

No. 766,070.

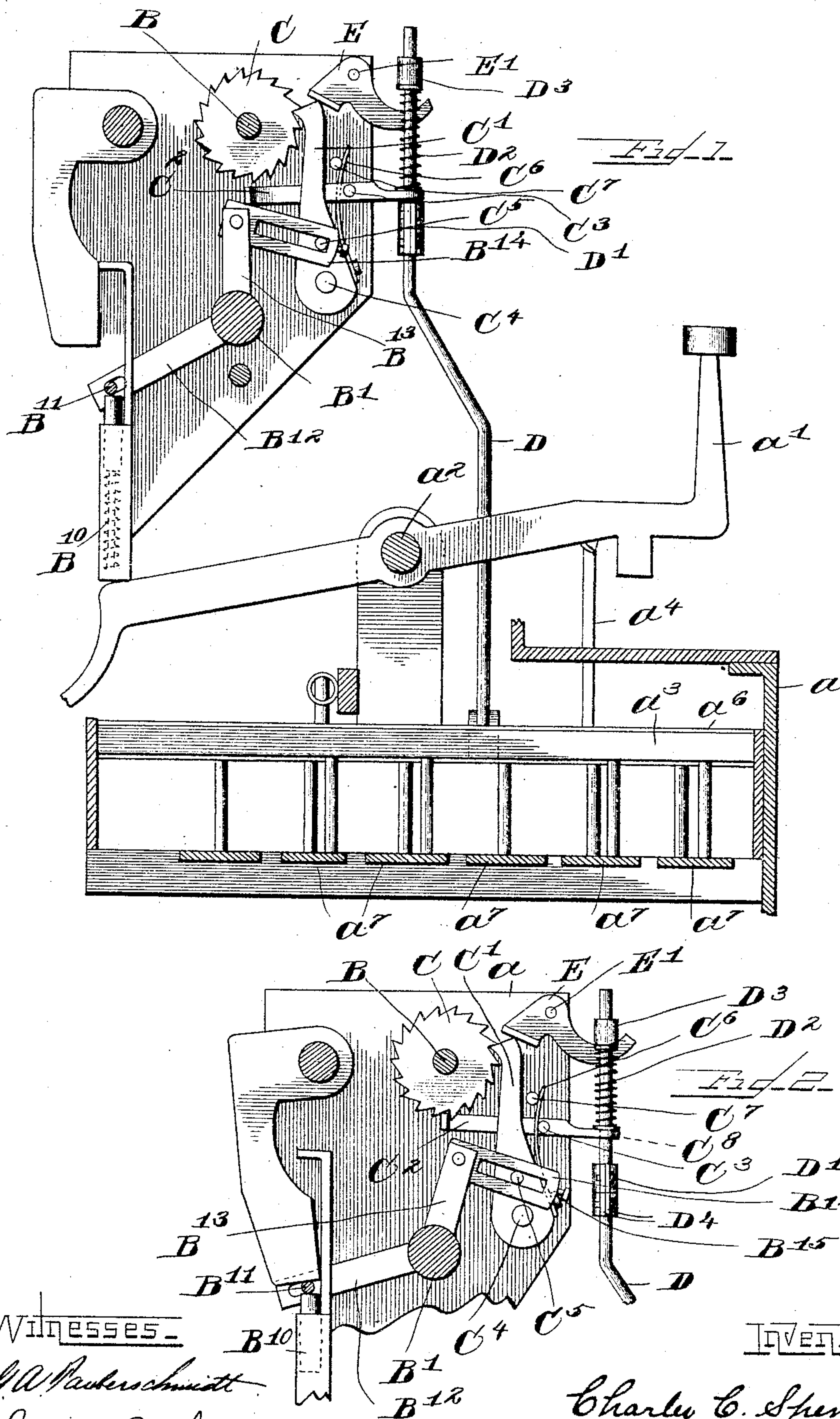
PATENTED JULY 26, 1904.

C. C. SPENGLER.  
LOCKING DEVICE FOR CASH REGISTERS.

APPLICATION FILED OCT. 12, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES—

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INVENTOR—

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*By Luther L. Miller*

ATTY.

