner ends of the bands and holds them in engagement with the screw. Each band is fed through the passage 26<sup>c</sup> into engagement with the hook 28 by means of a plunger 20', forming part of a U-shaped frame E, which frame is actuated by an arm 17 on the outer end of the shaft 16. The arm 17 is connected by a universal joint 18 with a link 18<sup>a</sup>, secured to the horizontal upper part of the frame E. The front portion 20 of the frame extends downwardly through the shaft 6 of the form, which is made hollow for the purpose, while the plunger 20' extends through a lug 20'', projecting from the vertical plate 20<sup>a</sup>, forming part of the bracket 5<sup>a</sup>. The plate 20<sup>a</sup> is so formed as to provide a wall for the passage 26<sup>c</sup>. The part 20 of the frame E is provided with a head 20<sup>x</sup>, which acts as an ejector for the completed basket.

After the band is applied the frame E descends and ejects the completed basket. Before the basket is ejected the bands are nailed to the crossed veneer blanks, as before described. This may be done by any suitable nailing or stapling mechanism. As my present invention does not contemplate any improvements in the nailing or stapling mechanism, I have not shown in the drawings the details of construction of such mechanism; but such mechanism might be located conveniently on a bracket 55, projecting laterally from the bracket 100. The drawings also show a shaft 101, provided with a crank-arm 102, which could be used for operating the nailing mechanism. This shaft is provided with a pinion 103, which might be operated by suitable teeth on the left-hand side of the wheel 3.

The organization is such that a new band is fed each time that the ejector 20<sup>x</sup> ejects a completed basket, and the ejector 26 is so timed as to deliver a band at each revolution of the wheel 3 in front of the plunger 20'', and it is thus shoved down into engagement with the hook or holder 28 just after the ejector starts to move or eject the completed basket from the form. The hook or holder 28 is so formed as to press the band between itself and the form, and thus hold it in place. It will be observed by reference to Fig. 6 that the sides of the form are for the most part inclined, but around the upper end thereof the walls of the form are practically vertical.

The main cam and gear wheel 3 is provided on its periphery with a continuous series of teeth 54, which mesh with a pinion 53, secured to a shaft 51, carrying a pinion 52, gearing with a pinion 50 on a shaft 42. A pulley 43 is mounted loosely on the shaft 42 and a clutch 44, mounted to slide on this shaft and also to revolve therewith, is adapted to be

moved into and out of engagement with the pulley by means of fingers 49, carried by a shaft 48, operated by a crank-arm 45, a hand-lever 47, and connecting-links 46. One end of the shaft 48 is supported in bearings in the bracket 55, while the other end is supported in a socket 49<sup>a</sup> in a standard 41, which rises from the lower portion of the front end of the frame 1. The fingers 49 engage a grooved collar on the clutch 44, and a spring 56 normally holds the clutch in engagement with the pulley; but the clutch can be moved out of engagement therewith against the force of the spring by a lever 47 and its connections.

When the basket is ejected from the form, it is received into one of the openings 35, and the table is then revolved and carries the completed basket away from the form. The basket may be removed from the table by hand or it may be taken therefrom by automatic stacking or nesting devices. I have shown in the drawings mechanism for this purpose.

The basket-receptacle 66 is supported over the table 32 by means of an adjustable arm 65, projecting horizontally from a vertical standard 64, rising from a base-piece 63. The receptacle is shown as consisting of two vertically-arranged flanged channel-plates; but the exact construction of the receptacle is not of vital importance. When a completed basket is ejected from the shaping-dies, it drops down into one of the openings of the table beneath it and is carried around under the receptacle 66, whereupon a plunger 61 on a vertical rod 60 is moved upward to lift the basket up into the receptacle 66. The rod 60 is actuated by an arm 59, secured to the rock-shaft 68, which rock-shaft is attached to the lever 24 and is actuated thereby, so that the plunger 61 is moved upward when the former 23 is moved upward. The outer end of the arm 59 is connected to the plunger 60 by a bolt 72, extending through a slot 72<sup>a</sup> in the arm 59, and the plunger moves in a guide-arm 62, projecting from the bracket 23''. The baskets are retained in the receptacle by a pair of rollers 70, mounted on bell-crank levers 69 in such manner as to project beyond the inner walls of the receptacle. The passage of the basket upward into the bottom of the receptacle forces the rollers outward against the tension of springs 58, attached to the bracket 67 and to the levers 69. The springs act to retain the rollers in position to support the baskets in the receptacle.

