

(No Model.)

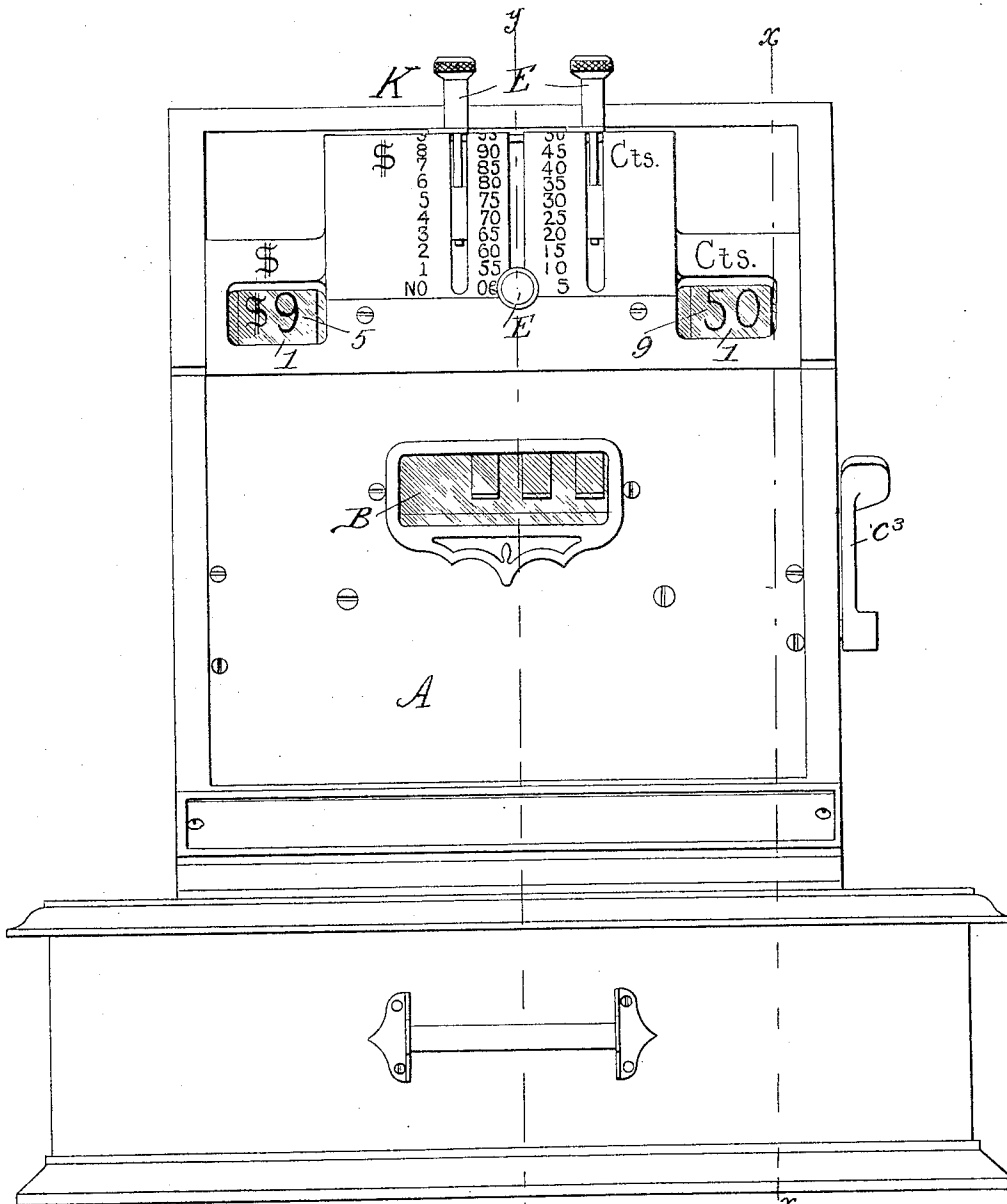
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W. J. BUSSE.
CASH RECORDER.

No. 580,341.

Patented Apr. 6, 1897.

Fig. 1.



Witnesses.

Wm. M. Rheem,

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by Raymond S. Buchanan
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(No Model.)

