

(No Model.)

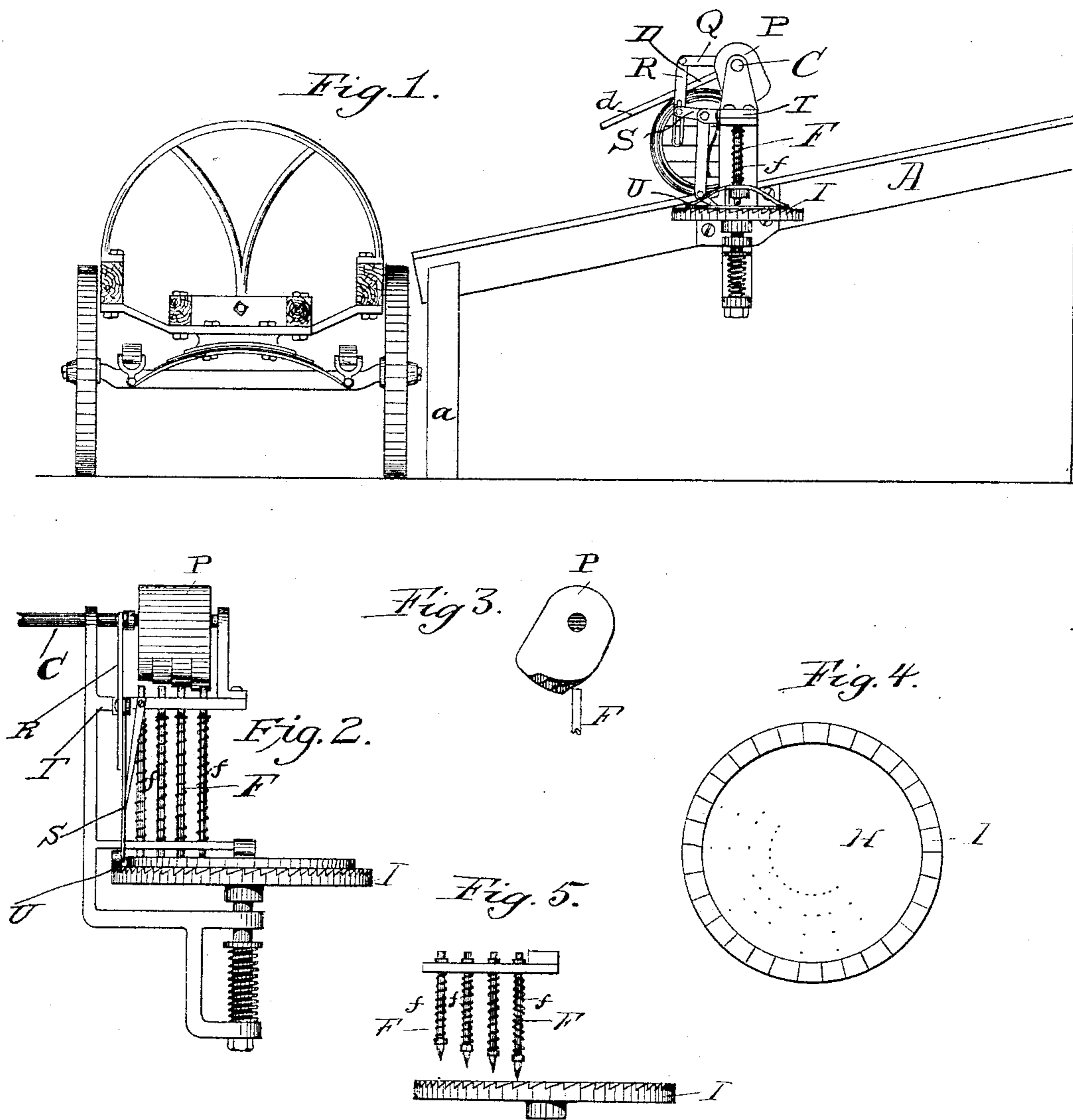
3 Sheets—Sheet 1.

M. GOTTFRIED.

APPARATUS FOR COUNTING AND RECORDING THE NUMBER OF PACKAGES.

No. 386,879.

Patented July 31, 1888.



Witnesses:

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C. P. Hubbard.

