No. 617,485. Patented Jan. 10, 1899.

E. B. HESS.

CASH REGISTER AND INDICATOR.

(Application filed July 28, 1896.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1

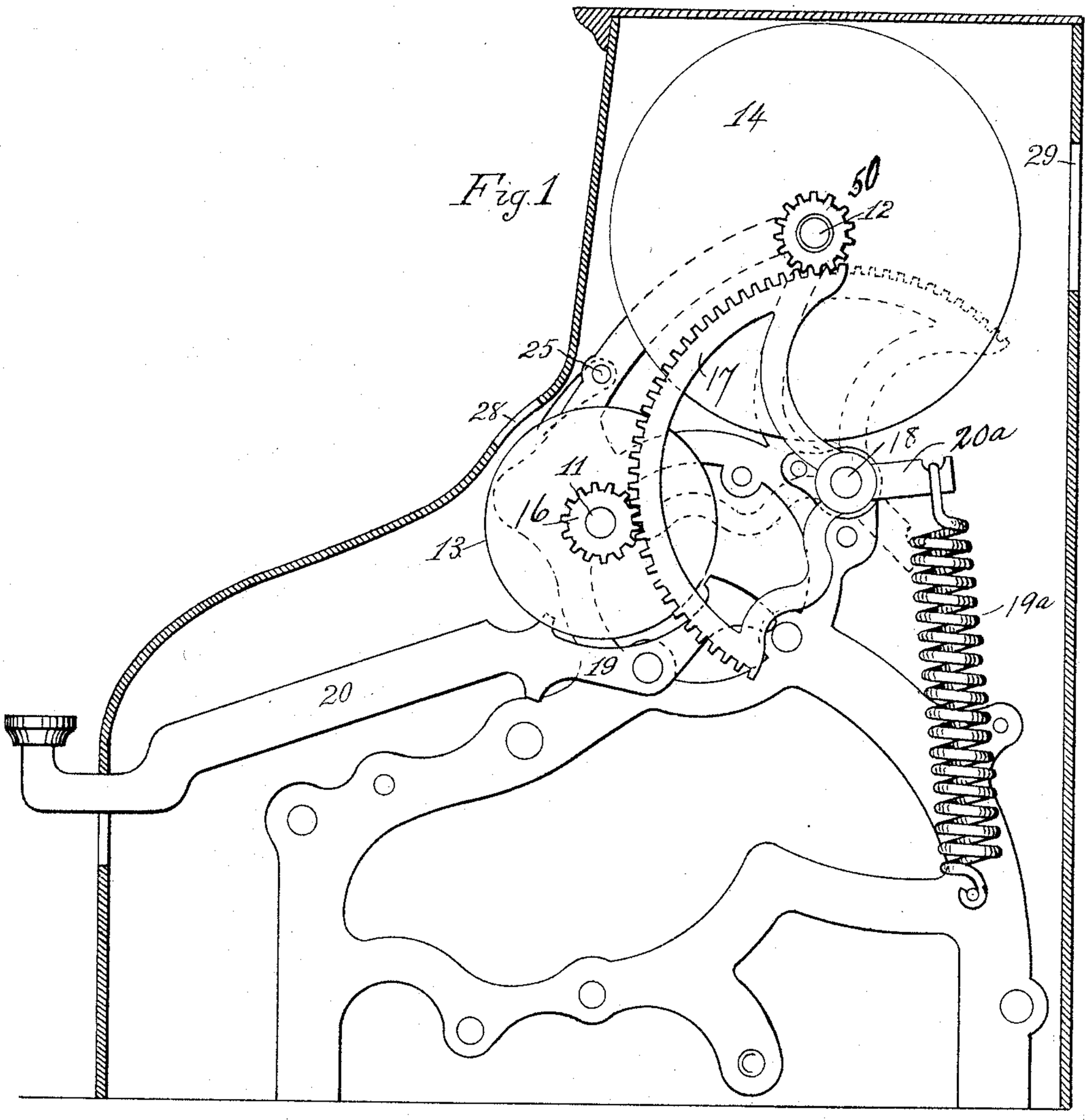
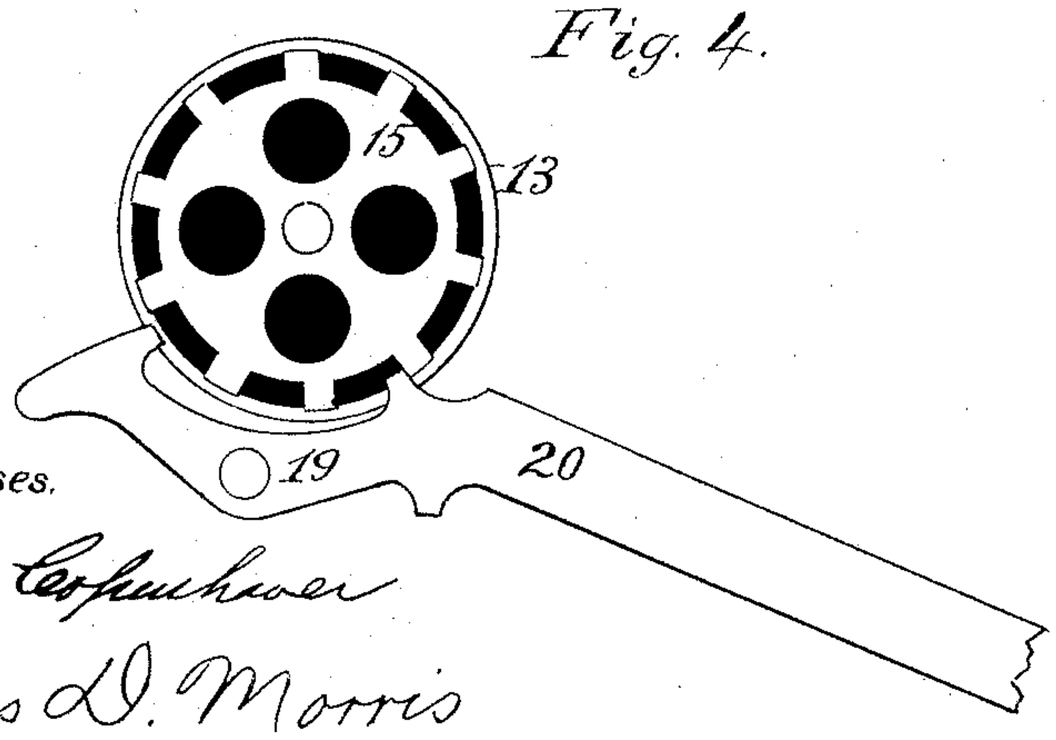