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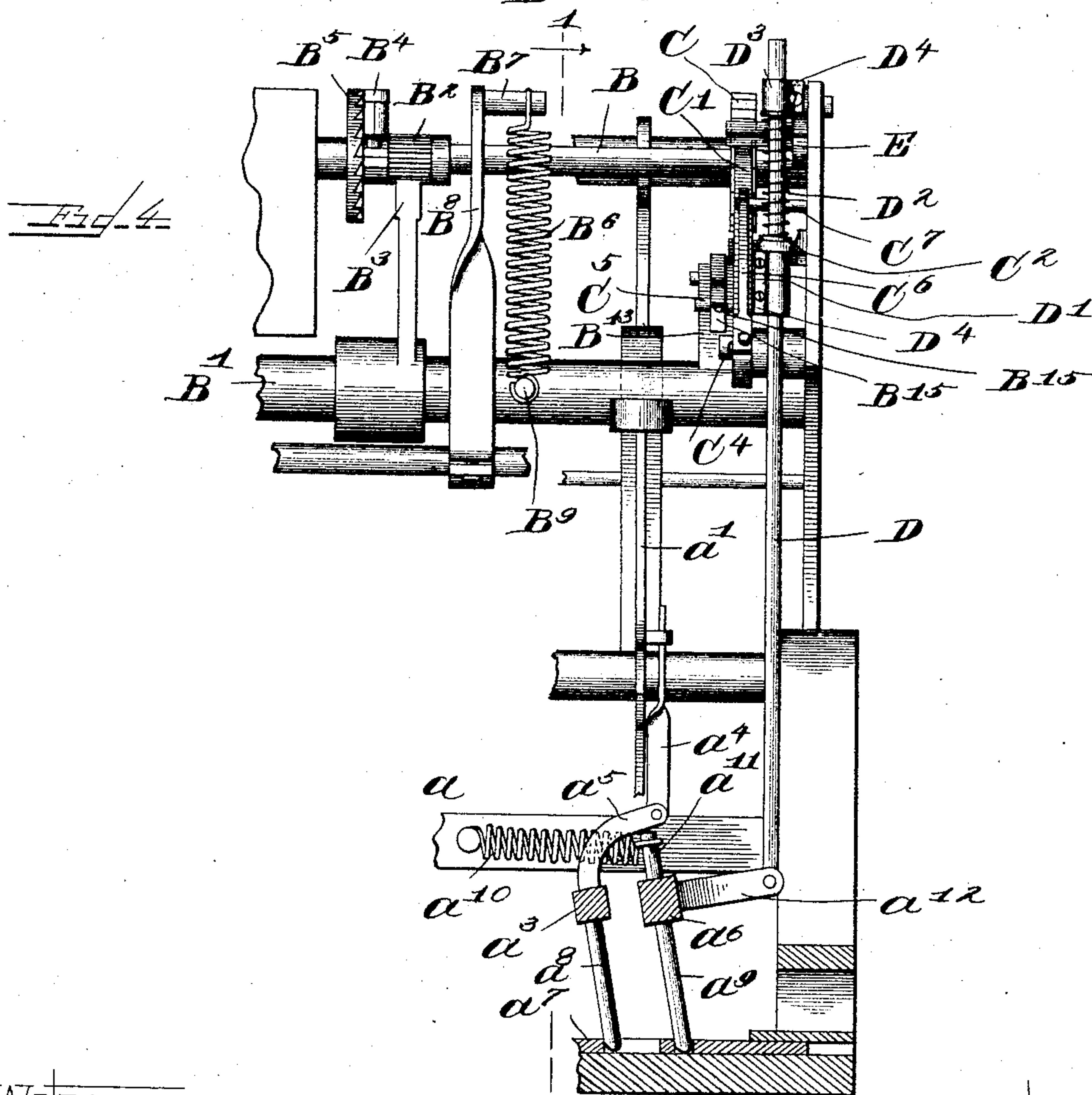
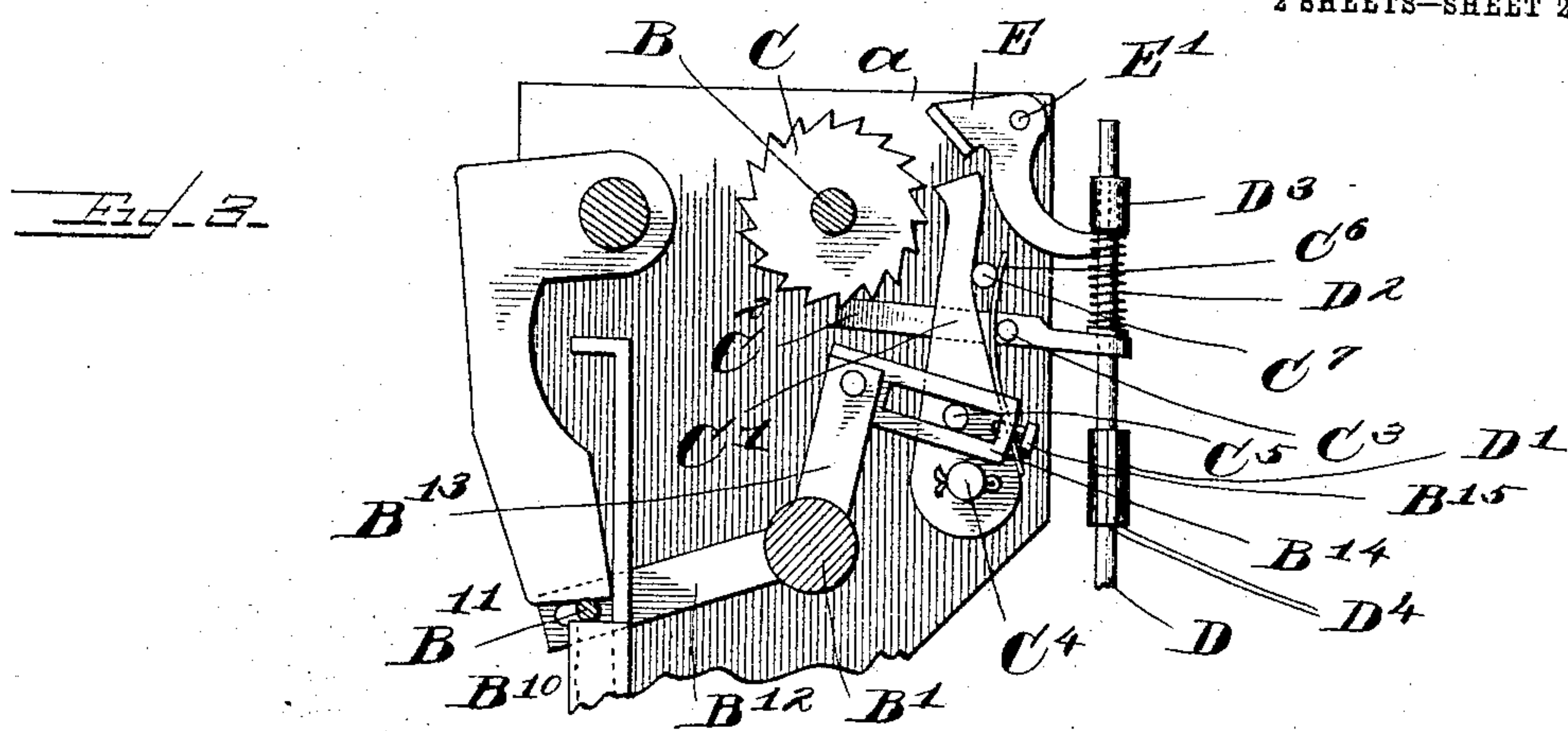
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*G. A. Pauberschmidt*  
*George L. Chindahl*