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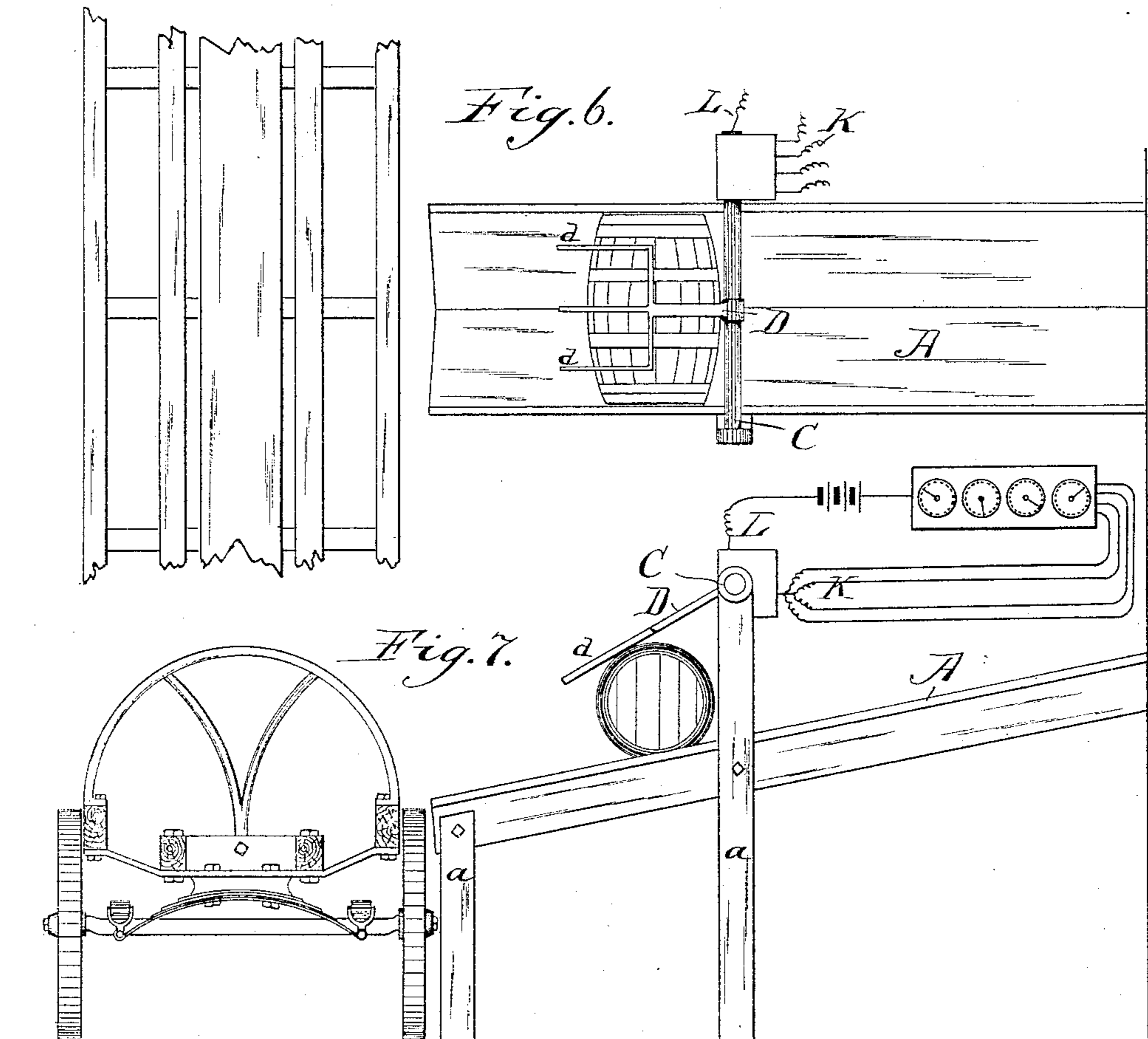


Fig. 8.