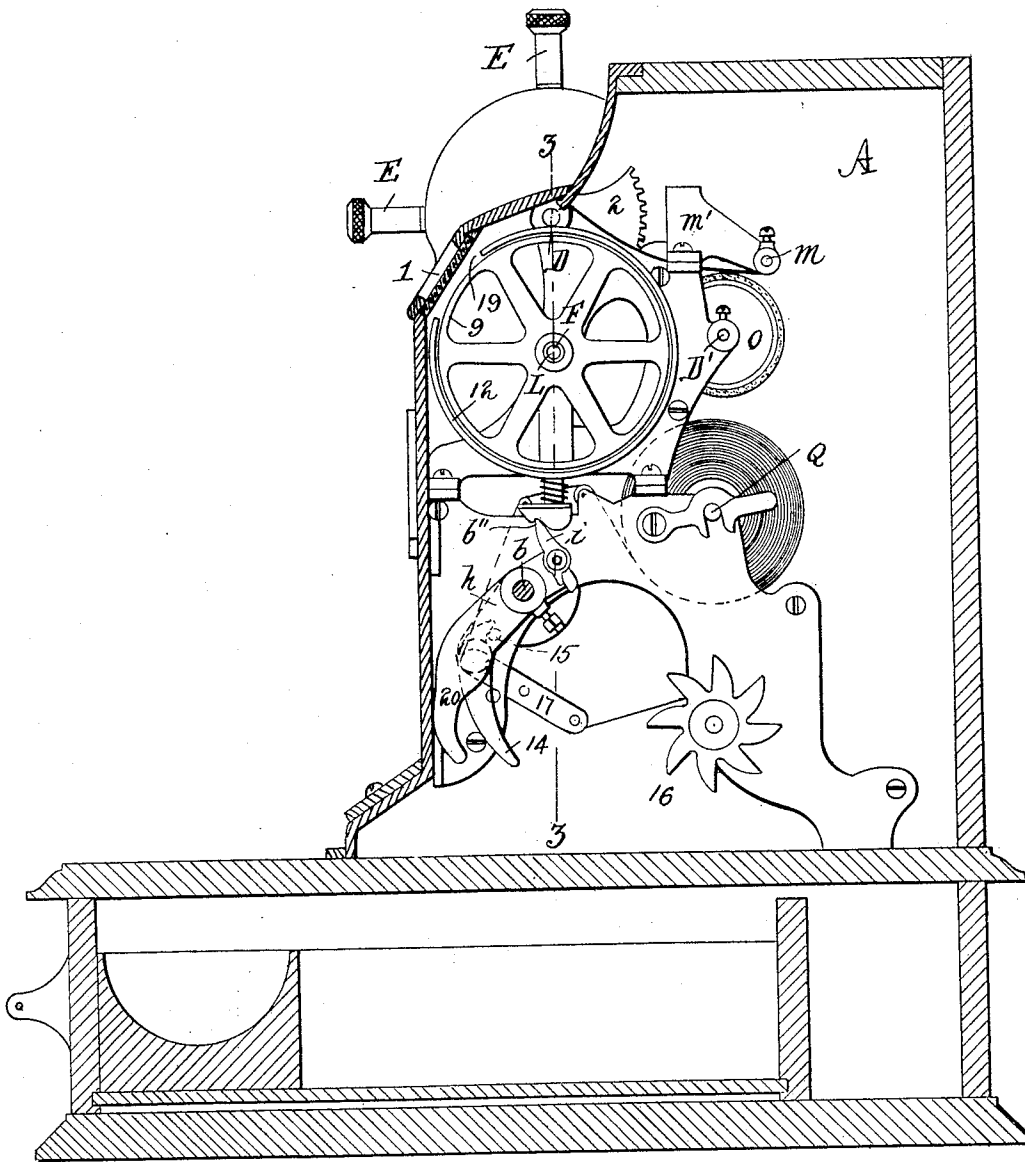
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Patented Apr. 6, 1897.

Fig. 2.



Witnesses.