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# UNITED STATES PATENT OFFICE.

CHARLES C. SPENGLER, OF ROCKFORD, ILLINOIS.

## LOCKING DEVICE FOR CASH-REGISTERS.

SPECIFICATION forming part of Letters Patent No. 766,070, dated July 26, 1904.

Application filed October 12, 1903. Serial No. 176,757. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES C. SPENGLER, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Locking Devices for Cash-Registers, of which the following is a specification.

The object of this invention is the production of a locking device to prevent the accidental or improper actuation of the registering mechanism of a cash-register.

In the accompanying drawings, Figure 1 is a transverse vertical sectional view taken on dotted line 1 1, Fig. 4, through a cash-register embodying the features of this invention. Fig. 2 is a similar view in detail showing the positions assumed by the locking device when one of the keys of the register is slightly depressed. Fig. 3 is a view similar to the foregoing figure, showing the positions of the parts of the mechanism when one of the keys is fully depressed. Fig. 4 is a detail front elevation of a cash-register, showing the application thereto of the locking device of this invention.

In a cash-register embodying the features of this invention, A refers to the supporting-framework; A', to one of the actuating-keys; A<sup>2</sup>, to a shaft upon which all the actuating-keys are loosely mounted, and A<sup>3</sup> to a rock-bar with which by means of the link A<sup>4</sup> and the rigid arm A<sup>5</sup> the key A' is connected.

A<sup>6</sup> is a restoring rock-bar for all of the keys and for the coin-slides A<sup>7</sup>, with which coin-slides the rock-bars A<sup>3</sup> and A<sup>6</sup> are connected by means of the pins A<sup>8</sup> and A<sup>9</sup>, respectively.