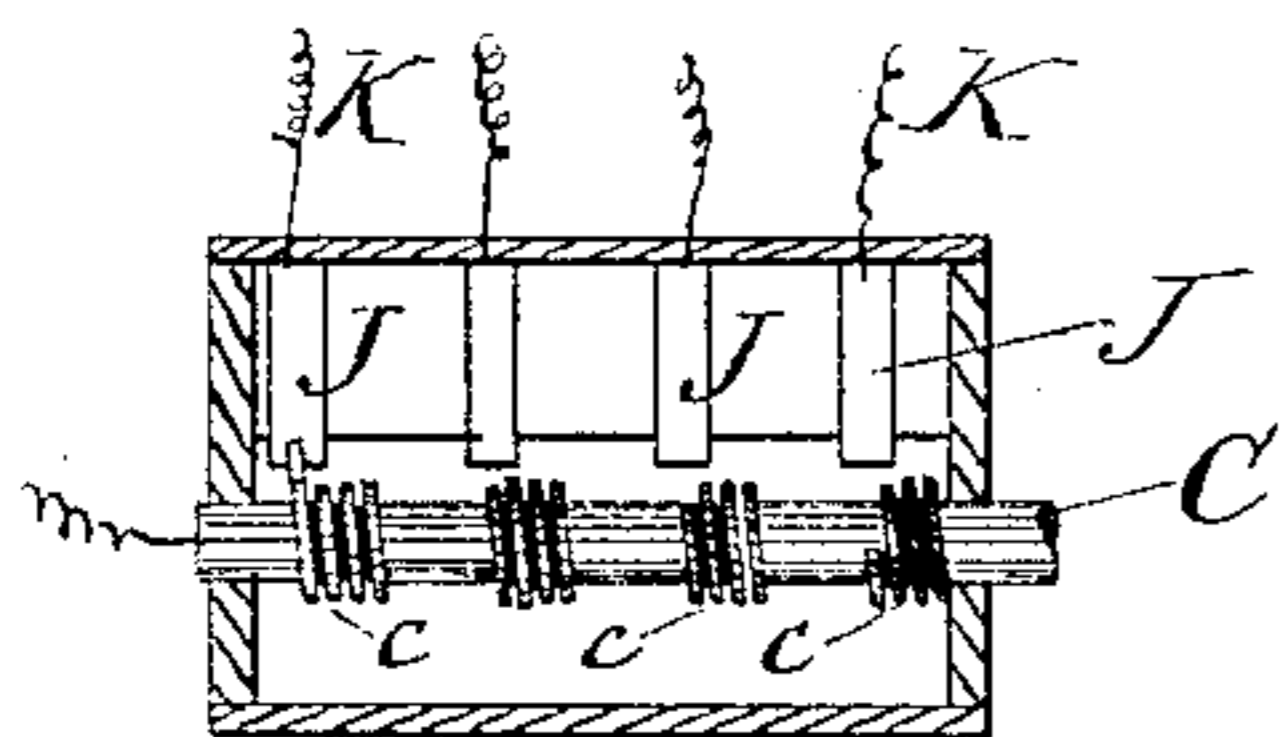
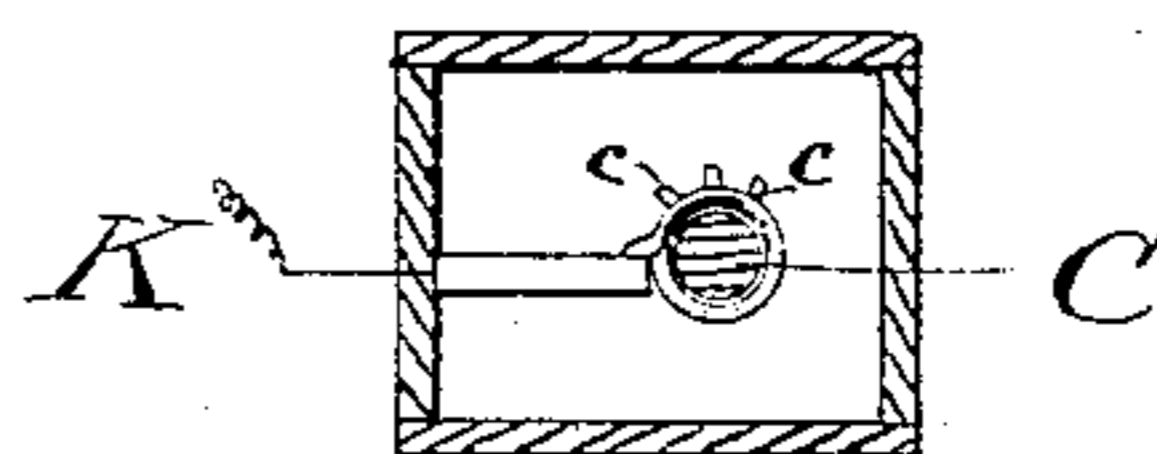


Fig. 9.



