

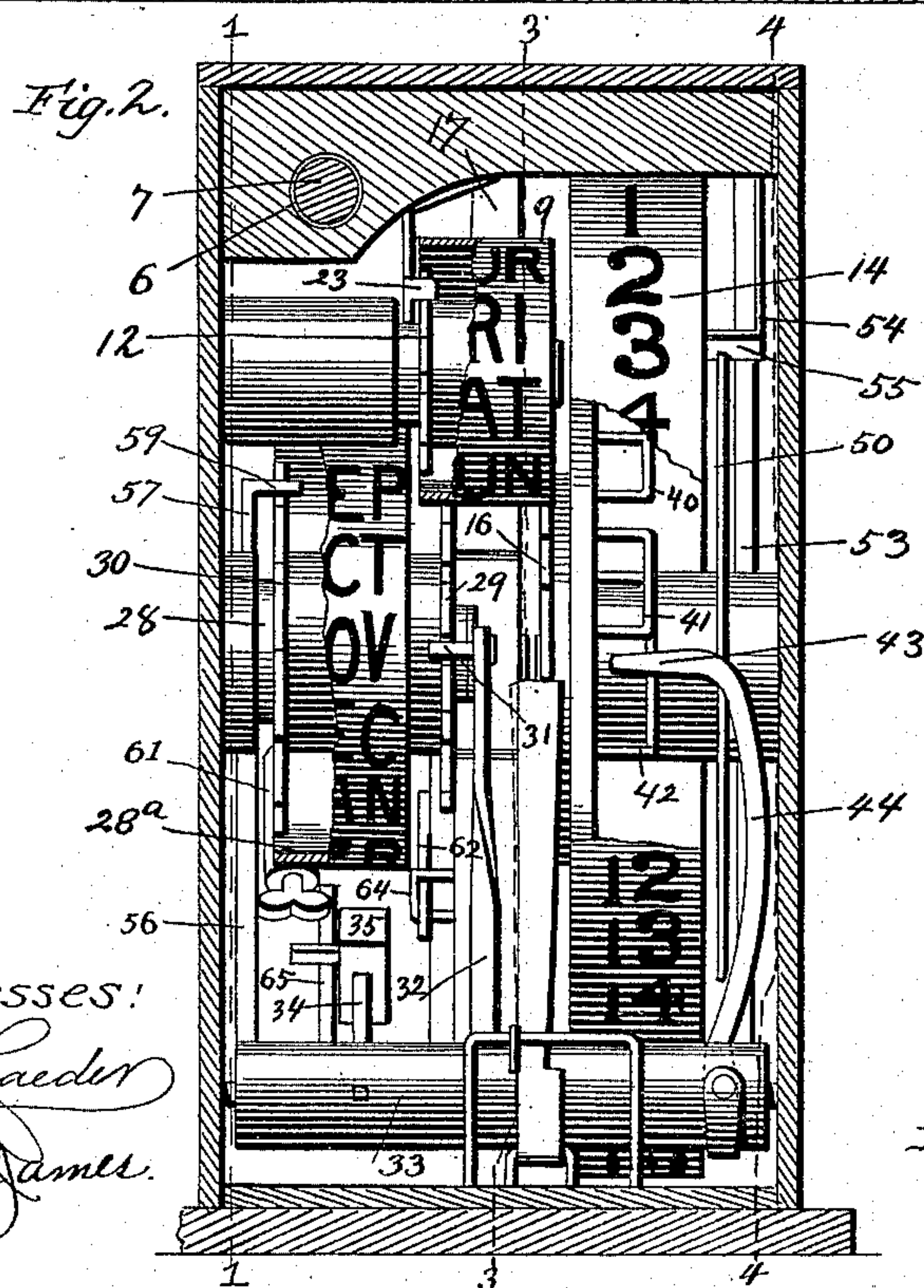
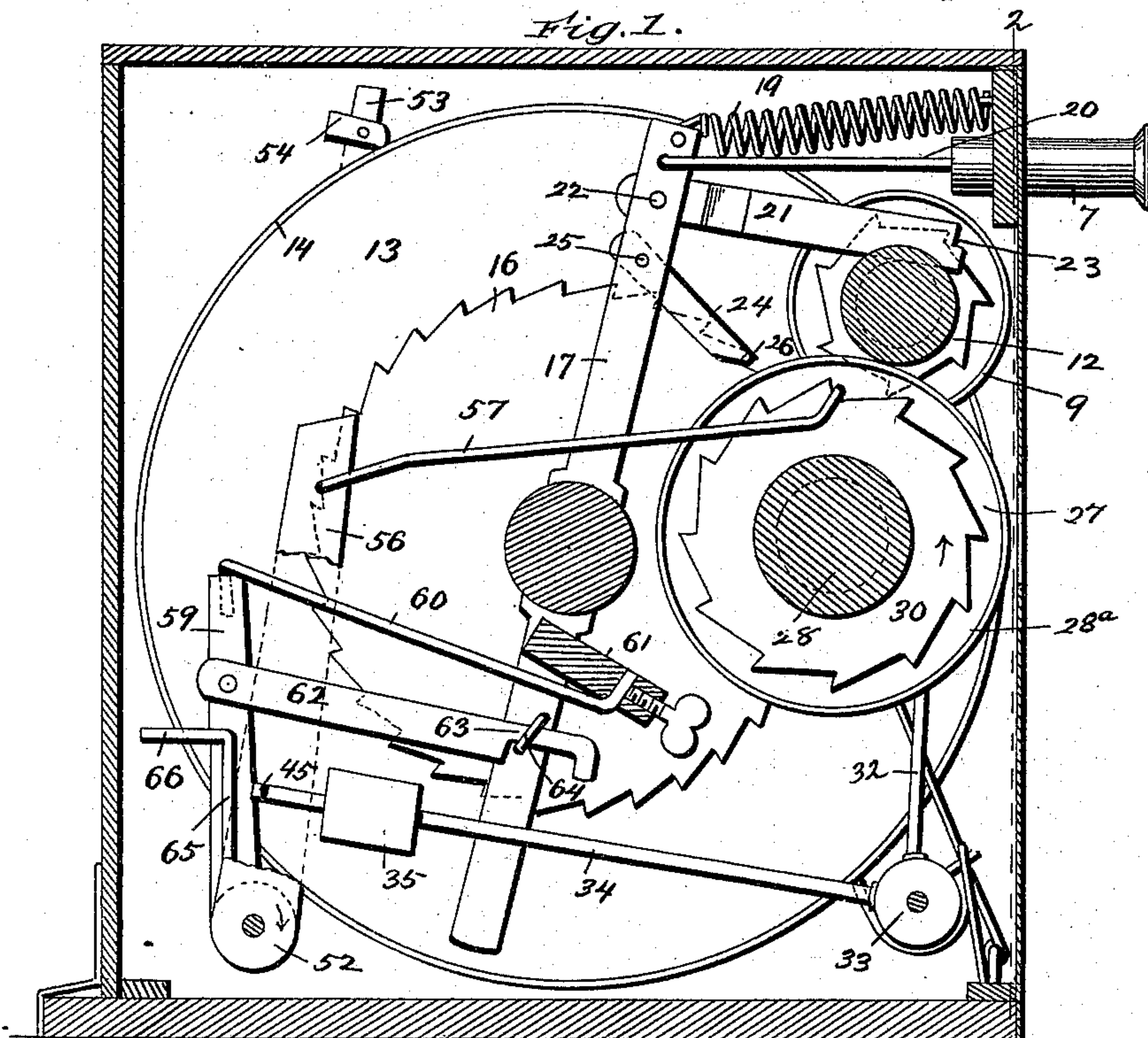
(No Model.)

