May 30, 1933. M. W. BROMELL 1,911,260

CARD CABINET AND CARD THEREFOR

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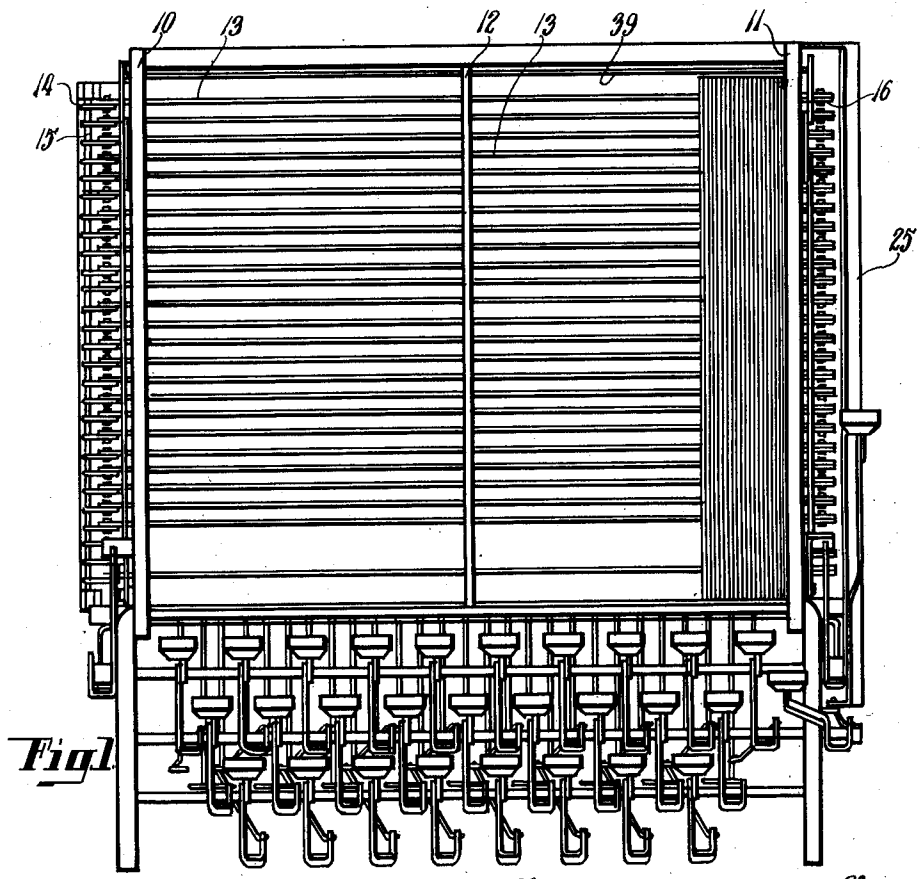


Fig. 1.