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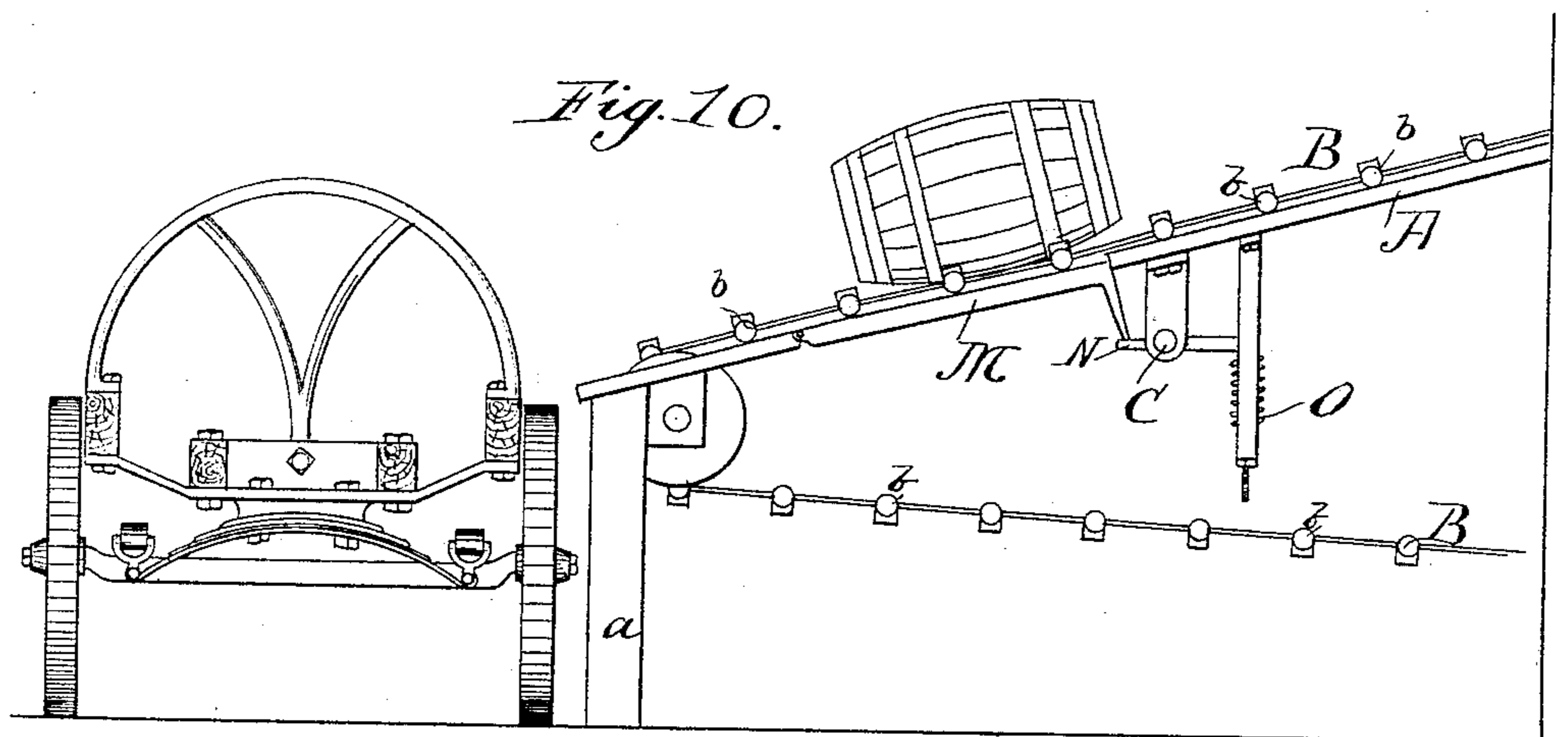


Fig. 11.