3 Sheets—Sheet 1.

F. B. DICKASON.
CALENDAR.

No. 567,965.

Patented Sept. 22, 1896.



Witnesses:

C. H. Laeder
H. A. James.

Inventor

F. B. Dickason
BY James J. Sheehy
Attorney

(No Model.)

3 Sheets—Sheet 2.

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Fig. 3.

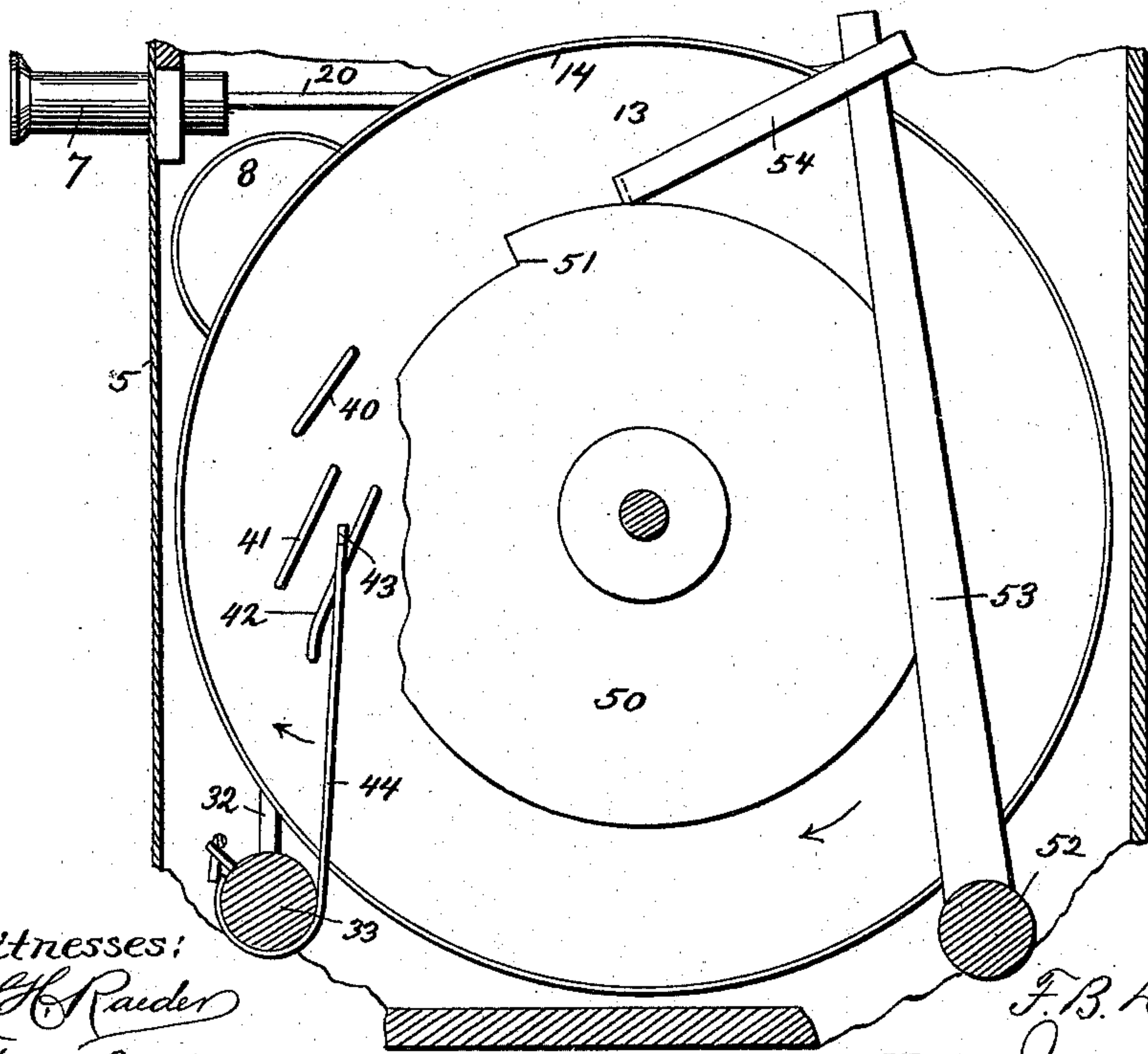
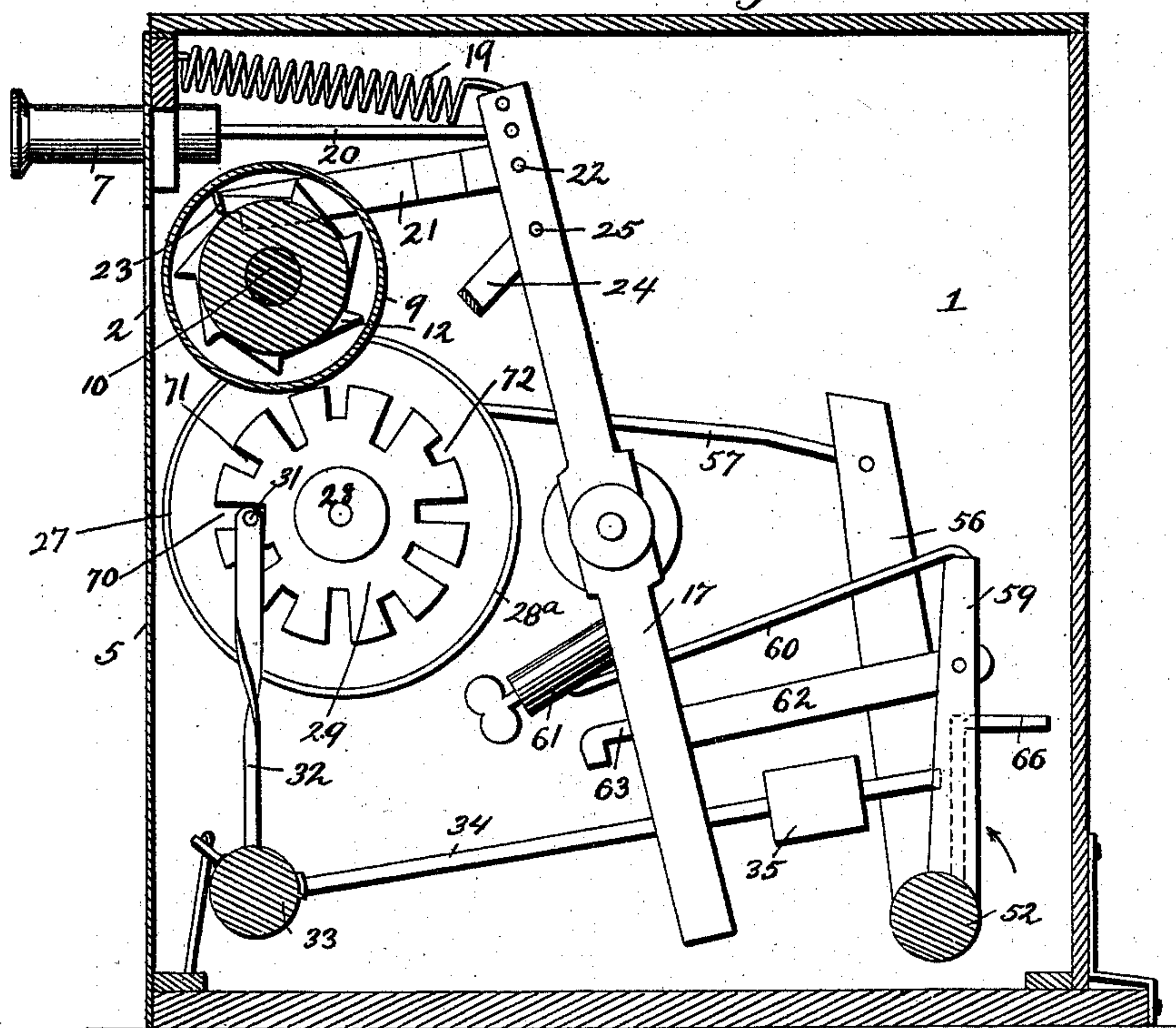


