(No Model.) 2 Sheets—Sheet 1.

C. T. BROWN.

COUNTER FOR PRINTING PRESSES, &c.

No. 323,382. Patented July 28, 1885.

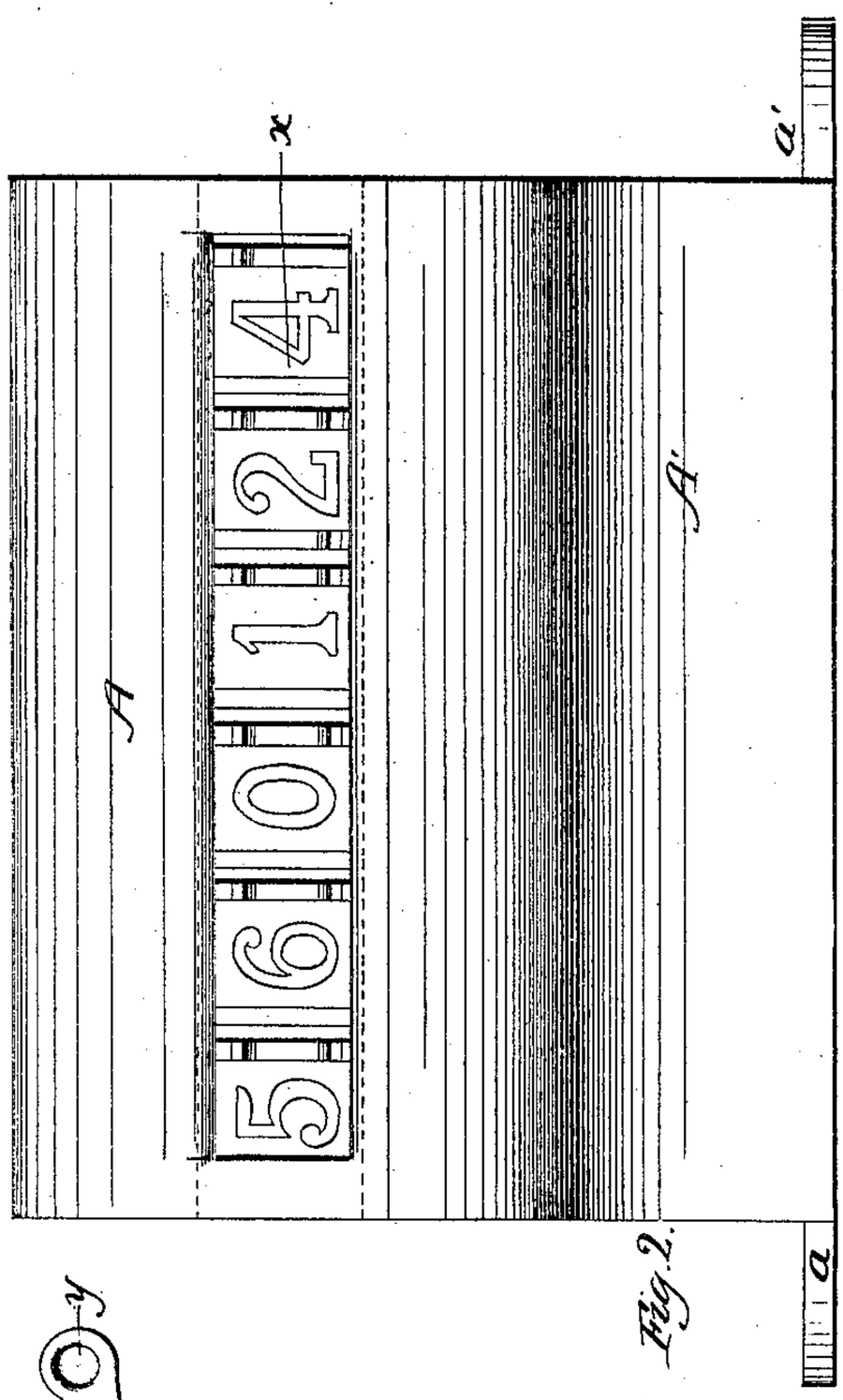

Fig. 1.