A<sup>10</sup> is a spring, one end of which is attached to a rigid support upon the supporting-framework A, the other end to an arm A<sup>11</sup>, extending from the side of the rock-bar A<sup>6</sup>. The restoring rock-bar A<sup>6</sup> is provided with an arm A<sup>12</sup>, the purpose of which will appear hereinafter. B refers to the counter-shaft, upon which is supported the counter mechanism (not shown) of the cash-register.

B' refers to an oscillatory shaft for rotating said counter-shaft; B<sup>2</sup>, to a pinion loosely mounted on the counter-shaft; B<sup>3</sup>, to a toothed

sector fixed on said oscillatory shaft B' and meshing with said pinion B<sup>2</sup>; B<sup>4</sup>, to a spring-actuated pawl carried by said pinion and adapted to engage with the teeth in the face of a ratchet-wheel B<sup>5</sup>, which ratchet-wheel is fixed on the counter-shaft B and receives motion from the pawl B<sup>4</sup> to rotate said counter-shaft, and B<sup>6</sup> refers to a restoring coil-spring carried by an arm B<sup>7</sup>, fixed upon a stationary rod B<sup>8</sup>, which spring is connected at its lower end with a pin B<sup>9</sup>, extending from the oscillatory shaft B'.

Motion is communicated from the key A' to the oscillatory shaft B' by means of the spring-cushioned mechanism B<sup>10</sup>, the lower end of which mechanism rests upon the rear end of the key A' and the upper end of which contacts with a rod B<sup>11</sup>, carried by an arm B<sup>12</sup>, which arm is fixed with relation to said oscillatory shaft B'. The shaft B' also is provided with an upwardly-extending arm B<sup>13</sup>, at the upper end of which arm is pivotally supported a link B<sup>14</sup>, having an adjusting-screw B<sup>15</sup> in its free end.

A ratchet-wheel C is fixed upon the shaft B, the teeth of which ratchet-wheel are adapted to be engaged by two pawls C' and C<sup>2</sup>, pivotally mounted upon the supporting-framework A by means of pivots C<sup>4</sup> C<sup>3</sup>. The pawl C' is provided with a pin C<sup>5</sup>, adapted to extend within the link B<sup>14</sup>, and is also provided with a flat spring C<sup>6</sup>, fixed to its rear side, which spring is adapted to bear upon the pin C<sup>7</sup> in the supporting-framework A. The tendency of the spring C<sup>6</sup> is to withdraw the pawl C' from engagement with the teeth of the ratchet-wheel C. The pawl C<sup>2</sup> is provided with an opening C<sup>8</sup> in its rear end for the passage of the releasing-rod, to be next described.

A releasing-rod D is pivotally connected with the oscillatory shaft A<sup>6</sup> by means of the arm A<sup>12</sup> of said shaft, and said releasing-rod extends upwardly from said arm, near its upper end passing through the opening C<sup>8</sup> in the pawl C<sup>2</sup> and being provided with a collar D' below said pawl and with a coil-spring D<sup>2</sup> and a collar D<sup>3</sup> above said pawl. The collars D' and D<sup>3</sup> are frictionally mounted upon the releasing-rod D, being held thereon by means



of screws passing through flanges D<sup>4</sup> upon said collars, and therefore are adjustable in position lengthwise of said rod.

A locking-dog E is pivotally mounted upon the supporting-framework A by means of the pin E'. The forward portion of said dog lies in contact with the upper end of the pawl C', occupying such a position with relation to said pawl that the pawl cannot be withdrawn from engagement with the teeth of the ratchet-wheel C until the dog E is oscillated upon its pivot. The rear end of the dog E is curved upwardly and occupies a suitable position to be engaged by the flange D<sup>4</sup> of the upper collar D<sup>3</sup> upon the rod D. In the normal position of the parts, as illustrated in Fig. 1, the pawl C' engages the teeth of the ratchet-wheel C and prevents rotation thereof.

In operation depressing the operating-key A' oscillates the rock-bar A<sup>3</sup> by reason of the link (A<sup>4</sup>) and arm (A<sup>5</sup>) connection between said operating-lever and said rock-bar. The coin-slide (A<sup>7</sup>) connection between the rock-bar A<sup>3</sup> and the rock-bar A<sup>6</sup> causes the downward movement of the key A' also to oscillate said rock-bar A<sup>6</sup>, and by the movement of the arm A<sup>12</sup>, extending from said rock-bar, the releasing-bar D also is depressed. Motion from the operating-key A' is transmitted, through the spring-cushion device B<sup>10</sup>, the rod B<sup>11</sup>, and the arm B<sup>12</sup>, to the oscillatory shaft B', said shaft being moved against the tension of its restoring-spring B<sup>6</sup>. This movement of said oscillatory shaft moves the arm B<sup>13</sup> and the link B<sup>14</sup>, sliding said link longitudinally upon the pin C<sup>5</sup> of the pawl C'. The first effect of the downward movement of the releasing-bar D is to raise the forward end of the pawl C<sup>2</sup> into engagement with the teeth of the ratchet-wheel C, which occurs by reason of the pressure of the coil-spring D<sup>2</sup> bearing upon the rear end of the pawl C<sup>2</sup>.