Fig. 4.

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Fig. 5.

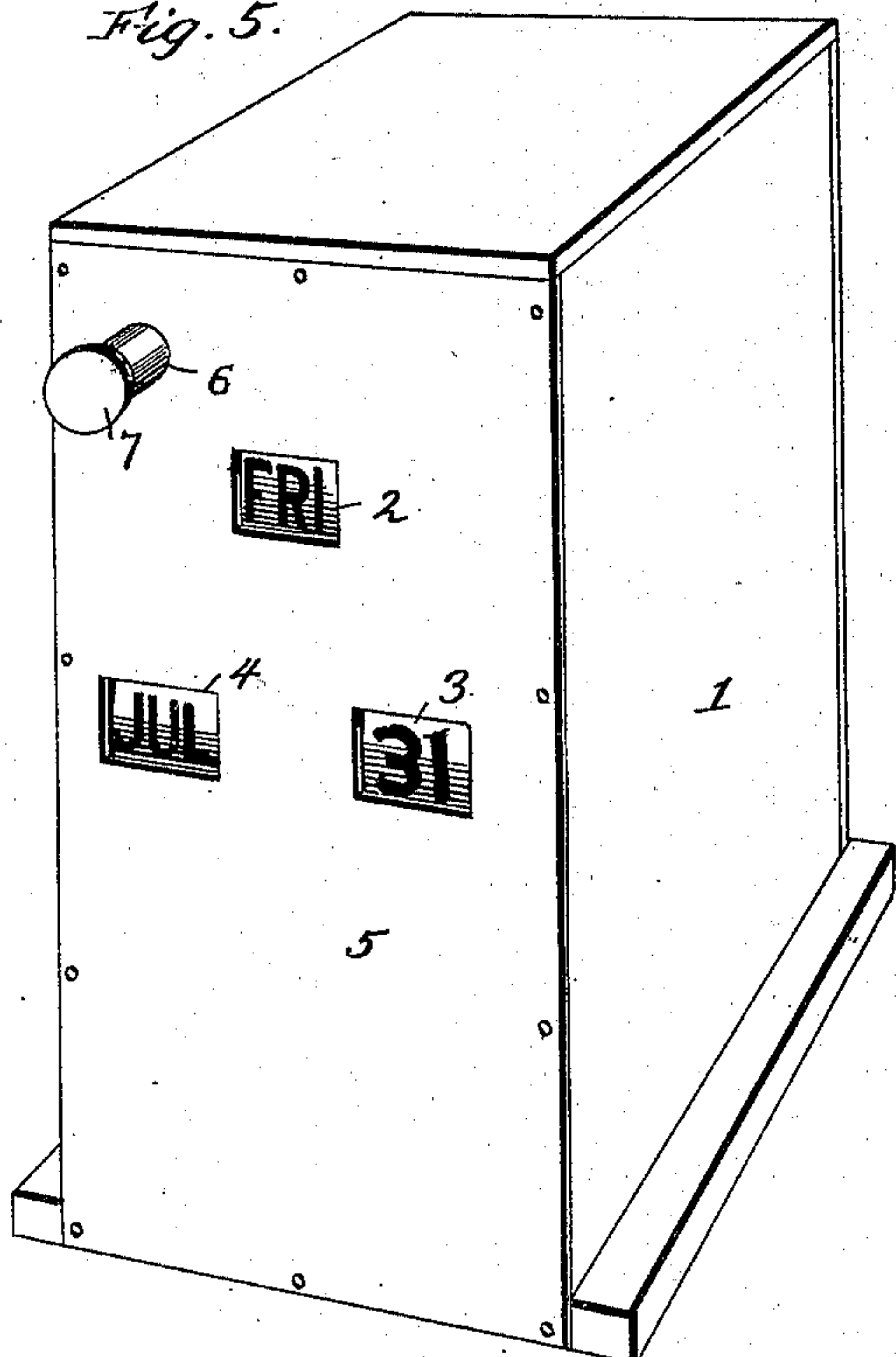


Fig. 6.