Fig. 2.

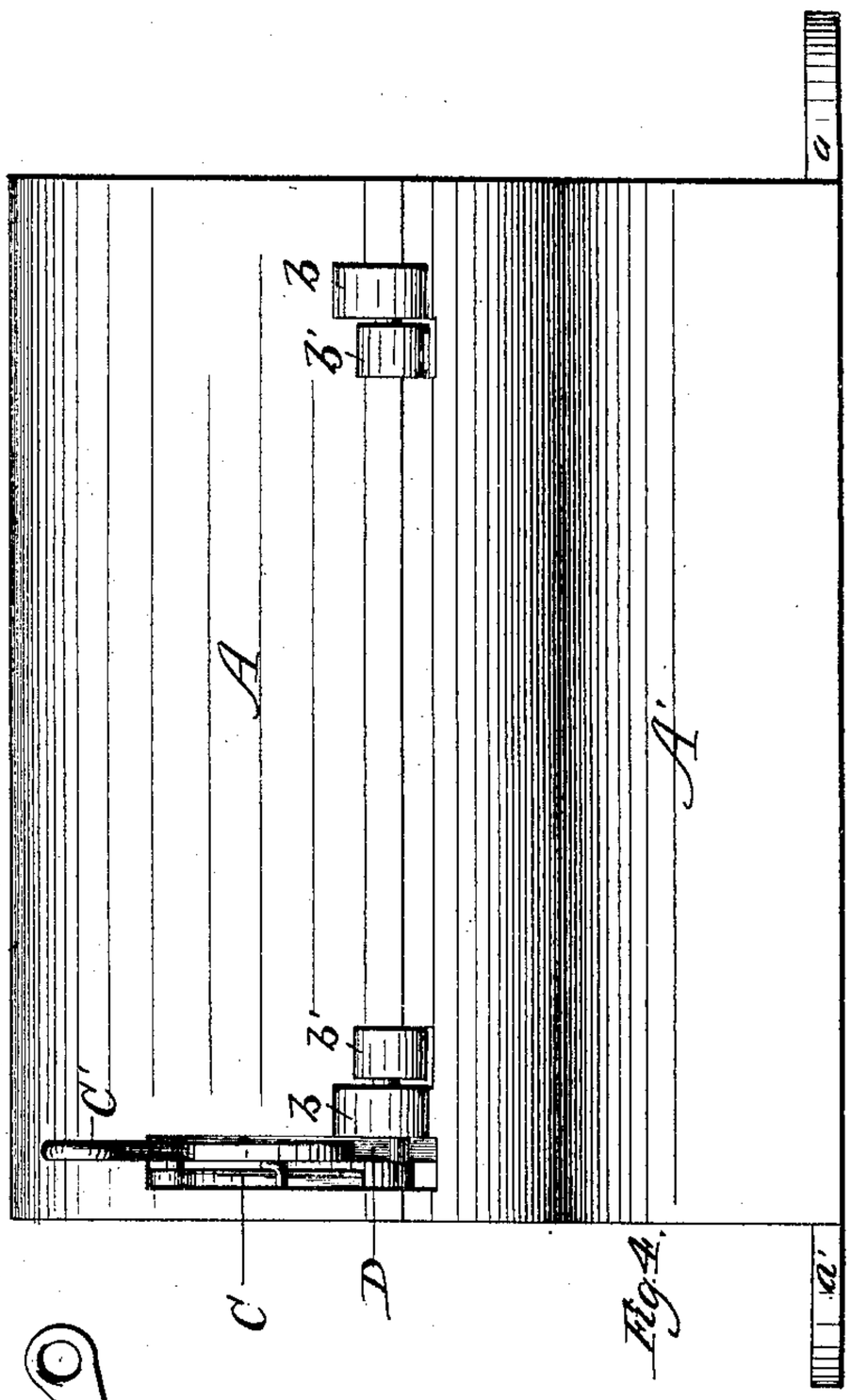

Fig. 3.