The further downward movement of the bar D causes the flange D<sup>4</sup> of the collar D<sup>3</sup> to engage the rear end of the dog E, rock said dog upon its pivot E', and withdraw its forward end from engagement with the pawl C'. When the pawl C' is so freed, it is rocked upon its pivot C<sup>4</sup> by the flat spring C<sup>6</sup>, withdrawing the upper end of said pawl from the teeth of the ratchet-wheel C. As soon as pressure is removed from the operating-key A' the spring A<sup>10</sup> oscillates the rock-bar A<sup>6</sup> and through the arm A<sup>12</sup> raises the restoring-rod D. As the restoring-rod is moved upward the collar D' on said rod comes into contact with the rear end of the pawl C<sup>2</sup>, rocking said pawl on its pivot and withdrawing its forward end from engagement with the teeth of the ratchet-wheel C. At this instant the oscillatory shaft B' through its gear-sector B<sup>3</sup> rotates the pinion B<sup>2</sup> and its ratchet B<sup>5</sup>. The pawl B<sup>4</sup> engaging the teeth of the ratchet B<sup>5</sup> rotates the counter-shaft B. At the end of its oscillatory movement the shaft B' through its arm B<sup>13</sup>

and link B<sup>14</sup> draws the pawl C' into engagement with the teeth of the ratchet-wheel C and the dog E drops by gravity into its locking position behind the upper end of said pawl C'. The effective length of the link B<sup>14</sup> may be changed at will by turning the adjusting-screw B<sup>15</sup>. The dog E holds the pawl C' in engagement with the teeth of the ratchet-wheel C at all times, save the instant when the counter-shaft must be rotated in its registry movement. As soon as this registry movement is completed the pawl is drawn into engagement with the teeth of said ratchet-wheel C by means of the link B<sup>14</sup> and is held in engagement with said teeth by means of the dog E.

It is clear that many changes may be resorted to in the construction of this locking device without departing from the spirit and scope of my invention, wherefore I desire to have it understood that I do not limit myself to the embodiment herein shown and described.

I claim as my invention—

1. In a counter-locking device for cash-registers, in combination, a detent adapted to prevent the operation of the counter mechanism; a spring for withdrawing and a link for restoring said detent; a dog for guarding the detent; and means operating with the operation of the register for withdrawing said dog from said detent.

2. In a counter-locking device for cash-registers, in combination, a counter-shaft; a ratchet-wheel rotatable with the counter mechanism; a locking-pawl for said ratchet-wheel; a spring for withdrawing said pawl from said ratchet; a dog for holding said pawl in engagement with said ratchet; and means operating with the operation of the register for withdrawing said dog from engagement with said pawl.

3. In a counter-locking device for cash-registers, in combination, a counter-shaft; a ratchet-wheel rotatable with the counter mechanism; a locking-pawl for said ratchet-wheel; means for holding said pawl in engagement with said ratchet-wheel; means for withdrawing said pawl from said ratchet-wheel; a dog for guarding said pawl; and means operating with the operation of the register for withdrawing said dog from engagement with said ratchet.

4. In a counter-locking device for cash-registers, in combination, a counter-shaft; a ratchet-wheel rotatable with the counter mechanism; a locking-pawl for said ratchet-wheel; means for holding said pawl in engagement with said ratchet-wheel; means for withdrawing said pawl from said ratchet-wheel; a dog for guarding said pawl; and a releasing-rod adapted to withdraw said dog from engagement with said pawl.

5. In a counter-locking device for cash-registers, in combination, a counter-shaft; a

ratchet-wheel rotatable with the counter mechanism; a locking-pawl for said ratchet-wheel; a spring for withdrawing said pawl from engagement with the teeth of said ratchet-wheel;  
5 mechanism for normally holding said pawl in engagement with the teeth of said ratchet-wheel; a dog for guarding said pawl; and a releasing-rod adapted to move said dog from

engagement with said pawl during the operation of the register mechanism.

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Witnesses:

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