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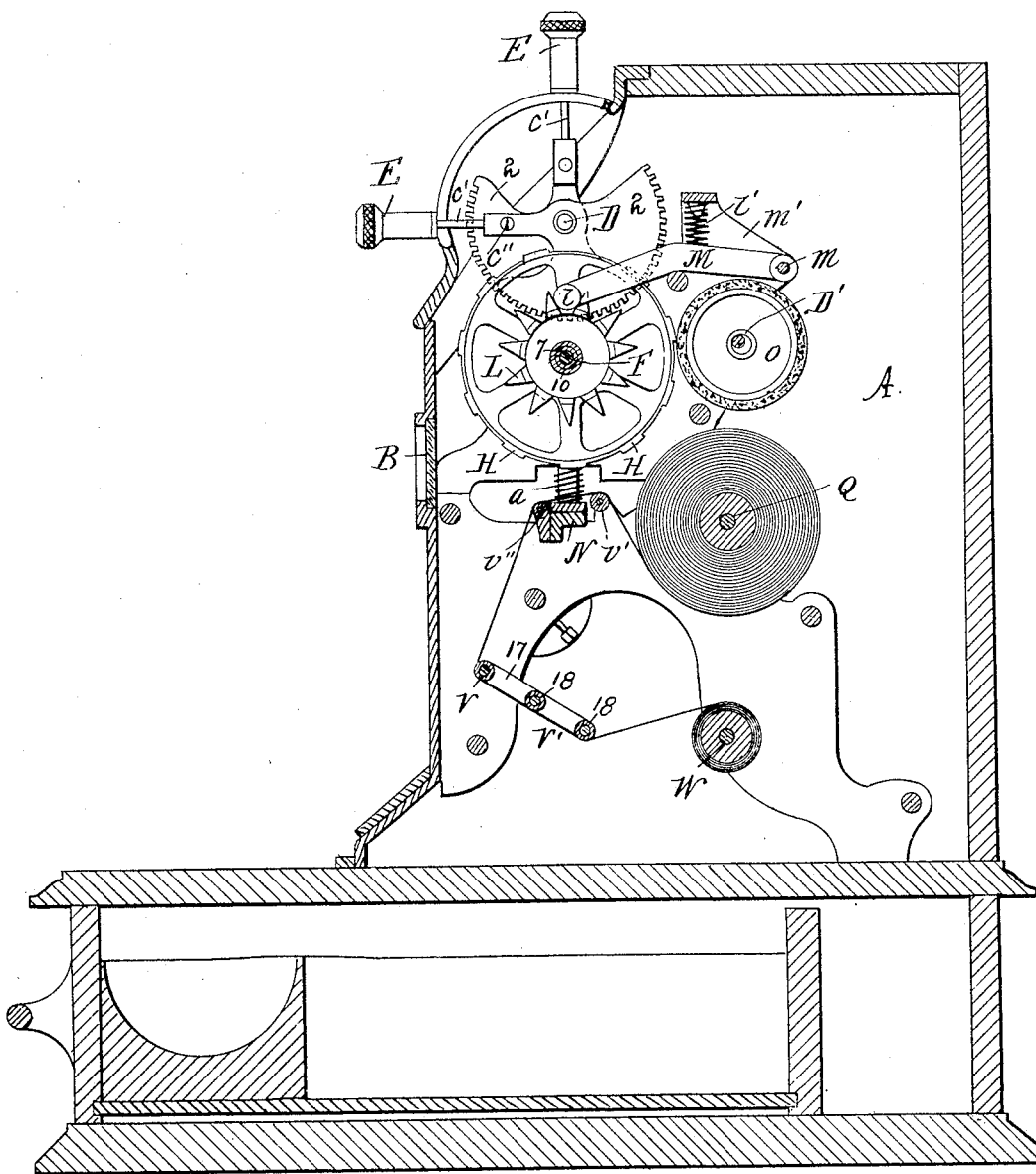
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Fig. 3.



Witnesses.

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Fig. 4.