Fig. 4.

WITNESSES

F. B. Townsend

Jr G. Foster

INVENTOR—

Charles T. Brown.

(No Model.) 2 Sheets—Sheet 2.

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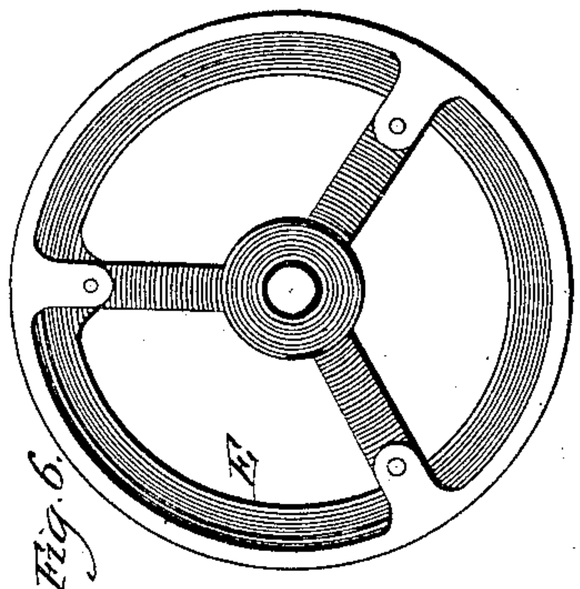

Fig. 6.