Fig. 4.



Witnesses.

Geo. M. Corbusier

Finis D. Morris

E. B. Hess.
Inventor;

By D. B. Gallatin
Attorney

No. 617,485. Patented Jan. 10, 1899.

E. B. HESS.

CASH REGISTER AND INDICATOR.

(Application filed July 28, 1896.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2.

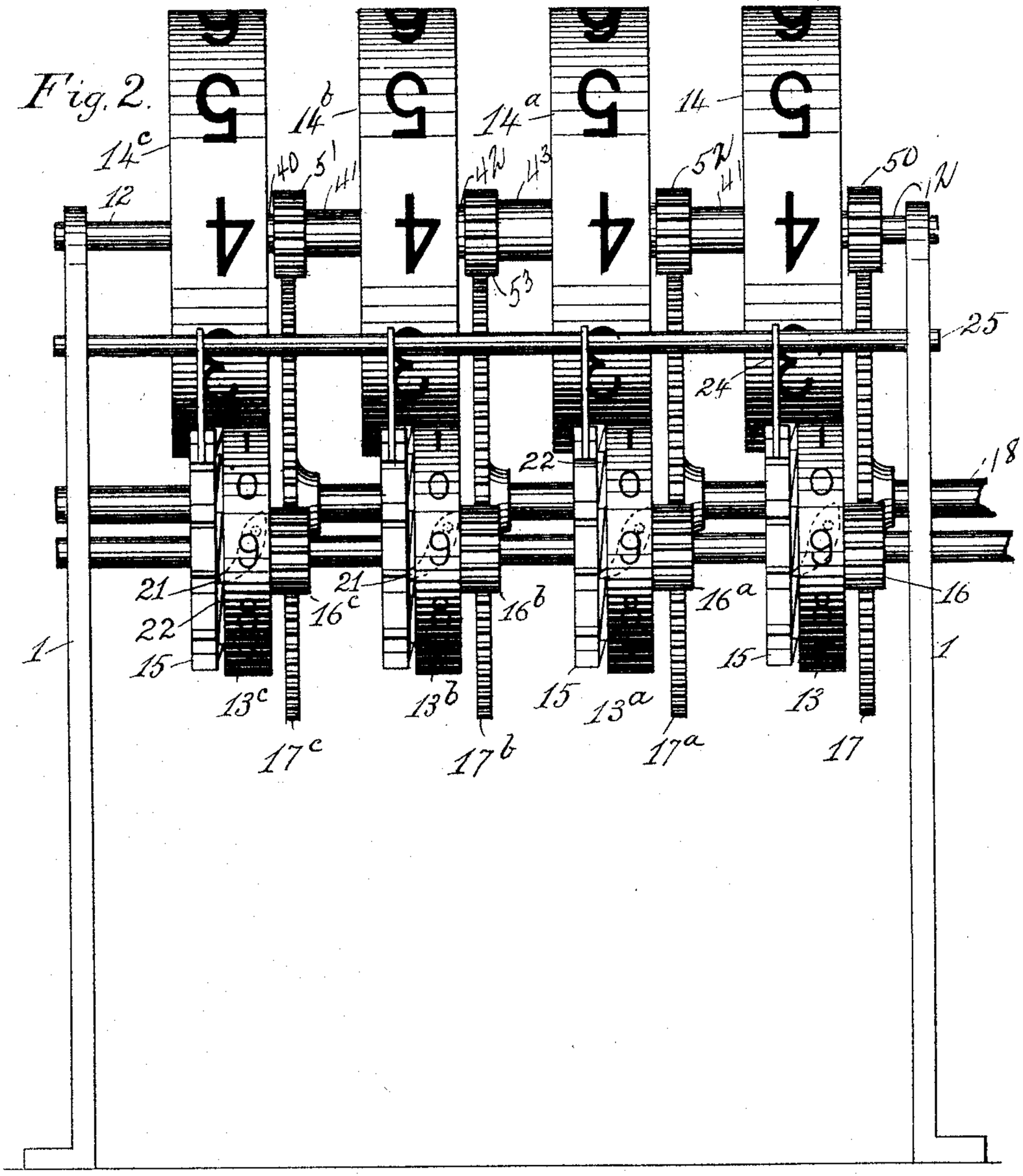
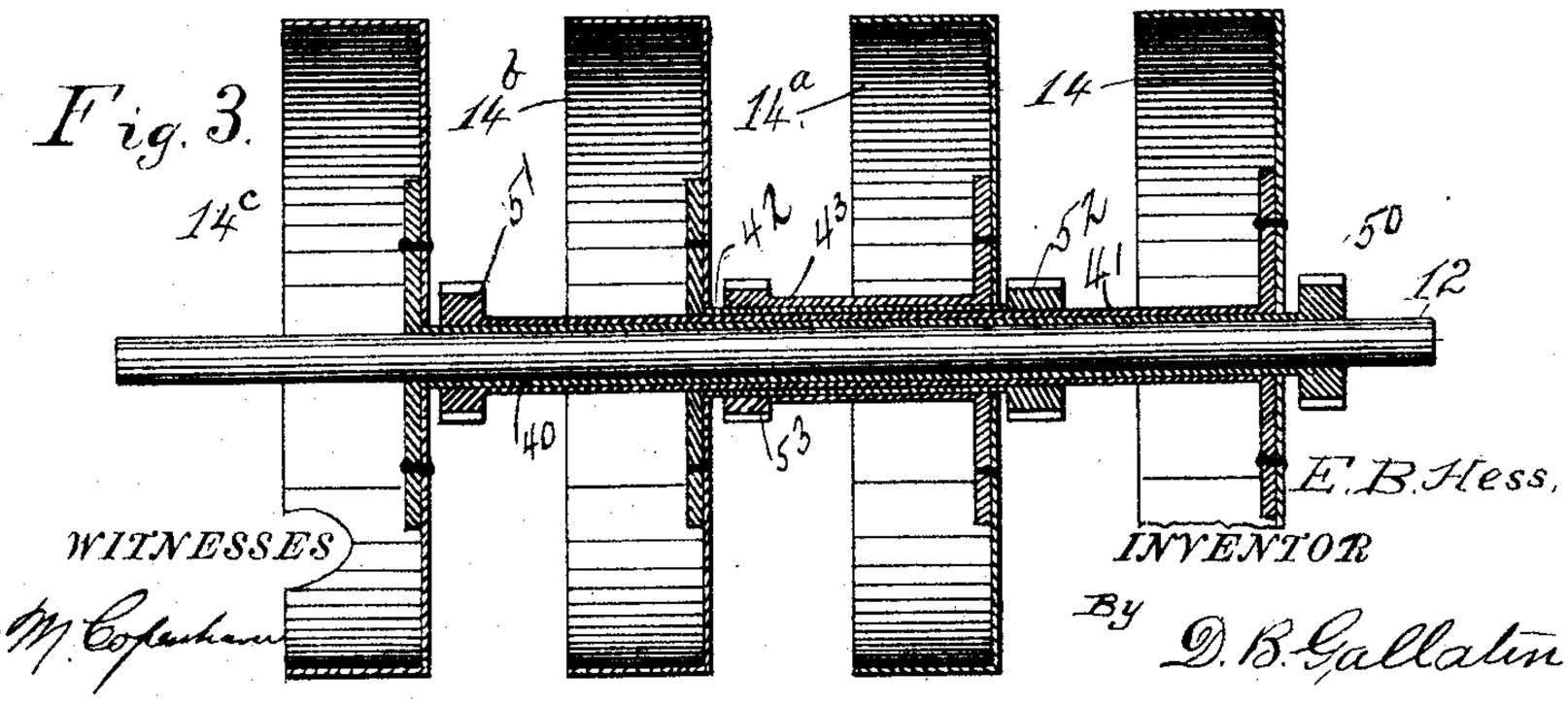