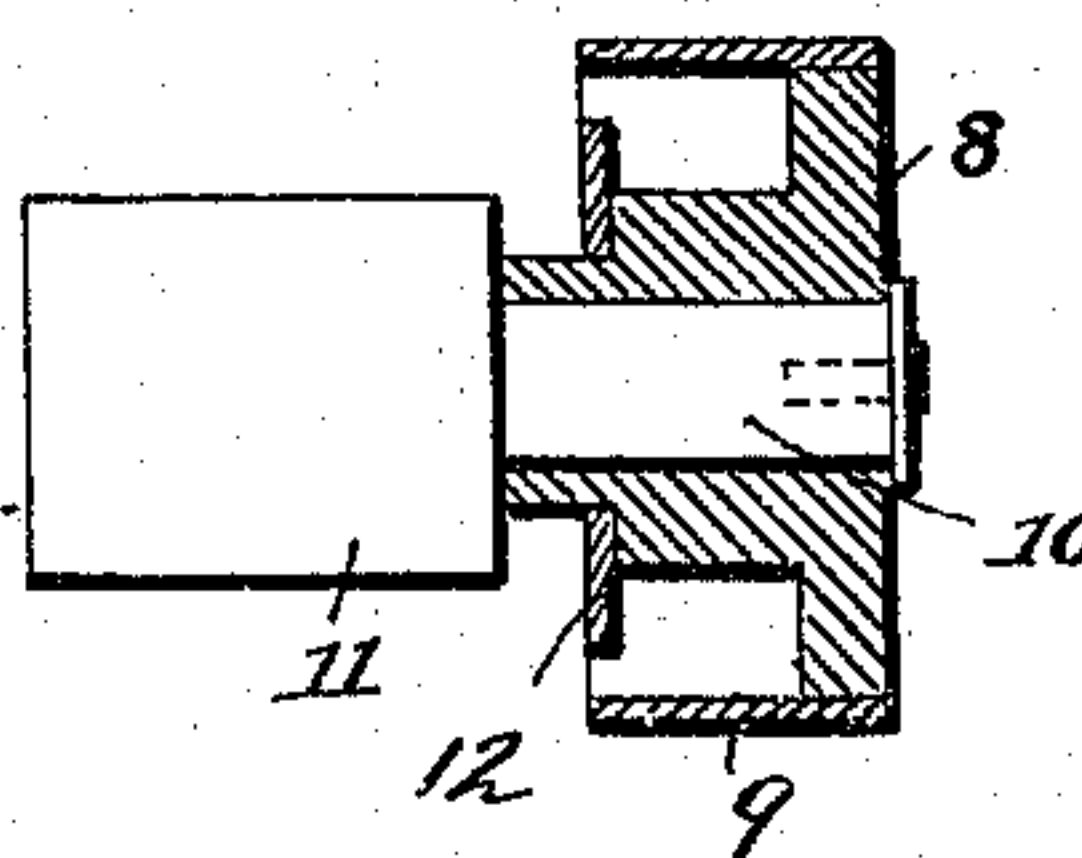


Fig. 7.

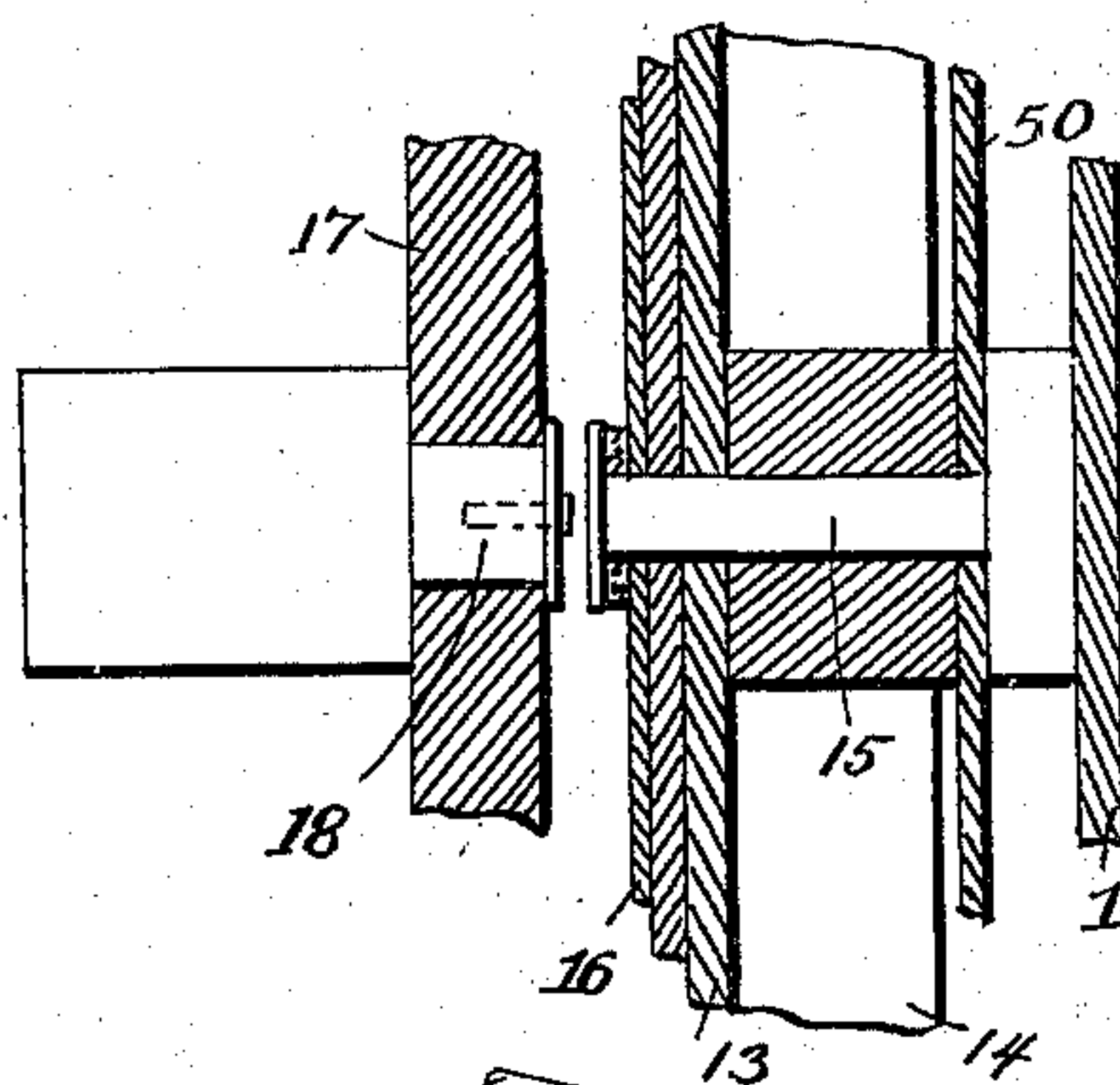


Fig. 8.