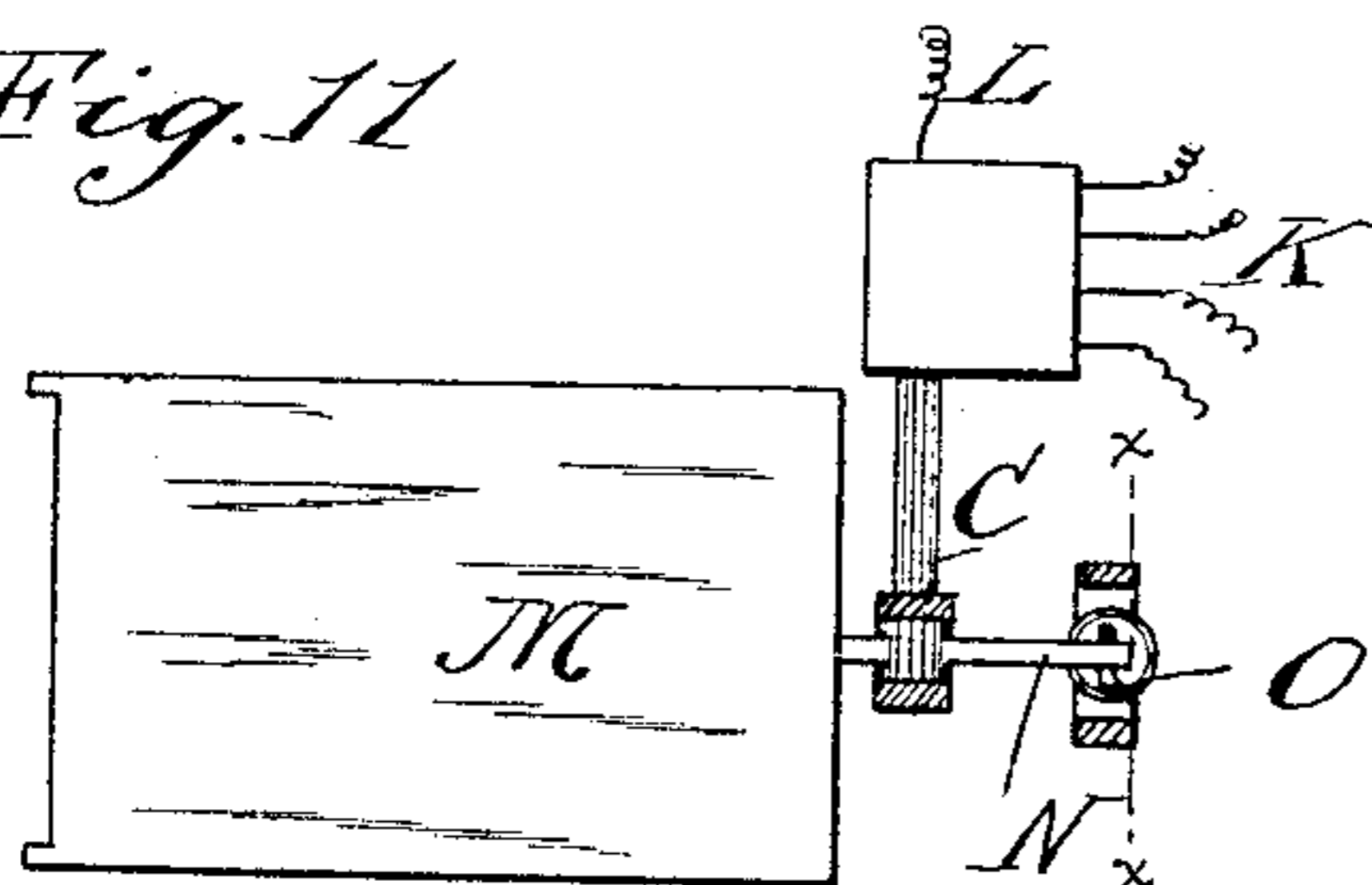


Fig. 12.

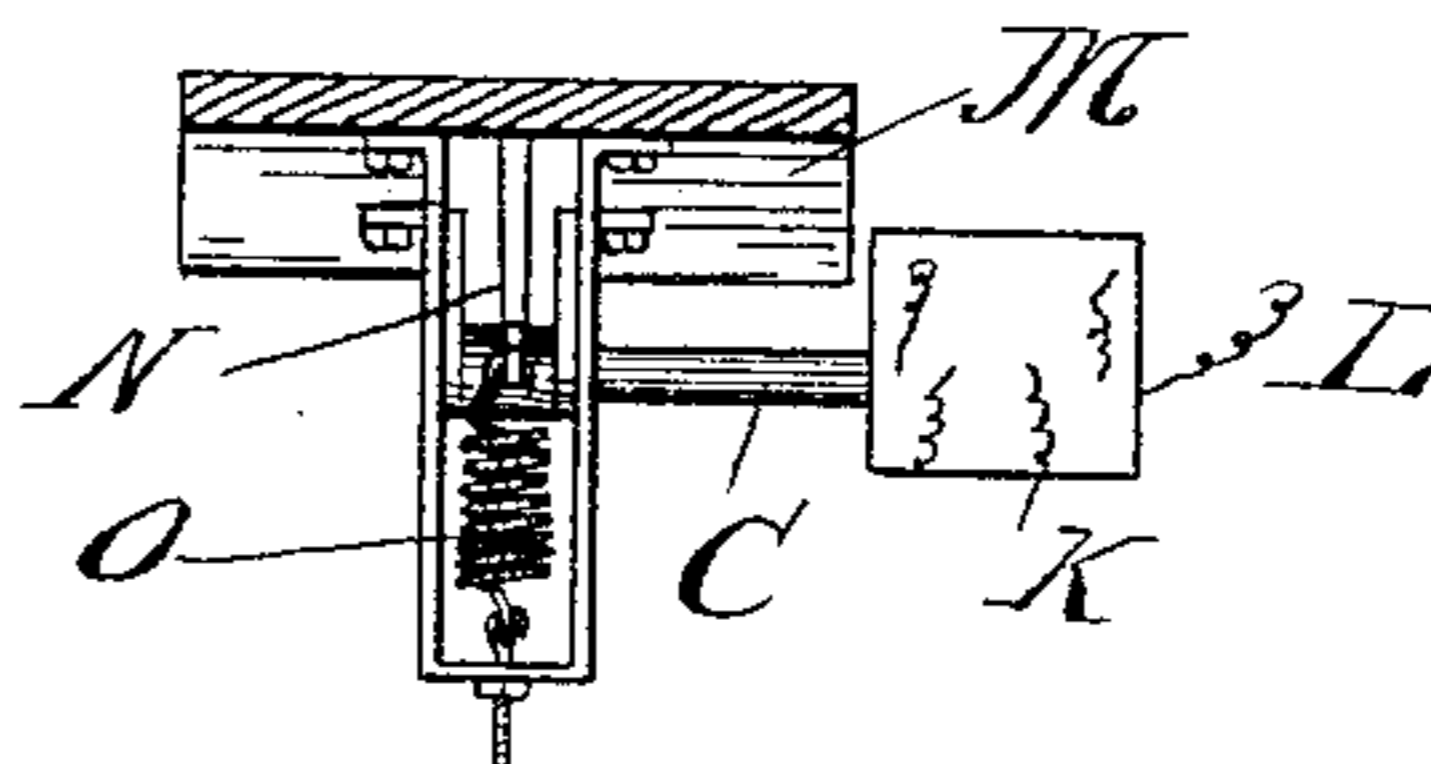


Fig. 13.