Fig. 3.



WITNESSES

Geo. M. Copeland

Finis D. Morris

E. B. Hess,

INVENTOR

By D. B. Gallatin.

Attorney.

UNITED STATES PATENT OFFICE.

EDWARD B. HESS, OF NEW YORK, N. Y., ASSIGNOR TO THE METROPOLITAN REGISTER COMPANY, OF NEW YORK.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 617,485, dated January 10, 1899.

Application filed July 28, 1896. Serial No. 600,835. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. HESS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Cash Registers and Indicators; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to that style or type of registers and indicators in which rotary indicators are mounted in series on a horizontal axis and show through sight-openings in the case to indicate to the purchaser or others in the establishment the amount of the sale or transaction. Machines of this character are variously constructed and arranged, some, commonly known as "back-counter" machines, having the sight-opening in the front of the case. These are usually located on a shelf or other support back of the counter and behind the salesman or clerk, so that in operating the machine he turns his back to the customer and occupies a position between the latter and the machine, thus obstructing the customer's view. Other machines, known as "front-counter" machines, have the sight-opening in the back of the case and are designed to occupy a position on the counter between the customer and the clerk or salesman, the latter thus facing the customer when operating the machine.

My invention relates more particularly to machines of the character shown and described in Letters Patent of the United States No. 552,463, issued on the 31st day of December, 1895, to the Metropolitan Register Company, of New York, as assignee of J. B. Benton and myself, in which two sets of indicators, geared together in pairs and operated from or by actuating mechanisms common to both, are employed, one to indicate to the customer or to others in the establishment the amount set up and registered and the other for the clerk or operator, to enable him to observe the working of the machine and to see when the proper amount is set up. In said patented machine the sight-openings for both sets of indicators are in the front of the case, making the machine essentially a back-counter machine. I now propose to provide a front-counter machine having the same general characteristics as that shown and described in the aforementioned patent, but having a different form of actuating-gear for driving the indicator and register wheels. In the prior patent, the two sets of indicators being viewed from the front of the machine, the wheels are necessarily arranged to read in the same direction—that is, both sets read from the left of the machine toward the right, the term "left" having reference to the left-hand end as viewed from the front. Now, however, one set of wheels being viewed from the back and the other from the front, it becomes necessary to the proper reading of the indications that the wheels of the two sets be arranged in reverse order. The manner of gearing corresponding wheels of the two sets together forms the gist of this invention, which will now be described.

In the accompanying drawings, Figure 1 represents a vertical section through the machine from front to rear, showing only so much of the mechanism as is necessary to give an understanding of the invention. Fig. 2 is a front view of the two sets of indicators and the gearing for actuating them. Fig. 3 is a section of the back indicators; and Fig. 4, a detail view showing the arrangement of the front indicators, the register-wheels, and the escapement for controlling the movements of the same.

Referring to the drawings, 1 1 designate the frame-standards, which, with the transverse shafts and rods whereby they are connected together, form the frame of the machine. On a shaft 11 are loosely mounted four indicator-wheels 13, 13^a, 13^b, and 13^c, designed to indicate, respectively, cents, tens of cents, dollars, and tens of dollars. At the side of each of these wheels is loosely mounted a register-wheel 15, each being formed with ten radial teeth, (see Fig. 4,) with which anchor-escapements 19, provided with key-levers 20, cooperate to control their movements.