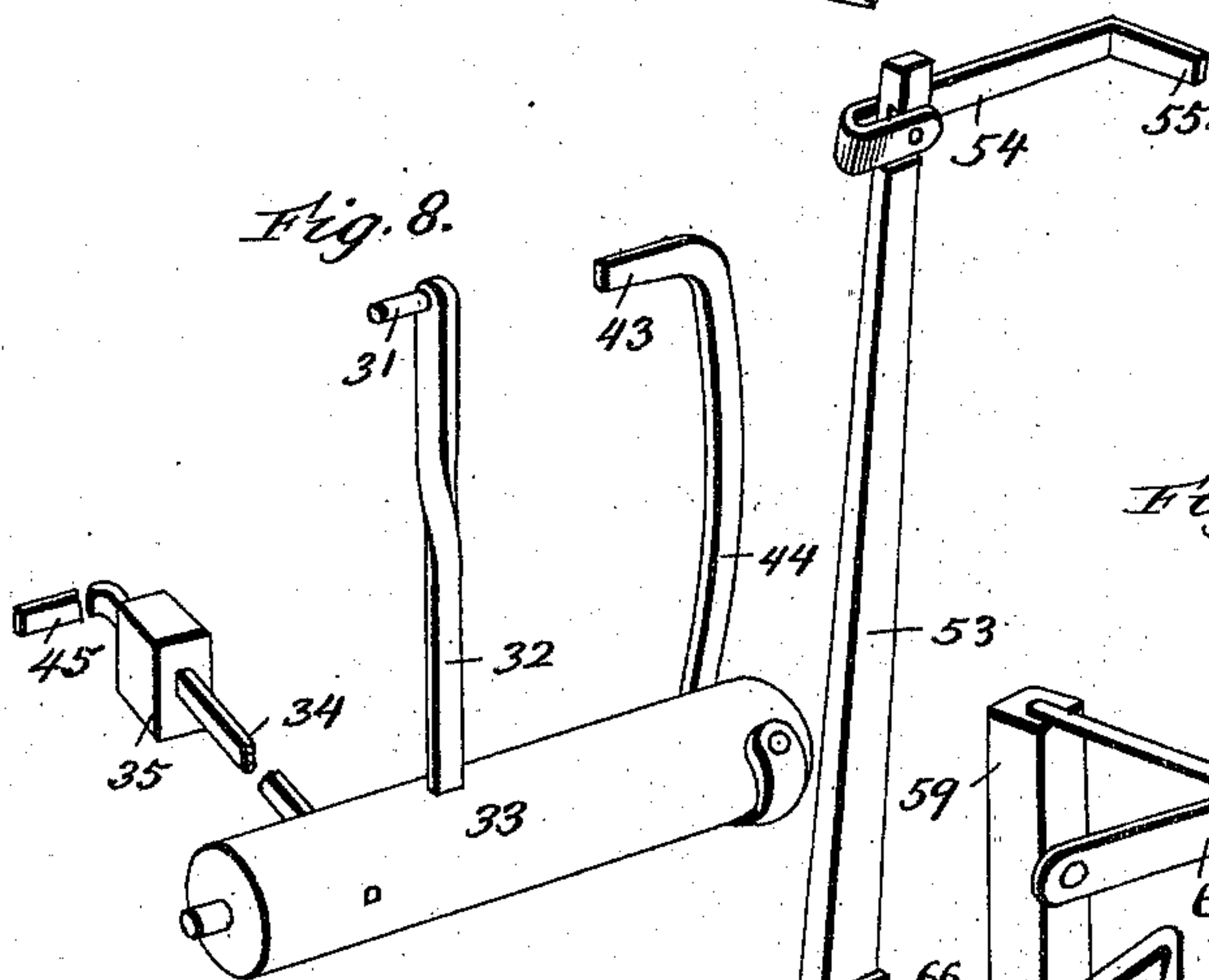
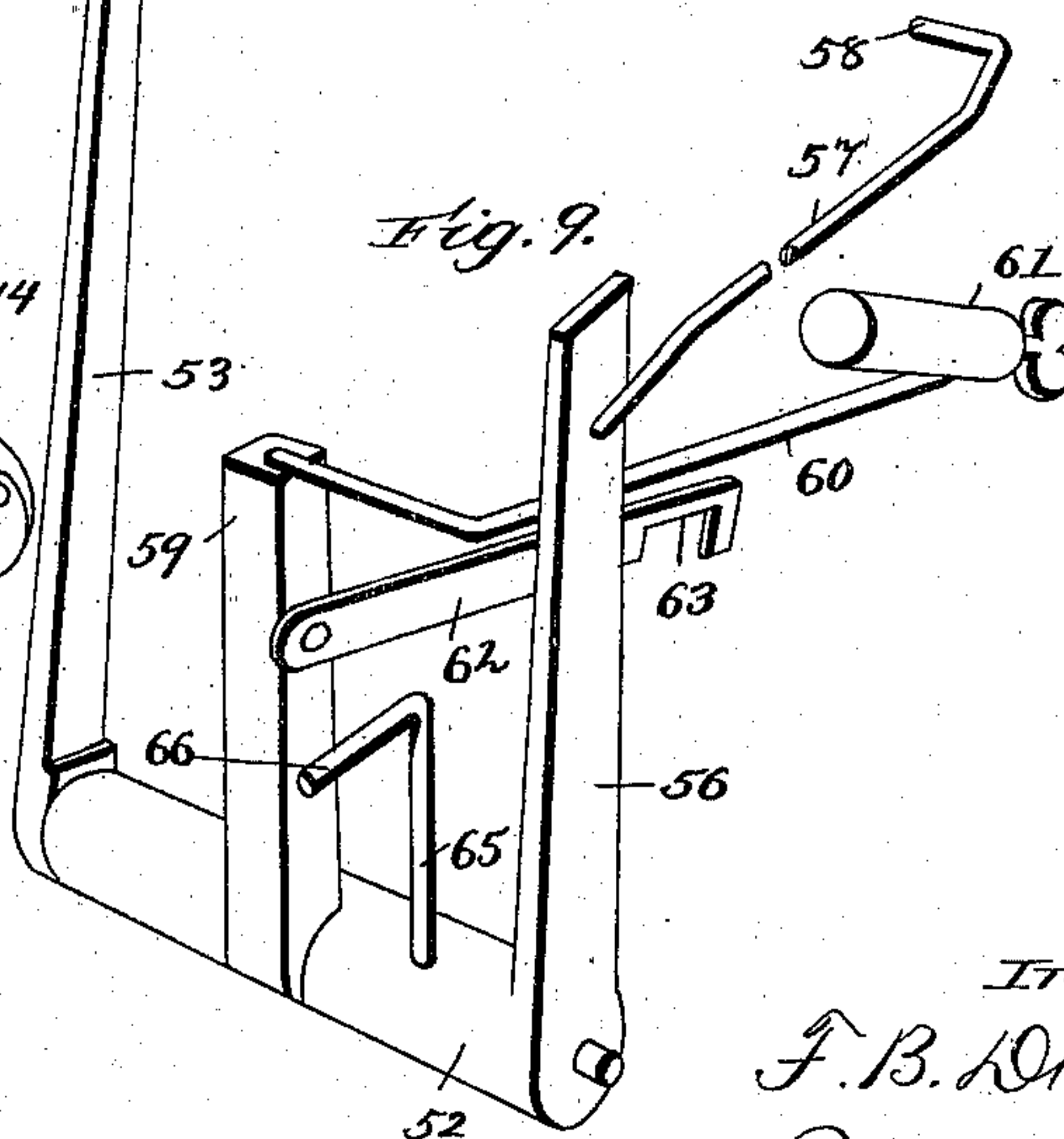