It will be clear from Figs. 15 to 17, inclusive, that when the plunger 61 is moved upward it will move upward the basket held in the opening of the table 62 immediately above it and that such basket may be pressed past the rollers 70 and into the receptacle 66, lifting upward the pile of baskets already contained in the receptacle.

In Fig. 1 the parts are in the position which they occupy just after a band has been wrapped once around the form. Prior to this the attendant placed crossed sheets of veneer



ing with the shape of the basket. It is secured to a vertical shaft 6, mounted in bearings in a bracket 5<sup>a</sup>, projecting from the frame 1. The shaft 6 carries at its upper end, above the bottom piece of the bracket, a bevel-pinion 7, which meshes with a correspondingly-shaped pinion 8 on a shaft 9, mounted in bearings on the bracket 5<sup>a</sup> and provided at its rear end with a pinion 10, meshing with the six sets of teeth 11 on the right-hand side of the cam and gear wheel 3. In the present machine six sets of teeth 11 are employed, so that the form may be revolved three-fourths of a revolution to wrap a band completely around the inside of the basket and then revolved one revolution and an additional one-fourth of a revolution to wrap the band completely around the basket and then cause the end of the band to overlap the first portion of the outside wrapping, as clearly shown in Fig. 14. It is understood, of course, that when the band is fed to the form it extends completely across one side thereof, which is one-fourth of the complete circumference, and for this reason the form is only revolved three-fourths of a revolution at first. The first series of teeth 11, which is also marked X in Fig. 1, has a sufficient number of teeth to give to the form three-fourths of a revolution, while the remaining series contains a sufficient number of teeth to give to the form only a one-fourth revolution. The pinion 10 is a "slide-pinion"—that is, it is provided with a slide 10<sup>a</sup>, that engages rails or flanges 11<sup>a</sup> between the sets of teeth 11 when the pinion 10 is not in engagement with the teeth 11. By this means the form is held stationary against accidental movement when the veneer blanks are being bent around it.

As the segments 11 are arranged at intervals, the form is turned not continuously but intermittently, making first three-fourths of a revolution, which applies the band around the form, and at the same time the table is making a one-fourth turn. Then the former rises and bends the veneer blanks around the form, and the form makes five one-fourth intermittent turns, and while making the four last turns the nailing mechanism operates to secure the bands to the veneer blanks.

The former 23 is hollow or cup-shaped and of such form as to fit over the form 5 and to press and bend the veneer blanks around it, as illustrated, for instance, in Figs. 6 and 13. The former is actuated by a vertical rod 23', which moves up and down in bearings in an arm 24<sup>a</sup>, which projects laterally from the bracket 23". The lower end of the rod 23' rests on the outer end of a lever 24, pivoted at 24<sup>a</sup> to one of the standards of the frame 1 and having a curved rear end adapted to engage a cam 25 on the wheel 3. The cam 25 is shaped as shown in Fig. 1, and, as will there be seen, it is nearly circular and of such form as to hold the former elevated during all the time that the pinion 10 is engaged with four of the series of teeth 11—that is to say, while

the band is being wrapped once around the outside of the basket. Each time that a set of veneer blanks is fed between the form and the former the lever 24 is operated to raise the former, cause it to pass through one of the openings 35 above it, lift the crossed veneer blanks, and press them about the form 5 after a band has been wrapped around it, as before described. The mechanism is so timed that the former 23 is elevated while the feed-table is stationary, and it retreats into position below the table before the table can commence its rotation. The openings 35 are but slightly larger than the former 23, so that when the baskets are constructed they will be prevented from falling down through the openings by the bands, which will rest on the table around the openings until the baskets are removed by the attendant or by the stacking mechanism hereinafter described.