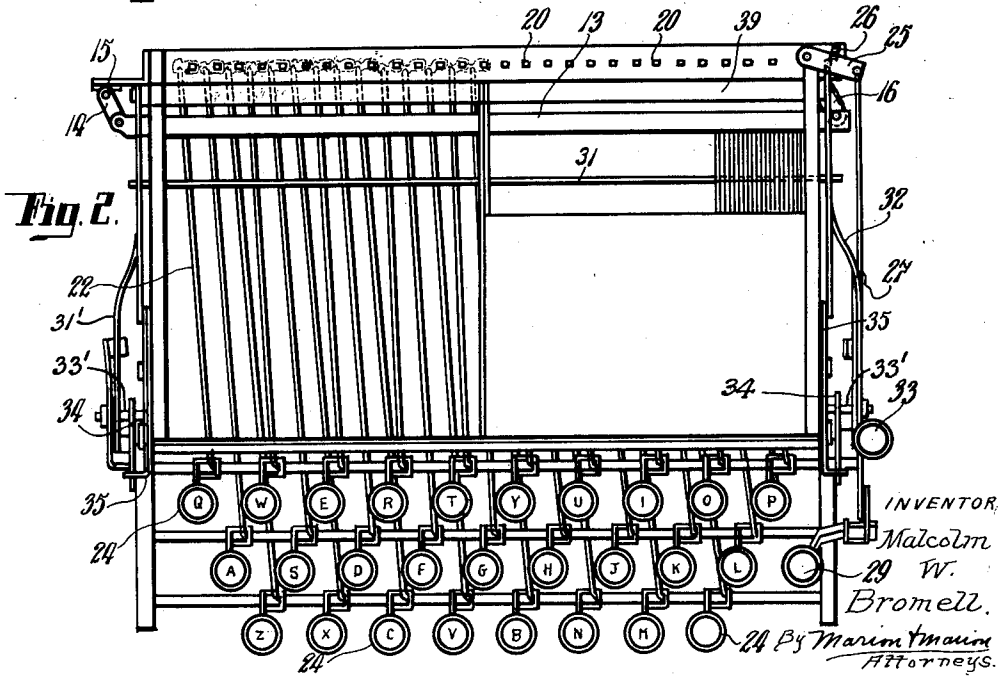


Fig. 2.

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Fig. 3.

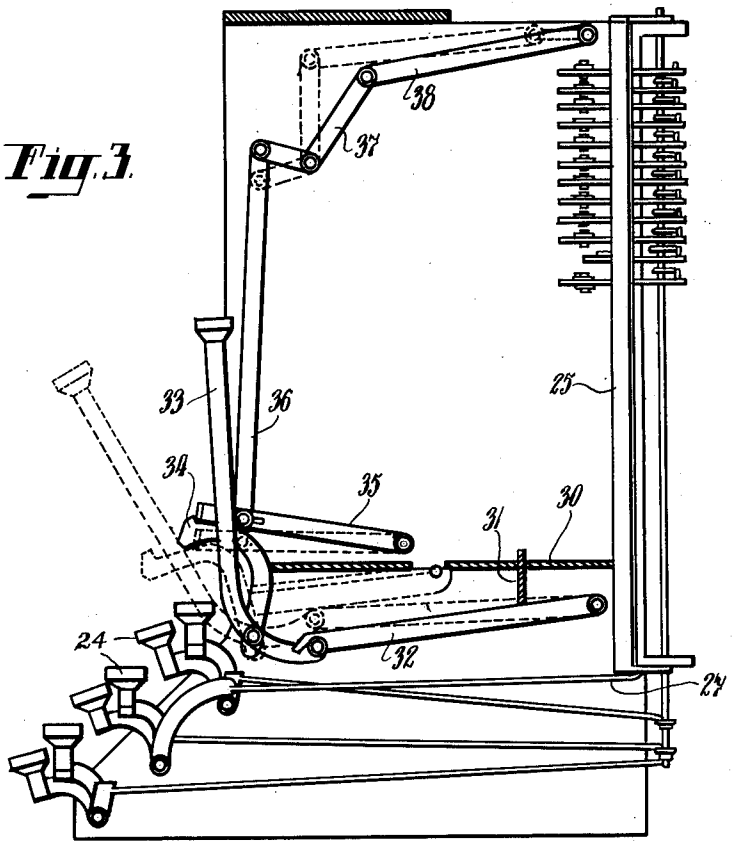


Fig. 4.

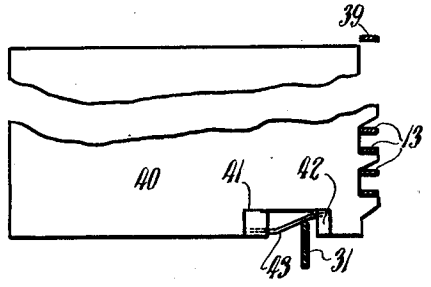
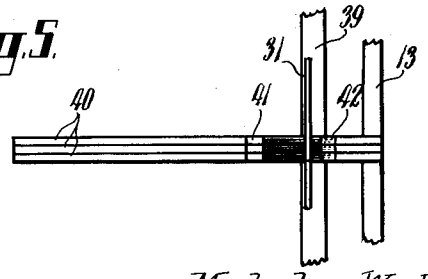


Fig. 5.



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Fig. 6.