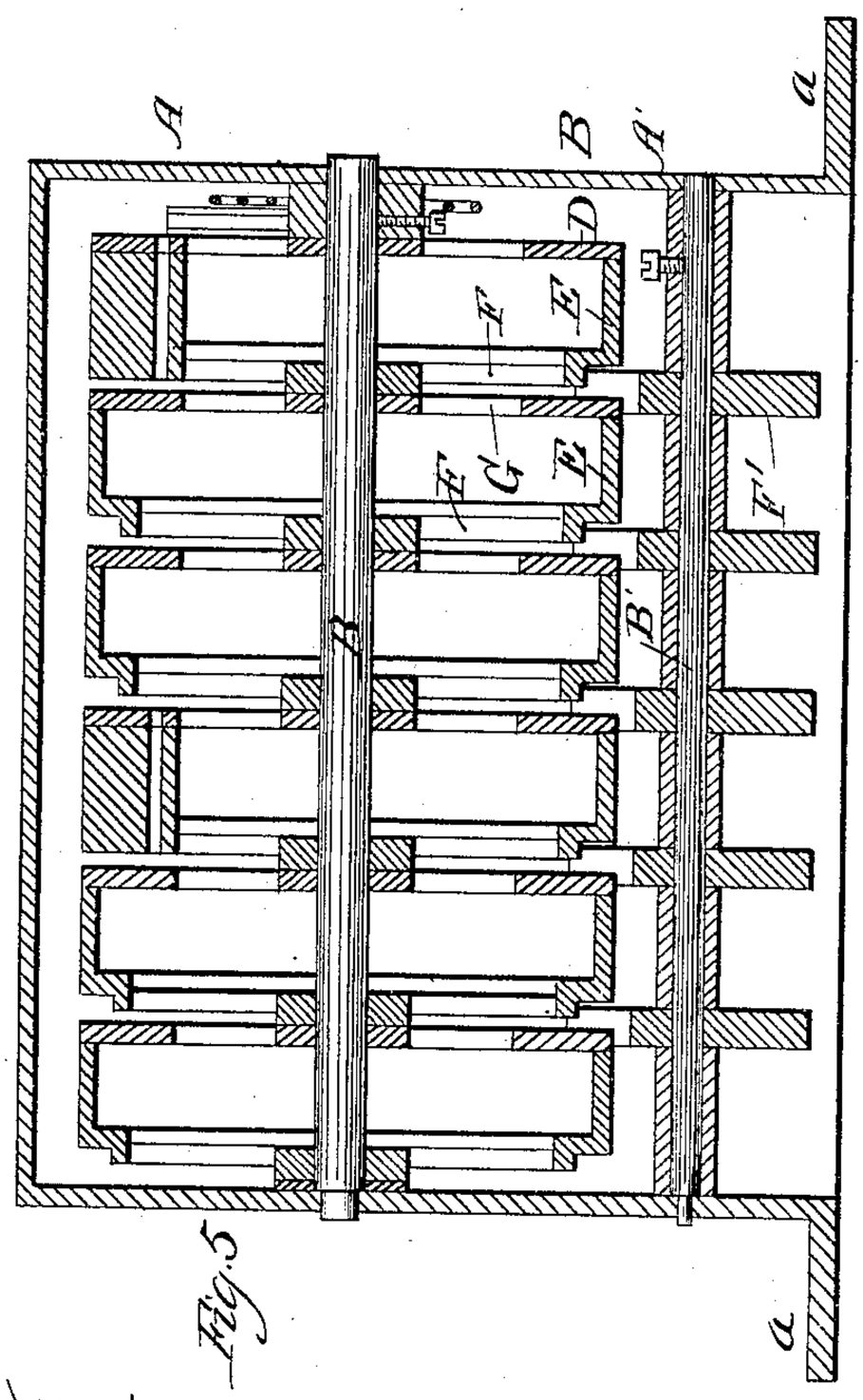

Fig. 5.

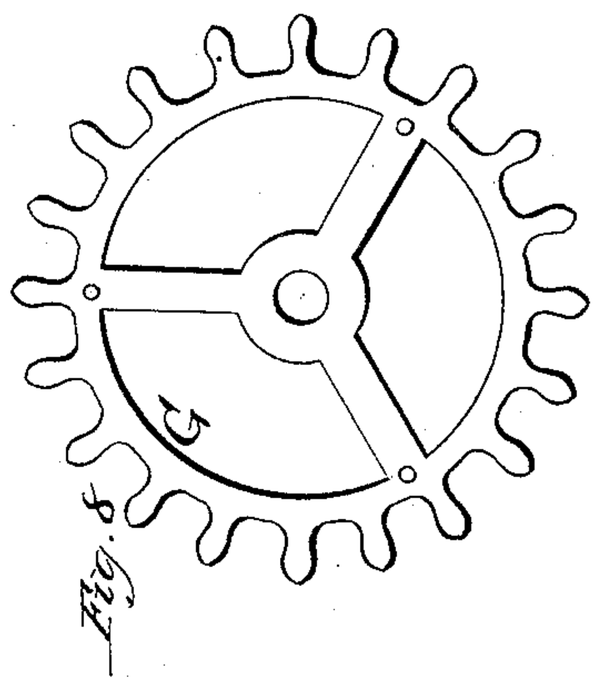

Fig. 8.