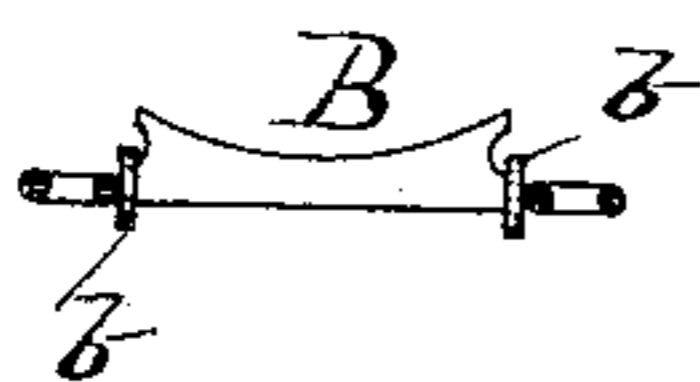
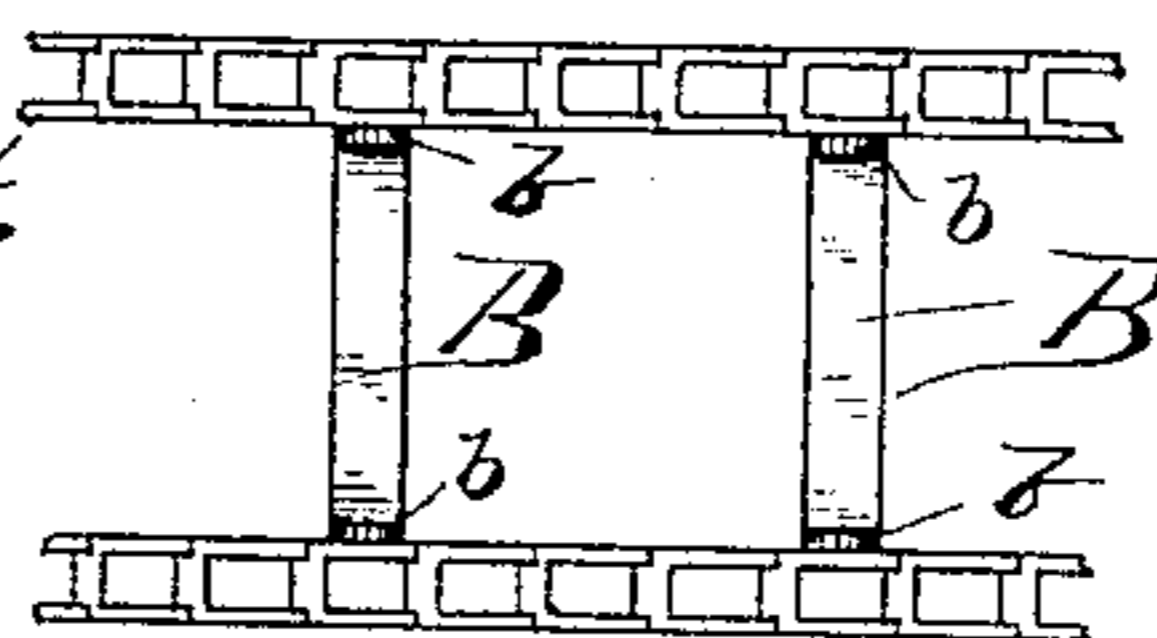


Fig. 14.



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UNITED STATES PATENT OFFICE.

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APPARATUS FOR COUNTING AND RECORDING THE NUMBER OF PACKAGES.

SPECIFICATION forming part of Letters Patent No. 386,879, dated July 31, 1888.

Original application filed August 1, 1884, Serial No. 139,368. Divided and this application filed January 21, 1885. Serial No. 153,818. (No model.)

To all whom it may concern:

Be it known that I, MATHEW GOTTFRIED, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a new and useful Apparatus for Counting Packages, of which the following is a specification.

My invention is capable of being employed wherever bulky articles or parcels of merchandise of uniform sizes are intended to be transferred from store-houses to wagons, or vice versa; but it is peculiarly adapted to the counting of barrels, kegs, &c., used by brewers for the shipment or transmission of beer from the brewery to the place of consumption. Its leading idea is to provide means whereby the number and capacity of the different packages which pass through a way or chute as they are loaded or unloaded—as, for instance, beer barrels, kegs, &c.,—may be accurately counted and recorded.