The bands *x*, which secure the upper edges of the veneer blanks together, are held in a frame consisting of a bar 30, projecting forwardly from the bracket 5<sup>a</sup> and provided with a laterally-extending arm 31, on which the front ends of the bands rest. The rear ends of the bands project into the path of a vertically-arranged screw 12, secured to a vertical shaft 13, which carries on its upper end a pinion 14, gearing with a pinion 15 on a shaft 16, which is mounted in suitable bearings supported by a bracket 100, secured to the front end of the frame 1. The shaft 16 has secured to its rear end a pinion 21, gearing with teeth 21<sup>a</sup> on the left-hand side of the wheel 3. The pinion 21 is a slide-pinion similar in form to the pinion 39. A flange or rail 21<sup>b</sup> on the left-hand side of the wheel 3, between the ends of the series of teeth 21<sup>a</sup>, engages with the slide on the pinion 21 and prevents it from rotating when not actuated by the teeth 21<sup>a</sup>. The teeth 21<sup>a</sup> are shown by dotted lines in Fig. 1. They are also shown in Fig. 2. The flange 21<sup>b</sup> is most clearly shown in Fig. 2.

There is in the present machine one set of teeth 21<sup>a</sup>, so that every basket formed during each complete rotation of the wheel 3 may have a single band applied completely around it both inside and outside. The upper front end of the screw 12 is pointed or wedge-shaped, adapting it to enter between two adjacent bands and separate the lower one from the main supply. As the screw is rotated the bands are fed downward between the convolutions of the screw in the manner illustrated in Fig. 6. The band at the bottom of the screw is discharged therefrom as the screw rotates, and it enters a passage 26<sup>c</sup>, in which it is given a quarter-turn, adapting it to enter the hook or hollow 28 on the side of the form 5. The band is delivered from the screw by an ejector 26. (Shown in Figs. 6 and 7.) This ejector 26 consists of a circular disk secured to the shaft 13, and it revolves with the screw 12. The screw is arranged over the disk. The bevel-surface 26<sup>a</sup> forms a continuation of the screw, and as the disk is revolved



over one of the openings in the table while it was resting, and the stock thus prepared was carried into position between the form and the former, and while this was being done the band was wrapped around the form, as above specified. The next thing that happens is the elevation of the former 23. It will be observed by reference to Fig. 1 that the cam 25 is just ready to operate the lever 24. As the wheel 3 moves farther the former 23 is elevated and presses the veneer blanks about the form 5. Then the continued revolution of the cam and gear-wheel 3 causes the next series of teeth 11—namely, that shown just above the shaft 16, Fig. 1—to come into engagement with the pinion 10 and give to the form one-fourth of a revolution. Then the next four series of teeth 11 come into engagement with the pinion 10 and wrap the band completely around the upper end of the veneer blanks and also cause the band to overlap the first outside wrapping, as indicated in Fig. 14 and also in Fig. 13.

While the last four turns are being given to the form, the nailing mechanism is operated. After the final turn has been given to the outside band the teeth 21<sup>a</sup> come into engagement with the pinion 21. This operates the screw 12 and feeds a new band under the plunger 20'. At the same time the frame E is depressed and said band fed into engagement with the hook or holder 28, and the ejector 20<sup>x</sup> is operated to eject the basket from the form and cause it to enter the opening 35 in the table just below it. By this time the series of teeth 40 come into engagement with the pinion 39, and one-fourth of a revolution is given to the table, and soon thereafter the teeth X come into engagement with the pinion 10 and wrap the band around the form 5. After the table has been given a one-fourth revolution the cam 25 comes into engagement with the lever 24, which is oscillated, so as to raise the former 23 and at the same time turn the shaft 68 and operate the stacking mechanism in the manner before described.

It will thus be seen that the mechanism is nicely adjusted to automatically make baskets successively from two sheets of veneer and from a single band. As before stated, however, I do not limit myself to a machine entirely automatic, nor do I limit myself to the details of construction of different parts of the machine, and I especially wish it understood that I do not limit myself to the use of a single band to be wrapped around both the inside and the outside of the basket, nor do I limit myself to the use of my improved screw-feed in a machine for making baskets of the precise form shown, as obviously such a screw-feed may be employed in other machines, and it may be employed for feeding the veneer blanks as well as the bands.

I claim as my invention—

1. The combination of a revolving feed-table provided with openings over which the

basket-blanks are placed, a former adapted to pass through the openings, a form over which the former presses the veneer blanks, nailing mechanism, means for supplying bands to the form, means for rotating the form to wrap the bands around it, and means for operating the feed-table, the form, the former and the band-applying mechanism and the nailing mechanism in such order that a band is wrapped around the form before the veneer blanks are bent around it, and is then wrapped around the veneer blanks after they are bent about the form.