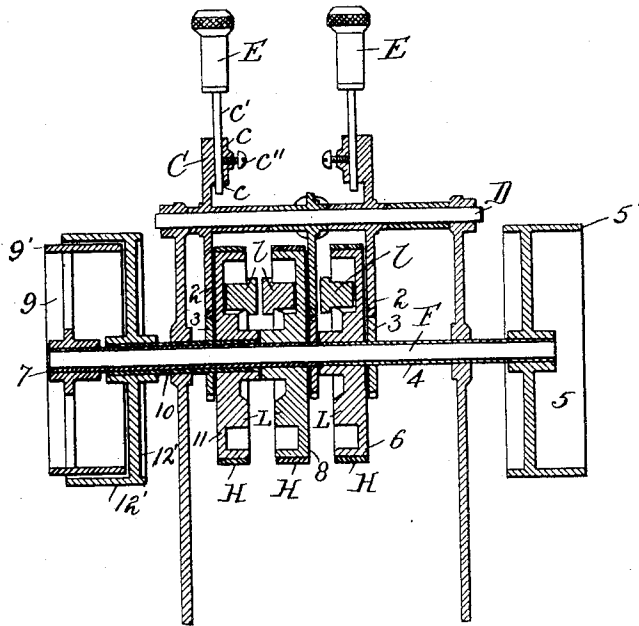


Fig. 5.

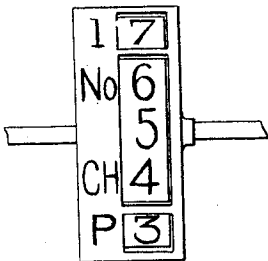
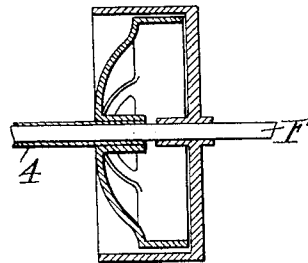


Fig. 6.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM J. BUSSE, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CHICAGO HARDWARE MANUFACTURING COMPANY, OF ILLINOIS.

CASH-RECORDER.

SPECIFICATION forming part of Letters Patent No. 580,341, dated April 6, 1897.

Application filed January 24, 1896. Serial No. 576,667. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. BUSSE, 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 Cash-Recorders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My present invention relates to cash-recorders, and more particularly to certain new and useful improvements upon my former invention, for which an application for Letters Patent of the United States is now pending, bearing Serial No. 512,674 and dated May 28, 1894.

The present invention is designed especially to simplify and improve the construction and mechanism of my former invention, and relates particularly to the indicating mechanism, the object being to arrange said mechanism so that it will be observable by the customer at some distance from the machine itself.

The invention also consists in the details of construction and arrangements of parts, all of which will be pointed out and claimed hereinafter.

In the accompanying drawings, Figure 1 represents a front elevation of my improved apparatus. Fig. 2 is a vertical sectional view on the line *xx* of Fig. 1. Fig. 3 is a similar view on the line *yy* of Fig. 1. Fig. 4 is a vertical sectional view of the type and indicating-wheels on the line *zz* of Fig. 2. Fig. 5 is an elevation of an indicating mechanism. Fig. 6 is a vertical sectional view of the indicating mechanism.

Referring to the drawings, in which like letters and numerals of reference denote corresponding parts in all the figures, A indicates a casing of any suitable size and configuration adapted to contain the operating devices of my apparatus, and at or about the center of the front wall thereof is an opening B, through which the recorded sale may be observed by the purchaser or the salesman upon the recording-tape.

In the upper part of the casing a transverse shaft D is mounted in a suitable frame within the casing, and a series of indicating-levers E are loosely journaled on said shaft, each of

the levers operating to set a type-wheel, and thereby cause any one of the characters thereon to register with a platen over which travels a recording-tape to receive an impression from the characters, all of which will be fully explained hereinafter.

Each of the indicating-levers E is made in two parts, one of which, C, is provided with a bearing to receive the shaft and a socket *c* to receive the end of the other part *c'*, which is secured in the socket by means of a set-screw *c''*. The outer end of each indicating-lever projects through the front wall of the casing A, which is curved on the arc of a circle struck on the axis of the shaft D and slotted to serve as a guide for said lever. A suitable thumb-piece is secured on the outer end of the part *c'*, and it also carries an index or pointer K, arranged to indicate upon a scale on the front wall of the casing the character on the type-wheel which is in position for printing.