In the accompanying drawings, Figure 1 is a side elevation showing a mechanical recording device applied to a chute terminating at the edge of a wagon which is being loaded. Fig. 2 is a rear elevation of such mechanical recording device detached. Fig. 3 shows a cam device for operating the markers of the recording device. Fig. 4 is a plan view of the rotating card-holder. Fig. 5 shows in side elevation a modification of the recording device shown in Fig. 2. Fig. 6 is a plan view of the form of apparatus in which the size of the vessel is made to operate the recording device, and Fig. 7 a side elevation thereof. Fig. 8 shows a portion of an electrical recording device, and Fig. 9 is a vertical cross-section thereof. Fig. 10 illustrates in side elevation the apparatus, which is operated by the weight of the vessel, and designed to record its capacity by its weight. Fig. 11 is a plan view of the platform and a part of the recording mechanism. Fig. 12 is a transverse vertical section taken in line *xx* of Fig. 11, particularly showing the coiled spring used for drawing down the long end of the levers of the rock-shaft. Fig. 13 is a cross section of a modified form of chute, and Fig. 14 represents a portion of the conveyer.

One form of my apparatus, particularly illustrated in Figs. 6 to 9, inclusive, comprises a

chute through which packages pass to or from the wagon, and mechanism for operating a recording device and adapted to be operated by the package in transit. In this form the mechanism for operating the recording device consists of, first, a rock-shaft carrying a lever or arm under which the package passes; second, springs coiled around said rock-shaft and having one of their ends free; third, contact-points, which are engaged by the free ends of said coiled springs; fourth, electrical wires forming a circuit, which is opened and closed by the contact of said springs and contact-points, and, fifth, suitable recording devices connected with said wires.

The chute *A* extends from the door of the store-house (not represented in the drawings) to the wagon. When used without a conveyer, this chute should have sufficient pitch for the vessel to move down by gravity alone. A conveyer, *B*, may be added or not, at the pleasure of the constructor. In this form of apparatus *a a* represent standards extending upward on either side of the chute. These standards carry a rock-shaft, *C*, and this rock-shaft is provided with an arm, *D*, having one or more fingers, *d*, adapted to engage the vessel. This arm is set upon the shaft in such manner that the smallest package passed under it will throw it up, thus rocking shaft *C* in its bearings in proportion to the size of the package.

This rocking of shaft *C* operates a recording device, which may be either mechanical or electrical, as desired.

In Figs. 1 to 5, inclusive, I have illustrated a mechanical recording device of a very cheap and simple form, which may be employed in connection with either of the forms of apparatus shown for operating this rock-shaft. As shown in these figures, this recording device comprises a cam or series of cams, *P*, mounted on the rock-shaft *C* and adapted to be turned or rocked therewith, points or markers adapted to imprint, a card or ribbon to receive the imprint, and mechanism adapted to move the card or ribbon under the markers. The markers *F* are supported in a vertical position in the frame-work and yieldingly sustained by the springs *f*. They may be simple steel or wooden pins having points adapted to indent paper beneath, or they may strike an inter-

posed inked ribbon, as in the ordinary type-writer. They may all be of the same length, so as to be operated by a series of cam devices moving in different planes, or of unequal
 5 lengths, so as to be operated by a single cam or plunger, and of course they should be as many in number as there are sizes of packages to be recorded. The marks or impressions showing the passage of vessels are made,
 10 preferably, upon a card, H, supported upon a table or pedestal, I, which latter is rotated, carrying the card around with it by means of ratchet mechanism, or in any other convenient way. The ratchet mechanism shown for
 15 this purpose consists of an arm, Q, upon the rock-shaft C, having a downwardly-projecting slotted rod, R, pivoted to its outer end, and a bell-crank, S, pivoted to the frame-work T, having one of its ends adjustably connected to
 20 the slotted rod R, and a dog, U, adapted to work in the ratchet-wheel of the table attached to its other end. As the package moves down, it raises the arm D and thus turns the rock-shaft C with its connections. This raises the
 25 bell-crank S and throws its downwardly-projecting portion back, and when the barrel has passed the arm D drops, throwing the dog U forward, and this operates to revolve the table and card.
 30 In operation the vessel, passing down the way or chute under the arm D, raises the latter and rocks the shaft C. This rocking of such shaft operates, through the cam devices P above mentioned, to depress one or
 35 more of the markers, according as a larger or smaller vessel passes under the arm, and thus to register one or more marks on the card. Thus, if a vessel of the smallest diameter—say, an eighth—passes through, only one of the
 40 markers is depressed so as to touch the card or ribbon, thus making but one mark. If a vessel of the next larger size—say, a quarter—passes through, two of the markers are brought into contact with the card, thus making
 45 two marks, and so on throughout the series. I regard this form of recording device as particularly applicable to small breweries because of its simplicity and cheapness; but in large breweries it will probably be found desirable to use an electrical apparatus arranged
 50 and adapted to record the number and capacity of the vessels at the office. When it is thus desired to use an electrical apparatus, the shaft C is provided with a series of coiled springs, c,
 55 one end of each being free and the other secured rigidly to the shaft. These spiral springs should be so placed on the shaft that their free ends shall not stand in line, but, on the contrary, be spirally located around the shaft. A
 60 series of contact-points, J, are placed in such position as to be engaged by the free ends of the several coiled springs as the shaft carrying them is rocked. These points are connected with wires K, the latter communicating with
 65 a suitable recording device located in the office, and thence returning to the battery, or are connected with suitable ground-plates. Another

wire or wires, L, connects the battery with the rock-shaft, or, if preferred, with the springs c.