Fig. 9.



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UNITED STATES PATENT OFFICE.

FRANK B. DICKASON, OF OAK CLIFF, TEXAS.

CALENDAR.

SPECIFICATION forming part of Letters Patent No. 567,965, dated September 22, 1896.

Application filed June 26, 1896. Serial No. 597,053. (No model.)

To all whom it may concern:

Be it known that I, FRANK B. DICKASON, a citizen of the United States, residing at Oak Cliff, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Calendars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in calendars; and it has for its general object to provide a perpetual calendar embodying such a construction that the movement of a finger device will turn wheels, so as to successively display the names of the days of the week, the numbers of the days of the months, and the names of the months, the mechanism being such that the name of a month will be displayed until the numbers of all its days have been displayed, when the name of the succeeding month will be displayed, and so on.

Other objects and advantages of the invention will be fully understood from the following description and claims when taken in conjunction with the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of the calendar, taken in the plane indicated by the line 1 1 of Fig. 2. Fig. 2 is a transverse section taken in the plane indicated by the line 2 2 of Fig. 1. Figs. 3 and 4 are vertical longitudinal sections taken in the planes indicated by the lines 3 3 and 4 4, respectively, of Fig. 2. Fig. 5 is a perspective view of the calendar. Fig. 6 is a detail section illustrating the manner in which the wheel bearing the names of the days of the week is mounted. Fig. 7 is a detail section illustrating the manner in which the wheel bearing the numbers of the days of the months is mounted. Fig. 8 is a detail perspective view of a portion of the mechanism for holding the wheel bearing the names of the months against casual rotation, and Fig. 9 is a similar view of the mechanism for partially rotating said wheel when it is released.

In the said drawings similar numerals designate corresponding parts in all of the several views.

1 indicates the casing of my improved calendar, which may be made of any suitable material and may be of any suitable configuration, although I prefer to have it of a rec-

tangular form, as shown. This casing 1 has the display-openings 2, 3, and 4 in its front wall 5 for a purpose presently described, and it is also provided in said front wall with the opening 6 for the passage of the finger device 7, through the medium of which the calendar is operated, as presently described.

8 (see Fig. 6) indicates a wheel, which is preferably provided with a peripheral flange 9 and bears upon said flange the names of the days of the week, which are arranged in proper chronological order and are designed to be displayed through the opening 2 of the casing 1. This wheel 8 is fixed upon a shaft 10, which is journaled in a lateral projection 11, fixed to one of the side walls of the casing 1, and is provided with a ratchet-wheel 12, having seven teeth, as illustrated.

13 indicates a large wheel which is preferably provided with a peripheral flange 14, bearing the numbers of the days of the months, also arranged in proper chronological order. This wheel 13 is mounted on a short shaft 15, extending laterally inward from the side wall of the casing 1, and it is provided on its inner side with a ratchet-wheel 16, which is fixed to the wheel 13, as shown, and is preferably of about the proportional diameter illustrated. The teeth of the ratchet-wheels 12 and 16 are disposed in the same direction, as better shown in Fig. 1, and the said wheels are designed to be simultaneously operated by the finger device 7, which is preferably a push-rod, through the medium of the lever 17, (see Figs. 1 and 3,) which is fulcrumed on a shaft 18, extending laterally inward from one wall of the casing 1, and has its upper end connected, by a coiled spring 19, with the front wall of the casing 1, and by a rod 20 with the finger device 7, the gravitating pawl 21, which is pivotally connected to the lever 17 at 22 and is provided with the angular branch 23, designed to engage the teeth of the ratchet-wheel 12, and the gravitating pawl 24, which is pivotally connected to the lever 17 at 25 and has the angular branch 26, designed and adapted to engage the teeth of the ratchet-wheel 16. In virtue of this construction it will be observed that when the device 7 is forced inwardly the lever 17 will be rocked, and through the medium of pawls 21 and 24 and ratchet-wheels 12 and 16 the wheels 8 and 13 will be turned a sufficient distance to display a new name

of a week-day and a new number of the day of the month, respectively, through the openings 2 and 3 of the casing. When the pressure on the device 7 is removed, the spring 19 will return the parts to their normal position, (shown in Fig. 3,) so as to enable them to again move the wheels 8 13 the desired distance, when the device 7 is again pushed inwardly.

27 indicates a wheel which is mounted on a shaft 28, extending laterally inward from one of the side walls of the casing. This wheel 27 is also preferably provided with a peripheral flange 28^a, bearing the names of the months in proper order, and it is further provided upon one side with a rack-wheel 29, which has deep and shallow notches 70 71, and also has a single notch 72 of a less depth than any of the others, for a purpose presently described, and upon its opposite side said wheel 27 is provided with the ratchet-wheel 30, both of which are fixedly connected and designed to turn with the wheel 27. The rack-wheel 29 is designed for the engagement of the lateral projection 31 of the arm 32, carried by the rock-shaft 33, (see Fig. 8,) which has trunnions at its ends journaled in the side walls of the casing. This rock-shaft 33 also has a rearwardly-extending arm 34, which carries a weight 35, designed and adapted to normally hold the projection 31 of the arm 32 in one of the notches of the rack-wheel 29 and against the inner end of the same, as shown in Fig. 3, so as to secure the wheel 27 against casual rotation and also to hold the arm 44 in proper position.