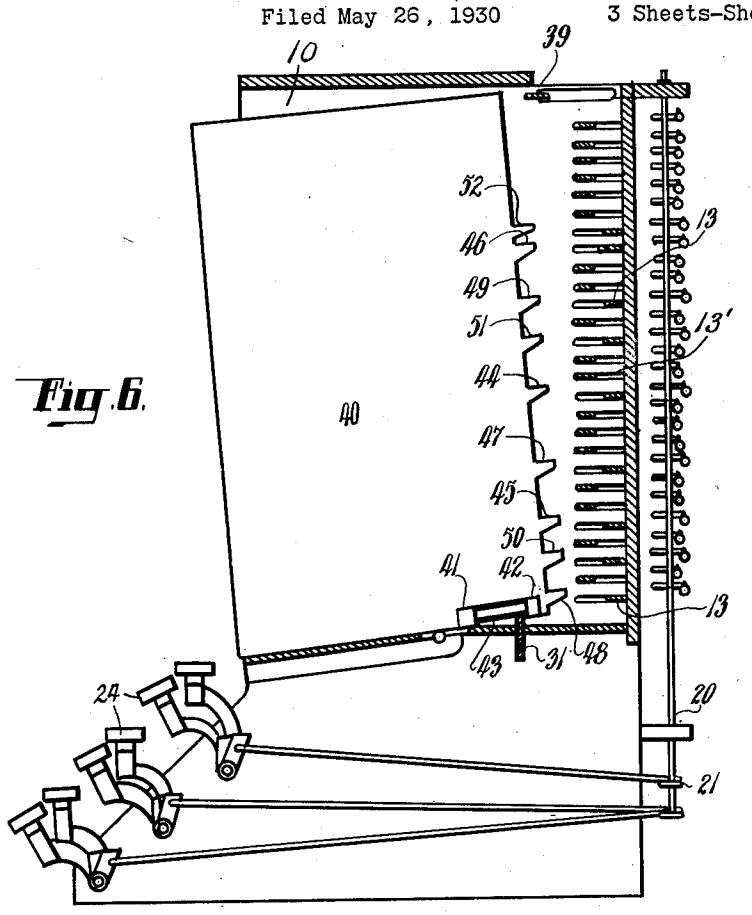


Fig. 7.

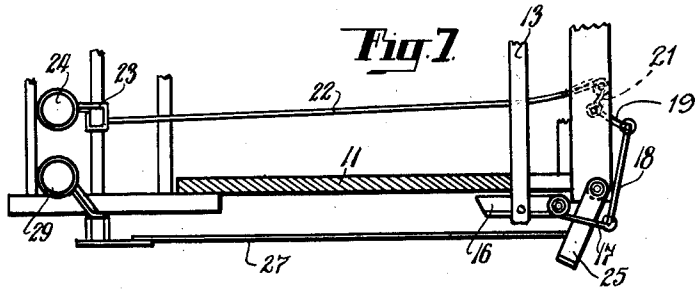
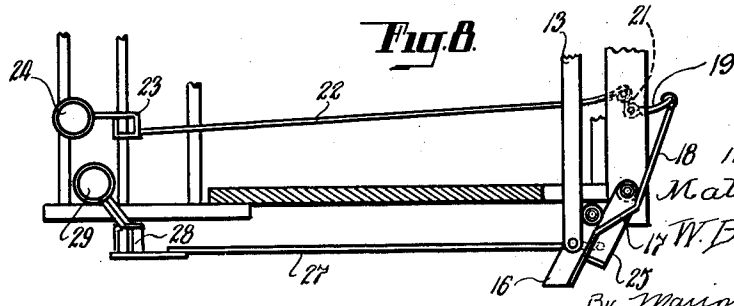


Fig. 8.



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UNITED STATES PATENT OFFICE

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CARD CABINET AND CARD THEREFOR

Application filed May 26, 1930, Serial No. 455,808, and in Australia May 30, 1929.

This invention relates to improvements in card cabinets and cards therefor.

It is well known that card filing systems are inconvenient when there are a large number of cards. This is because some difficulty is experienced in finding a card and in replacing the same. In addition, cards are frequently misplaced, which is a source of trouble and delay.

The present invention concerns a card cabinet in which the card required can be released irrespective of the position that it has been placed in, and moreover such card will partly move out of the cabinet in a positive manner.

The foregoing effect is produced by having a card provided with a plurality of serrations or notches along one edge, a characteristic number of these serrations or notches being normally locked by bars that are released when the card is to be discharged. In addition, means are provided in association with each card whereby, on a releasing member being operated, the released card is forced out of its normal filed position, although the remaining cards are not so affected.

The invention will readily be understood by reference to the accompanying drawings.