Formed on or rigidly connected to the sides

of the respective indicator-wheels 13, 13ª, &c., are pinions 16, 16ª, 16ᵇ, and 16ᶜ, which are in gear with segments 17, 17ª, 17ᵇ, and 17ᶜ, mounted on a shaft 18. Springs 19ª, coupled with arms 20ª of the segments, tend to draw the latter constantly backward and rotate the indicator-wheels in a forward direction. The wheels 13, 13ª, &c., carry pawls 21, (see dotted lines, Fig. 2,) which engage backwardly-pointing ratchet-teeth 22, formed on the sides of the register-wheels 15, whereby when the escapements are operated the register-wheels are carried forward with the respective indicator-wheels under the propelling force of the springs 19. This pawl-and-ratchet arrangement permits the indicator-wheels to be turned back independently to reset to zero after each operation preparatory to the next. The means which I propose to employ for resetting the indicators to zero are described and claimed in another application, and since the same forms no part of and has no necessary connection with the present invention I have not considered it necessary to show or describe such resetting mechanism herein.

The indicators 13, 13ª, &c., are for the use and convenience of the clerk or operator, as above set forth, and they are visible through a sight-opening 28 in the front of the case.

Above and in rear of the indicators 13, 13ª, &c., is a second series of indicator-wheels 14, 14ª, 14ᵇ, and 14ᶜ, loosely mounted on a rod 12 at the top of the frame. These wheels, which are visible through a sight-opening 29 in the back of the case, are also geared with and actuated by the segment-gears 17, as follows: As viewed from the front, the right-hand wheel 13 of the lower series and the left-hand wheel 14ᶜ of the upper series are designed to indicate cents, 13ª and 14ᵇ tens of cents, 13ᵇ and 14ª dollars, and 13ᶜ and 14 tens of dollars. It therefore becomes necessary to the proper operation of the machine to gear across from one of these wheels to the other, so that corresponding wheels of the two series may turn in unison to give the same indication at both sides. The wheel 14ᶜ, which is the lowest or cents wheel of the series, is provided with a tubular stem 40, which is loosely mounted on the rod 12 to turn thereon. This sleeve extends to the right through all the other wheels of the series (see Fig. 3) and has rigidly mounted on its end a pinion 50, with which the segment-gear 17 also meshes, so that by the movement of said segment the two wheels 13 and 14ᶜ are rotated in unison, it being of course understood that the two—16 and 50—are of the same size, so that the two wheels with which they are connected turn through corresponding angular distances.

The wheel 14, which is of the same order as and corresponds with the wheel 13ᶜ, is provided with a tubular stem 41, which extends to the left through the wheels 14ª and 14ᵇ, being loosely sleeved on the stem 40, so as to turn freely thereon. At its end it is provided with a pinion 51, with which the rack 17ᶜ also meshes. This rack thus imparts motion to the corresponding wheels 13ᶜ and 14 of the two sets of indicators, giving corresponding indications on both.

The wheel 14ᵇ corresponds with the wheel 13ª. It has a tubular sleeve or stem 42, which extends to the right through the adjacent wheel 14ª and is provided at its end with a pinion 52, with which the segment-gear 17ª also meshes, said segment thus actuating the two corresponding wheels 14ᵇ and 13ª to indicate tens of cents.

The wheel 14ª has a short tubular stem 43, which extends to the left into the plane of the segment-gear 17ᵇ, where it is provided with a pinion 53, which is also in mesh with said segment, the two wheels 14ª and 13ᵇ being thus geared together to move synchronously through equal angular distances. By this system of gearing back and forth from right to left and left to right I am enabled to construct a double indicator to indicate both in front and rear without encumbering the same with a mutiplicity of gears and without adding materially to the cost, the only additional expense being the tubular stems or sleeves.

While I show and describe an indicator with four wheels in series, it will be understood that the number may be increased at pleasure. For ordinary uses four wheels will be found sufficient.

Having now described my invention, I claim—

In a cash-indicator the combination of a series of rotary indicators mounted on a horizontal axis to indicate in one direction, each having a pinion connected therewith, a second series mounted on an axis parallel to that of the first, and arranged and adapted to indicate in the opposite direction, the wheels of one series having tubular stems sleeved together, and the several stems provided with pinions which stand in the planes of those on the other series of indicators, and spring-actuated driving-gears in mesh with the pinions of corresponding indicators of the two series.

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

EDWARD B. HESS.

Witnesses:
N. M. STOUGHTON,
JOSEPH M. STOUGHTON.