In order to hold the type-wheel and the indicating-lever in the proper position so that the type will make a perfect impression upon the recording-tape, I provide a star-wheel L inside of each type-wheel and a lever M, pivoted on a stationary shaft *m* in a suitable frame *m'*, said lever being provided with a friction-roller *l*, arranged to operate on the star-wheel. An independent lever is provided for each type-wheel, and each lever is controlled and held in operative position by a spring *l'*, operating between the frame and the lever, so that the friction-roller will always be held in close contact with the star-wheel. The type-wheel may be readily rotated, but when the rotatory movement is completed the type-wheel will be held by the lever M in such a position that the character desired will impart a perfect impression to the recording-tape.

The type-wheels are supported on a fixed shaft F, arranged below the shaft D, these wheels corresponding in number with the indicating-levers E and having on their periphery a series of type II at regular intervals, which type may be figures, letters, or other characters. The type is automatically inked at every movement of the type-wheels by means of the inking-wheels O, loosely and eccentrically mounted upon a fixed rod or shaft D', preferably at the rear side of the

type-wheel and below the levers M, the said wheels being so arranged that they are caused to rest at all times against the face of the type on the type-wheels by the force of gravity. On opposite sides of the curved front portion of the casing I provide two openings 1 1, which are preferably covered with glass, one opening being intended to disclose the number of dollars recorded and the other opening to show the number of cents recorded in the machine. I have found it desirable to employ three indicating-levers, one of which is to be used to designate the number of dollars recorded and the others being employed to designate the number of cents recorded. One of these levers is provided with a toothed segment 2, adapted to mesh with a pinion 3, secured on a sleeve 4, which is loosely mounted on the shaft F. This sleeve carries at its outer end an indicating-wheel 5, provided on its peripheral flange 5' with a number of suitable characters, in the drawings figures and dollar-signs being shown as a convenient illustration. The type-wheel 6, bearing the corresponding characters, is also rigidly secured on the sleeve 4, so that when the indicating-lever is moved to some particular character on the scale the corresponding character is simultaneously disclosed through one of the openings 1 and at the same time impressed on the recording-tape by the type. The other two indicating-levers are employed to designate amounts below the sum of one dollar, in the example illustrated in the drawings one of said indicating-levers being adapted to designate higher amounts than the other. The middle indicating-lever is also provided with a toothed segment arranged to mesh with a pinion secured rigidly on a sleeve 7, mounted loosely on shaft F, and the corresponding type-wheel 8 is also rigidly secured on the sleeve 7. On the outer end of this sleeve is secured an indicating-wheel 9, peripheral flange 9' of which bears certain characters corresponding to those beside the aforesaid indicating-lever. The other indicating-lever is also provided with a toothed segment 2, arranged to mesh with a pinion 3, which is secured on a short sleeve 10, mounted loosely upon the sleeve 7. The type-wheel 11 is rigidly secured on one end of this sleeve 10, and on the other end thereof is secured another indicating-wheel 12, which partially embraces the indicating-wheel 9. The characters on the peripheral flange 12' of the indicating-wheel 12 correspond with those on the scale beside the last-mentioned indicating-lever, but a break 19 is made in the flange of this indicating-wheel, so that the characters on the wheel 9, which travels inside of the wheel 12, may be observed through the break 19 and the opening 1 in the casing.

In Figs. 5 and 6 of the drawings I have shown two indicating-wheels, one operating within the other, which may be secured on the shaft and sleeve in place of the single

dollar-indicating wheel 5. This construction is substantially similar in every respect to that just disclosed in connection with the cents-indicating wheels, and I therefore do not consider it necessary to enter into a detailed description thereof.

The recording-tape on which the type is designed to print is wound upon a supply-reel Q, which is loosely journaled in the frame of the machine and held from too-free rotation by a suitable tension device. The tape runs over the antifriction-rollers or guide-bars *v'* at each side of the movable platen N, the tape then passing around another guide bar or roller V and the tension device V' to the intermittently-acting storage-reel W.