2. The combination of a rotary feed-table provided with openings over which the blanks are placed, a main cam and gear wheel, connections between the cam and gear wheel and the rotary feed-table for operating it, a vertically-movable former, a lever for raising it operated by a cam on the cam and gear wheel, a form above the feed-table, connections between the form and the cam and gear wheel for rotating the form intermittently, means for supplying bands to the form while it is being rotated, and nailing mechanism for securing the bands.

3. The combination of means for bending veneer blanks into shape, means for feeding blanks to the bending mechanism, means for ejecting the baskets from the bending mechanism, and stacking mechanism for receiving and stacking the completed baskets, comprising a receptacle and a plunger which forces the baskets into the receptacle.

4. The combination of a form, means for constructing a basket about the form, means for ejecting the completed basket from the form, means for carrying the completed basket away from the form, and stacking mechanism for receiving and stacking the completed baskets, comprising a receptacle and a plunger which forces the baskets into the receptacle.

5. The combination of means for forming baskets, a rotary feed-table provided with openings for feeding blanks to the basket-forming mechanism and for carrying the completed baskets therefrom and automatic stacking mechanism which takes the completed baskets from the feed-table and nests them.

6. The combination of means for forming the baskets, a carrier for the completed baskets and stacking mechanism comprising a plunger arranged to move the completed baskets from the carrier, an open-ended receptacle into which the baskets are moved, and yielding retainers located at the receiving ends of the receptacle.

7. The combination of means for forming baskets, a carrier for transferring the completed baskets from the basket-forming mechanism, and automatic stacking or nesting mechanism comprising a receptacle located over the carrier, a plunger for moving the baskets from the carrier into the receptacle, and yielding retainers for preventing the baskets from descending.



8. The combination of a rotary form, a device on the form for holding the end of a band, means for turning the form to wrap the band once around it, means for assembling about  
5 the form the other parts of the basket, and means for then turning the form to wrap said band around the outside of the basket, and means for securing the bands in place.

9. The combination of a form, band-feed-  
10 ing mechanism, means for supplying the other parts of the basket, means for wrapping the band once around the form before the other parts of the basket are assembled, means for wrapping said band around the basket, after  
15 said other parts are assembled, and nailing mechanism for securing the band in place.

10. The combination of a spiral screw for separating and feeding a portion of the stock from which the basket is made, means for as-  
20 sembling the remaining parts of the stock and means for securing the parts together.

11. In a basket-making machine, the combination with a form, of means for holding a portion of the stock of which the basket is  
25 made, and a spiral screw for feeding the stock toward the form.

12. In a basket-making machine, the combination of a form, means for supporting a portion of the stock from which the basket  
30 is made, a screw for feeding the stock toward the form, and a plunger for moving the stock fed by the screw into engagement with the form.

13. The combination of a form provided  
35 with a band-holder, means for supporting a series of bands, a screw engaging the bands and separating and feeding them toward the form, and means for causing the bands to engage with the holder on the form.

40 14. The combination of a rotary form, a

band-holder carried thereby, means for supporting a series of bands, a screw engaging the bands and separating and feeding them toward the form, and means for guiding or directing the bands into engagement with the  
45 form.

15. The combination of a form, a feed-screw, means for supporting a bunch of bands and means for directing the bands from the feed-screw to the form. 50

16. The combination of a form, a support for a part of the stock from which the basket is made, a screw provided with a free end adapted to enter between adjacent blanks and separate them from the main supply, 55 means for operating the screw to separate the blanks and feed them toward the form, and means for directing the blanks thus separated to the form.

17. The combination of a form, a feed- 60 screw and an ejecting-disk at the delivery end of the feed-screw.

18. The combination of a form provided with a holder, a feed-screw and an ejecting-disk at the delivery end of the feed-screw. 65

19. The combination of a form, means for supporting a bunch of bands at one end, a feed-screw on which the opposite ends of the bands rest, and which is provided with a spiral way for delivering the bands from the  
70 pile toward the form, and means for directing the bands separated by the screw to the form.

In witness whereof I affix my signature in presence of two witnesses.

EMMET HORTON.

Witnesses:

HOVEY E. COPLEY,  
GEO. W. REYNOLDS.