If, now, a vessel or other package—say, a
 70 beer-keg—passes under the lever or arm D, the rock-shaft will be turned in its bearings, carrying with it the spiral springs c. If a vessel of the smallest relative diameter—say, an eighth—
 75 passes under said lever, such shaft will be rocked sufficiently to bring the first spring of the series into contact with the contact-point opposite, thus closing the circuit and by means
 80 of the recording device in the office indicating the passage of the vessel. Another vessel of next larger diameter—say, a quarter—passing
 85 under said lever will carry the shaft in its bearings sufficiently to bring the second of the springs into contact, thus indicating the passage of the vessel, and at the same time recording
 90 its relative size, and so on throughout the series of vessels and springs. It will be understood that in this construction the different sizes of vessels correspond in number
 95 to the different springs of the rock-shaft. Thus, if four sizes of vessels are used, there should be four springs upon the rock-shaft, and the free ends of the springs should be disposed
 about the rock-shaft in such manner that the different-sized packages will operate different springs.

In Figs. 10 to 12, inclusive, an apparatus is illustrated in which the weight of the package
 100 as it passes down a chute or conveyer is made to operate the rock-shaft C. In this form the package passes at one point over a vibratory
 platform, M, arranged and adapted to depress a lever, N, secured upon the rock-shaft. This
 105 platform may be of any construction desired, and placed at any convenient point in the chute. As shown in the drawings one of its edges is hinged and the other free to be depressed by the weight of the vessel. The long
 110 end of lever N of the rock-shaft is adapted to be drawn down by a coiled spring, weights, or other devices, so as to elevate the short end and thus bring it into direct or indirect contact
 115 with the movable platform. As shown particularly in Fig. 12, a coiled spring, O, is used for this purpose. The short end of lever N is projected beyond the rock-shaft, and
 120 adapted to be depressed with the platform by the weight of the passing vessel. In this form of apparatus either a mechanical or electrical recording device may be used. When a mechanical
 125 recording device is used, it may be connected with and operated by the rock-shaft C through intermediate links or levers. The arrangement is such that the weight of the
 130 passing vessel will depress the platform and through it the short end of lever N, thus elevating the long end thereof, so as to rock the shaft carrying the cam devices or electrical apparatus, as the case may be, in proportion to the size of the vessel. When the conveyer
 B is employed in this form of apparatus, it may have rollers b, and should be slack enough
 to allow the weight of the superimposed vessel to depress the platform.

I do not herein claim the method of automatically counting beer barrels, kegs, &c., by passing them over a way or chute in contact with a recording device, this method being the subject-matter of another application of which this is a division.

As the principal object of this application is to cover the electrical devices herein described, I do not claim the mechanical structures herein, these structures being the subject-matter of another application which it is my intention to make hereafter.

I claim—

1. The combination, with a way or chute for vessels or packages, of a rock-shaft carrying a series of coiled springs adapted to engage a series of contact-points, a series of contact-points, wires connected with a battery and forming a circuit, mechanism whereby the passage of the vessel is made to rock the shaft and close the circuit, and a suitable recording device, substantially as described, and for the purpose set forth.

2. The combination, with a way or chute for vessels or packages, of arm D, rock-shaft C, spring or springs coiled about said rock-shaft, contact-points, wires connected with a battery and forming a circuit, and a recording device, substantially as described, and for the purpose set forth.

3. The combination, with a way or chute for vessels or packages, of a vibratory platform, a rock-shaft, levers adapted to rock said shaft, a recording device, and an electrical apparatus for operating the recording device and adapted to be operated by the passage of the vessel, substantially as described, and for the purpose set forth.

4. The combination, with a way or chute for vessels or packages, of vibratory platform M, rock-shaft C, lever N, adapted to have its long end depressed and its short end elevated, a recording device, and an intermediate link or links connecting the lever with the recording device, substantially as described.

5. The combination, with a way or chute for vessels or packages, of vibratory platform M, lever N, having one of its ends extended farther from the rock-shaft than the other, coiled spring O, for drawing down the long end and elevating the short end of said lever, and an intermediate link or links connecting said lever with a recording device, substantially as described.

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