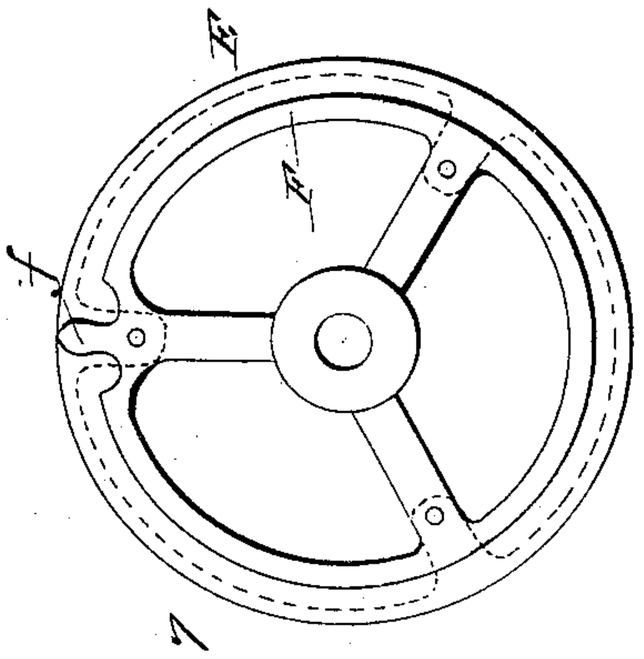

Fig. 7.

WITNESSES—

F. B. Townsend

W. G. Foster

INVENTOR—

Charles T. Brown.

UNITED STATES PATENT OFFICE.

CHARLES T. BROWN, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO FLORA L. BROWN, OF SAME PLACE.

COUNTER FOR PRINTING-PRESSES, &c.

SPECIFICATION forming part of Letters Patent No. 323,382, dated July 28, 1885.

Application filed April 20, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES T. BROWN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Counters for Printing-Presses and other Purposes, of which the following is a specification.

My invention relates to improvements in counters or registering-machines, in which the number or count made by the machine is exposed to view through slots or holes as the same is added or recorded by the counter, and in which the numbers are brought in front of the said slot or holes by the intermittent action of a lever or other connecting device; and the objects of my improvements are to construct a counter which shall be economical, of positive and direct action, and to which motion can only be imparted through the unit-wheel by the connecting-lever, all the other parts or wheels whereon the numbers are placed being automatically locked by the counter after the same have been placed in their proper position by the wheel of the next lower denomination, and also to construct a machine that may be easily and quickly set or placed at zero when a new count is to be made by the same.

In order to obtain a counter which shall be of value or utility, it is necessary that the same shall be constructed upon principles which will allow of a certain amount of variation in the form of the materials used, to allow for the ordinary wear and friction arising from the use of the same, and also it must be positive in its motions and certain in its movements, not liable to get out of repair, and not easy to be tampered with by the person using the same, who may be and frequently is a person entirely unskilled in mechanics, and often one whose object it is to cause the counter to skip or jump, thereby recording more or a higher count than it should properly give.

I am aware that counters have been in use for the purpose for which this counter is applied, and so constructed that motion is transmitted from the wheel of a lower denomination to the wheel of the next higher denomination; but, so far as I am aware, the objects sought have been attained in a manner different from that here shown.

I have illustrated my invention by the drawings accompanying this specification, and which form a part thereof, and in which—

Figure 1 is an end view of the shell or case containing the mechanism whereby the numbers are made to appear in their proper order before the slot or hole X in the same. Fig. 2 is a front view of the same, showing the slot X through which the numbers are to be seen, the numbers 5 6 0 1 2 4 being shown as added or registered by the counter. Fig. 3 is an end view of the shell or case with the end of the case removed, showing the working parts of the counter and their method of operation, as will be hereinafter described. Fig. 4 is a back view of the counter in the shell or case, showing the lever by which motion is transmitted to the counter. Fig. 5 is a sectional view of my machine, showing the working parts thereof and their method of connection. Fig. 6 is a plan of any one of the rings upon which the numbers are placed with one of the wheels to which the same is secured or attached or cast. Fig. 7 is a plan of the same ring with the other wheel, to which it is secured or attached or cast. Fig. 8 is a plan of the wheel secured to the ring in Fig. 6, said wheel being placed in Fig. 6 underneath the said ring.

Like letters refer to like parts throughout the several views.

The case, composed of two parts, A A′, with lugs *a a*, constitutes the frame-work of the machine.

B B′ are the centers, upon which the mechanism or movable parts of the counter are placed.

b b′ b b′ are the hinges, upon which part A of the shell or case is raised, when required, from part A′ of the shell or case.

C C′, Figs. 2 and 3, is the lever, turning upon center B, and the dog, by means of which motion is transmitted to the counter.