40, 41, and 42 are projections on the wheel 13, which are designed and adapted to engage the lateral branch 43 of the arm 44, which is connected to the shaft 33, as better shown in Fig. 8, for a purpose presently described. When one of the said projections engages the arm 44, it is designed to rock the said arm in the direction indicated by arrow in Fig. 4, so as to raise the weighted end of the arm 34, which has an angular branch 45, and also to move the arm 32 out of engagement with the rack-wheel 29 to release said wheel and consequently the wheel 27, bearing the names of the months. When this has been done, the wheel 27 may be turned so as to bring the name of the next succeeding month opposite the opening 4 of the casing. To effect such movement of the wheel 27, I provide the mechanism better illustrated in Figs. 1, 3, 4, and 9 of the drawings. This mechanism comprises the transverse rock-shaft 52, the arm 56, connected to the shaft 52, the pawl 57, pivotally connected to the arm 56, and having the angular branch 58, designed to engage the teeth of the ratchet-wheel 30, the arm 59, connected to the shaft 52, the rod 60, fixedly connected to the arm 59 and carrying a weight 61 at its forward end, the link 62, pivotally connected to the arm 59 and having the reduced portion 63, which is received in a loop 64 on the lever 17, and the arm 65,

which is fixed to the shaft 52 and has the angular branch 66 at its upper end.

In order to move the wheel 13 bearing the numbers of the days of the months simultaneously with the movement of the wheel 27 bearing the names of the months, as presently described, I provide the wheel 50, which is fixed with respect to the wheel 13 and has the abrupt shoulder 51 and the arm 53, which is connected to the shaft 52 and has the gravitating pawl 54, provided with the angular branch 55 for engaging the shoulder 51 of the wheel 50.

With the parts in the position shown in Fig. 3 the branch 45 of weighted arm 34 rests in front of the arm 65 of shaft 52 and thereby prevents the shaft 52 from rocking at each operation or movement of the wheel 13 bearing the numbers of the days of the month and the wheel 8 bearing the names of the days of the week. When, however, the rack-wheel 29 and consequently the wheel 27 are released and the weighted end of the arm 34 is raised, as before described, the weight 61 will rock the shaft 52 in the direction indicated by arrow in Fig. 1, so as to swing the arms 53, 56, and 65 forwardly. When the arm 53 is thus swung forwardly, its pawl will drop into engagement with the shoulder 51 of wheel 50, and when the arm 56 is thus swung forwardly its pawl 57 is also pushed forwardly and drops into engagement with another tooth of the ratchet-wheel 30, while the forward movement of the arm 65 enables its branch 66 to take beneath the branch 45 of the arm 34 on shaft 33, so as to hold the arm 32 out of engagement with the rack-wheel 29. All of the above-described operation takes place immediately after a movement of the wheel 13 in the direction indicated by arrow, which is effected, as before described, by the inward movement of the finger device 7. Now when pressure is removed from the device 7 the spring 19 will draw the upper end of the lever 17 forwardly, while the lower end of the lever will be moved rearwardly. When the lower end of said lever 17 is so moved, it will, through the medium of the link 62, rock the shaft 52 in the direction opposite to that indicated by arrow. This will swing the arm 56 rearwardly, so as to enable it, through its pawl 57, to turn the wheel 30, and consequently the wheel 27, the distance of one tooth in the direction of arrow and will also swing the arm 65 rearwardly, so as to release the weighted arm 34 and enable it to rock the shaft 33 in the direction opposite to that indicated by arrow in Fig. 1, and thereby throw the arm 32 into engagement with the rack-wheel 29 in order to lock said wheel and the wheel 27 against casual rotation. The movement of the rock-shaft 52 in the direction opposite to that indicated by arrow in Fig. 3 will also swing the arm 53 rearwardly, so as to enable said arm, through the medium of pawl 54 and wheel 50, to turn the wheel 13, so as to bring the number of the first day of a

month opposite the opening 3 of casing at the same time that the name of such month appears through the opening 4.

I have fully described the general operation of my improved calendar, and I will now describe how after the number of the last day of a month appears through the opening 3 the name of the following month as well as the number of the first day thereof are made to appear through the openings 4 3, respectively, of the casing-wall 5 by actuating the finger device 7. It will be observed by reference to Fig. 3 that the rack-wheel 29 has seven of the deep notches 70, four of the notches 71, which are of less depth than the notches 70, and but a single very shallow notch 72, and it will also be observed that the notches are so arranged that one of the deep notches 70 will be in engagement with the arm 32, as shown in Fig. 3, when the name of any one of the months (July, August, October, December, January, March, and May) which have thirty-one days each appears through the opening 4. One of the shallow notches 71 will be in engagement with the arm 32 when the name of any one of the months (September, April, June, and November) which have but thirty days appears through the opening 4, and the notch 72 of the least depth will be in engagement with the arm 32 when the name of the month (February) which has but twenty-eight days, except in leap-year, appears through the opening 4. It will also be observed that the weight 35 on the arm 34 will press the angular branch of the arm 31 against the inner ends of the notches 70 71 72, and that therefore when the branch 31 of arm 32 is in one of the deep notches 70 the arm 44 will be held in such position as to be engaged by the projection 42 alone of the wheel 13. When said branch 31 is in one of the shallow notches 71, the arm 44 will be held in such position as to be engaged by the projection 41 alone of the wheel 13, and when the branch 31 is in the very shallow notch 72 the arm 44 will be held in such position as to be engaged by the projection 40 alone of the wheel 13. It will also be observed that the projections 42 41 40 are so arranged that the projection 42 will come into engagement with the arm 44 when the number "31" appears through opening 3, the projection 41 will come into engagement with said arm 44 when the number "30" appears through opening 3, and the projection 40 will come into engagement with the arm 44 when the number "28" appears through the opening 3.

With the parts in the position shown in Figs. 3 and 4 the abbreviated names "Fri." and "Jul." appear through the openings 2 4, respectively, and the number "31" through the opening 3, and, as seen in Fig. 4, the projection 42 of wheel 13 rests in engagement with the arm 44. Now when the finger device 7 is next pressed inwardly the wheel 13 will be rotated in the direction indicated by arrow in Fig. 4 through the medium of the

mechanism before described, and the projection 42, moving the arm 44, will disengage the arm 32 from the notch 70 of rack-wheel 29 and will at the same time raise the arm 34 of the rock-shaft 33. This will permit the shaft 52 to rock in the direction indicated by arrow in Fig. 3, and will consequently permit the arms 53 and 56 to swing forwardly, so as to enable the pawl 54 of arm 53 to engage the shoulder 51 of wheel 50 and the pawl 57 of arm 56 to engage one of the teeth of ratchet-wheel 30, so that when pressure on the finger device 7 is released and the spring 19 draws the upper end of the lever 24 forward the lower end of said lever 24 will, through the medium of the link 62, rock the shaft 52 in the direction opposite to that indicated by arrow in Fig. 3, and said shaft, swinging the arms 56 and 53 rearwardly, will move the ratchet-wheel 30 and the wheel 27 the distance of one tooth, so as to bring the name of the next succeeding month opposite the opening 4, and will move the wheel 50 and the wheel 13 sufficiently far to bring the numeral "1" on the wheel 13 opposite the opening 3.