The platen N is normally held out of contact with the type-roller by springs *a* and is moved into contact with the type by mechanism comprising a transverse shaft *b*, which is operated by the actuating-lever *c*³ and causes a dog *i* to engage a notch *b''* at one end of the platen to lift the same as the actuating-lever is depressed. This dog *i* is pivoted upon one end of a two-armed lever *h*, and another lever or arm 14 is loosely hung on the other arm and arranged to engage a stop 15, whereby when the actuating-lever is depressed and the impression imparted by the type to the recording-tape this pivoted arm 14 is projected rearward and engages the toothed wheel 16, which operates the storage-reel.

The tension device for the tape consists of a frame comprising two arms 17, which are loosely pivoted on the rotatable guide-bar V and connected by means of loosely-journaled rollers 18. The lower portion of this frame rests upon the tape and keeps it in a taut position.

It will be observed that the indicating mechanism herein described is particularly simple in construction and arrangement of parts, and the operation thereof is readily accomplished by the salesman, so that not only will the amount be permanently recorded on the tape, but at the same time the amount will be disclosed to the purchaser at a distance, as well as to the salesman, through the opening or openings 1 in the casing.

I am aware that changes in the form and proportion of parts and details of construction of the improvements may be made without departing from the spirit or sacrificing the advantages thereof, and I would therefore have it distinctly understood that I desire to reserve the right to make all such changes, modifications, and alterations that fairly fall within the spirit and scope of the invention.

To maintain the actuating-lever *c*³ in its proper position, I provide an arm 20, which is secured rigidly on the shaft *b* and adjusted in such a manner that it will impinge against the front of the casing when the pressure on the actuating-lever is removed, and thus prevent said lever from flying out of operative position.

Having described my invention, what I

claim, and desire to secure by Letters Patent, is—

1. In a cash-recorder, the combination with a supply-reel and a storage-reel for a recording-tape, of a tension device arranged intermediate of the supply and storage reels and comprising a frame pivoted at one end, said recording-tape being trained around the pivot of said frame, the frame being arranged to rest loosely upon the tape to keep the same taut, substantially as described.

2. In a cash-recorder, the combination with a supply-reel and a storage-reel for a recording-tape, of a rotatable guide-bar supported in the machine, and a tension device pivotally secured on the said rotatable guide-bar and arranged intermediate of the supply and storage reels and comprising two parallel arms loosely pivoted on said guide-bar and rollers loosely journaled in the bearings in said arms, the tension device being adapted to rest upon the under side of the tape to maintain the same taut, the said tape being trained around the rotatable guide-bar and engaging the rollers on the tension device, substantially as described.

3. In a cash-recorder, the combination of a large indicating-wheel, a peripheral flange on said wheel having a single break a smaller indicating-wheel arranged within the large indicating-wheel, a peripheral flange on said smaller indicating-wheel provided with suitable marks adapted to be disclosed only through the break in the large indicating-wheel, and means substantially as described, for operating said indicating-wheels independently of each other, substantially as described.

4. In a cash-recorder, the combination with a rock-shaft and suitable indicating mechanism,

of an indicating-lever mounted on said shaft and adapted to operate the said indicating mechanism and comprising a lower part having a journal-bearing to receive the shaft and a socket above said bearing, and an upper part adapted to be adjustably secured in said socket, substantially as described.

5. In a cash-recorder, the combination with a rock-shaft and suitable indicating mechanism, of an indicating-lever made in two parts, one of said parts being provided with a bearing to receive said rock-shaft, a segment below said bearing adapted to operate the indicating mechanism, and a socket above said bearing, the upper part *c'* adjustably arranged in the socket on the lower part and a set-screw to secure said upper part in place, substantially as described.

6. In a cash-recorder, the combination with a series of type-rollers, a platen and springs for normally holding said platen out of contact with the type-rollers, of means for bringing said platen into contact with the type-rollers comprising a transverse shaft *b*, a lever *c'*, adapted to actuate said shaft, a two-armed lever *h*, a dog mounted on one end of said lever and adapted to engage a notch on the under side of said platen, another arm hanging loosely from the other end of said two-armed lever and adapted to engage a stop 15, and an arm 20 rigidly secured on said shaft and adapted to impinge against the casing of the machine when the pressure of the actuating-lever is removed, substantially as described.

WILLIAM J. BUSSE.

Witnesses:

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M. E. SHIELDS.