5 6 0 1 2 4 are the numbers, here arranged upon periphery of the counting-wheel, as seen through slot X.

c is a spring, which may be of any desired form, for holding lever C in its proper position when the same is at rest.

D is the ratchet-wheel, receiving motion from dog C′.

E is the ring, upon the periphery of which I prefer, and in this form of construction am required, to place the figures 5, 6, 0, &c., shown through slot X.

F is a wheel, with a single tooth, *f*, thereon. Wheel D, ring E, and wheel F are secured together, forming one wheel, which may be called the "unit-wheel," turning loosely on shaft B.

G is a wheel, with gears or teeth placed thereon. Wheel G, ring E, and wheel F are secured together, forming one wheel,(the tens-wheel,) turning loosely on shaft B. The unit-wheel and the tens-wheel may each be formed of one piece, cast in iron, brass, or other suitable material, and I shall hereinafter so speak of them.

F′ is a gear-wheel, turning loosely on shaft B′, meshing with wheel G and tooth *f* on wheel F. The ends of the teeth on wheel F′ also come in contact, or nearly so, with the periphery of wheel F when tooth *f* is not so meshed with teeth of wheel F′. Wheel F′ acts as a transmitter and also as a lock, receiving motion from tooth *f* when the same meshes thereon, and being firmly locked in its position when the smooth part of the periphery of wheel F is in contact with the ends of the teeth thereof, as above described. Any additional wheels (counting-wheels) are duplicates of the tens-wheel, and are acted upon and act in precisely the same manner as the tens-wheel.

Having thus described the construction of my machine, in order to enable those skilled in the art to fully understand its operation, I state the same to be as follows:

The upper half, A, of the case is raised on the hinge *b b′* from the lower half, A′, of the case, thus releasing the unit and tens wheels from contact or meshing with the transmitters F′, and allowing all the series of wheels to be turned freely upon center B. The series of wheels are then turned upon center B, and arranged in such manner as that the figure 0 (zero) shall be shown through the slot or holes X in the said case. The case is then closed, and locked, if desired.

Lever C and dog C′ are depressed by pressure applied at point *y*, causing the unit-wheel to revolve on shaft B, exposing the number 1 on said wheel through slot X. On releasing this pressure the lever and dog assume their original position. This operation is repeated until figure 9 on the unit-wheel is exposed through slot X. Wheel F′ has so far been securely locked by the contact of its teeth or gear with the periphery of wheel F. The next movement of the unit-wheel, as described, exposes the figure 0 (zero) through slot X. At the same time tooth *f* meshes with wheel F′, causing it to turn on shaft B′, wheel G, meshing with wheel F′, being thus turned on shaft B, exposing the figure 1 on the tens-wheel through slot X. This operation is repeated until the desired count is reached. In the machine constructed by me 999,999 can be counted in this manner before it repeats itself.

I have filed an application (Serial No. 149,753, filed December 8, 1884) for an improvement upon the counter herein shown, described, and claimed, which said application describes, but does not claim, the subject-matter of this application. It is not my intention to include in the present application the improvements disclosed and claimed in the application filed December 8, 1884, before referred to.

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

A counter for printing-presses and other purposes comprising the following elements, viz: A counter, composed of a shell or case divided into two parts, connected together by means of a hinge, a series of counting-wheels placed loosely on a shaft in one of said parts, a series of transmitters or gear-wheels placed loosely on a shaft in the other of said parts, the ends of the teeth of the said transmitters, in connection with and in addition to the transmission of motion, serving as a lock to hold all wheels of a denomination higher than units in their proper place and position, and all arranged so that when the shell or case is opened the counting-wheels may be revolved loosely upon the shaft, and when the same is closed the counting-wheels shall mesh and come in contact with the transmitters, substantially as described.

CHARLES T. BROWN.

Witnesses:
W. G. FOSTER,
F. L. BROWN.