When the name of a month having but thirty days appears through the opening 4 and the numeral "30" through the opening 3, the branch 31 of arm 32 will rest in one of the notches 71 of rack-wheel 29, and consequently the arm 44 will be held in such position that it will be engaged by the projection 41 alone of the wheel 13. When the device 7 is then pressed inward and the arm 44 is engaged and moved by the projection 41, the wheel 29 will be released, and when pressure on the device 7 is released the operation before described will be repeated, with the exception that the wheel 50, and consequently the wheel 13, will be turned a greater distance through the medium of the arm 53 and pawl 54, so as to bring the numeral "1" of the wheel 13 opposite the opening 3.

When the name of the month February, which has but twenty-eight days, except in leap-years, appears through the opening 4 and the numeral "28" appears through the opening 3, the branch 31 of arm 32 will rest in the notch 72 of the rack-wheel 29, and consequently the arm 44 will be held in such position that it will be engaged by the projection 40 alone of the wheel 13. When the device 7 is then pressed inward and the arm 44 is engaged and moved by the projection 40, the wheel 29 will be released, and when pressure on the device 7 is released the operation before described will be repeated with the exception that the wheel 50, and consequently the wheel 13, will be turned a greater distance by the arm 53 and pawl 54, which traverse a greater distance and come to the shoulder 51 on wheel 50 earlier, so as to bring the numeral "1" on wheel 13 opposite the opening 3. It will be seen from the foregoing that by simply pressing the finger device 7 inwardly and releasing it the name and number of each succeeding day may be made to appear through the

openings 2 and 3 of the casing and when a month has elapsed the name of the succeeding month will be automatically brought opposite the opening 4 of the casing at the proper time except in leap-years, when the wheel 13 may be readily turned by hand to bring the proper numeral opposite opening 3.

I have in some respects specifically described the construction and relative arrangement of the parts of my improved calendar in order to impart a full, clear, and exact understanding of the same. I do not desire to be understood as confining myself to such specific construction and arrangement, as such changes or modifications may be made in practice as fairly fall within the scope of of my invention.

I also do not desire to be understood as confining myself to the employment of the finger device 7, as when desirable the lever 17 may be connected with clock mechanism for actuating it at the proper time.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a calendar, the combination of a casing having openings, two wheels arranged in the casing and provided with the numbers of the days of the months and the names of the days of the week respectively, ratchet-wheels fixed with respect to the said wheels, a wheel bearing the names of the months, a rack-wheel fixed with respect to the latter wheel and having the notches of varying depths, a plurality of projections arranged on the wheel bearing the numbers of the days of the months, a rock-shaft having an arm adapted to be engaged by the said projections and also having an arm adapted to engage the notches of the rack-wheel, and a weighted arm, a lever fulcrumed within the casing, pawls carried by said lever and engaging the ratchet-wheels, a spring connecting one end of the lever and the casing, a push-rod extending through the casing and connected with the lever, and mechanism for turning the wheel bearing the names of the months at intervals, substantially as and for the purpose set forth.

2. In a calendar, the combination of a casing having openings, two wheels arranged in the casing and provided with the numbers of the days of the months and the names of the days of the week respectively, ratchet-wheels fixed with respect to the said wheels, a wheel bearing the names of the months, a rack-wheel fixed with respect to the latter wheel and having the notches of varying depths, a plurality of projections arranged on the wheel bearing the numbers of the days of the month, a rock-shaft having an arm adapted to be engaged by the said projections and also having an arm adapted to engage the notches of the rack-wheel, and a weighted arm, a lever fulcrumed within the casing, pawls carried by said lever and engaging the ratchet-wheels, a spring connecting one end of the lever and the casing, a push-rod ex-

tending through the casing and connected with the lever, a cam-wheel fixed with respect to the wheel bearing the numbers of the days of a month and having an abrupt shoulder on its periphery, and a rock-shaft 52, having an arm carrying a pawl engaging the cam-wheel, an arm engaging the ratchet-wheel fixed to the wheel 27, an arm adapted to engage and support the weighted arm of shaft 33, and an arm provided with a weighted rod and a link loosely connected with the lower portion of the lever, substantially as and for the purpose set forth.

3. In a calendar, the combination of a casing having three openings, wheels arranged in alinement with two of the openings; one of said wheels having projections, ratchet-wheels fixed with respect to the said wheels, a lever fulcrumed at an intermediate point of its length in the casing, gravitating pawls carried by the upper portion of said lever and engaging the ratchet-wheels, a spring connecting the upper end of the lever and the casing, a push-rod extending through the casing and connected with the same end of the lever, a cam-wheel fixed with respect to one of said wheels and having an abrupt shoulder on its periphery, a wheel 27, arranged in alinement with one of the openings of the casing, the rack-wheel fixed to said wheel 27, the rock-shaft 33, having an arm 44, adapted to be engaged by the said projections of one of the wheels, an arm adapted to engage the rack-wheel and a weighted arm, and a rock-shaft 52, having an arm carrying a pawl engaging the cam-wheel, an arm engaging the ratchet-wheel fixed to the wheel 27, an arm adapted to engage and support the weighted arm of shaft 33, and an arm provided with a weighted rod and a link loosely connected with the lower portion of the lever, substantially as specified.

4. In a calendar, the combination of two wheels provided with the numbers of the days of the months and the names of the days of the week respectively, a wheel bearing the names of the months, a rack-wheel fixed with respect to the latter wheel and having the notches of varying depths, a plurality of projections arranged on the wheel bearing the numbers of the days of the months, a rock-shaft having an arm adapted to be engaged by the said projections and also having an arm adapted to engage the notches of the rack-wheel, means for turning the wheels bearing the numbers of the days of the months and the names of the days of the week respectively, and means for turning the wheel bearing the names of the months, at intervals, substantially as and for the purpose specified.

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

FRANK B. DICKASON.

Witnesses:

C. C. BURNPAT,
PORTER FARRELL.