Figure 1 is a front elevation of the card cabinet:

Fig. 2 is a plan view in which the top and bottom have been omitted on the left-hand side for the sake of clearness:

Fig. 3 is a side elevation in which a side has been removed, also for the sake of clearness:

Fig. 4 is an elevation showing one of the cards and the manner in which its associated spring is operated:

Fig. 5 is an inverted plan of three adjacent cards and the appurtenant releasing and moving elements:

Fig. 6 is a side sectional elevation:

Fig. 7 is an enlarged detailed part plan view showing one of the operating keys and the resetting key and appurtenant parts:

Fig. 8 is a similar view to Fig. 7, except that it illustrates the position when the operating key has been depressed.

Referring particularly to these drawings, the cabinet comprises an arrangement in which the side members are referenced 10 and 11, whilst a central transverse member is referenced 12. There are a plurality of parallel locking bars 13 adapted to move transversely and longitudinally in corresponding recesses 13′ formed in the members 10, 11 and 12. At one end, each of these locking bars is pivoted to a separate link 14, the other end of which is pivoted such as to a rod 15. Each of the other ends of the locking bars 13 is pivoted to a link 16, the latter links being also pivoted at one end. By reason of the foregoing construction, it will be obvious that each of the bars 13 will be capable of independently moving in two directions in a horizontal plane, that is to say, transversely and longitudinally. In other words, when each bar moves longitudinally, it simultaneously moves rearwardly or forwardly, dependent on whether the direction of the longitudinal movement is from the left or the right. Attached to each of the links 16 is a rod 17, one end of which is pivoted to a link 18. The other end of the link 18 is pivoted to a short lever 19, that is connected to a shaft 20. Connected to the shaft 20 at an appropriate lower position, there is a short lever 21 connected to an operating rod 22, that in turn is connected to a bell-crank lever 23, that in turn is provided with an operating button 24. There will be a plurality of these operating buttons corresponding to the letters of the alphabet, and if desired to other symbols. Each of these operating buttons will be connected to a bell-crank lever 23, such as the one illustrated in Figs 6 to 8, which in turn, as illustrated, will be connected to an operating rod 22, short lever 21, shaft 20, lever 19, link 18 and rod 17, connecting an individual link 16 and operating rod 13. The result is therefore that on striking any particular key, the various parts referred to will be operated, with the ultimate result that the corresponding locking bar 13 will move longitudinally and simultaneously move rearwardly.

In juxtaposition to the whole of the links 16 will be a U-shaped resetting bar 25 (see

Fig. 3). This bar is pivoted at the top and bottom of the cabinet and is also pivoted to the end of an operating rod 27, the other end of which is pivoted to a bell-crank lever 28 terminating in a resetting button 29. The resetting bar is connected to a small spring 26, that tends to keep it in a rearward position, a tendency that is overcome when the resetting button 29 is pressed. It will be obvious that when an operating button 24 has been pressed so that the corresponding locking bar 13 has moved rearwardly whilst its link 16 has taken up the position shown in Fig. 8, then on pressing the resetting button 29 the resetting bar 25 will press against the link 16 and compel the locking rod 13 and its appurtenant parts to take up the normal position shown in Fig. 7.

The supporting bottom of the cabinet is referenced 30. This is in two parts, of which the front half is hinged or supported so as to be capable of being dropped as shown in Fig. 6. In fact, there is a spring always tending to drop the front (the spring is not shown). There is a transverse card-moving rod 31 adapted to move upwardly from below through a corresponding opening formed in the rear portion of the cabinet bottom 30. Such rod is lifted by a lever 32. One end of the lever 32 is notched so as to engage in sliding relationship with a bell-crank delivering lever 33. The bell-crank delivering lever 33 is connected to a spindle with which it moves, and such spindle 33′ extends right across the front of the machine. Connected to such spindle on each side of the machine is a cam 34, upon which rests a lever 35, which owing to its own weight and by reason of its connection to the spring-hinged front half of the bottom 30, moves downwardly when the lever 33 is moved to the dotted position shown in Figure 3. The lever 35 is connected to the front half of the bottom 30 of the machine, and is also connected to an upstanding link 36, the far end of which is connected to a bell-crank lever 37. The bell-crank lever 37 at its far end is connected to a link 38, that in turn is connected to the end of a transverse rod 39. Although it is only on the one side that the delivering bell-crank lever 33 extends for operating purposes, yet on the other side of the machine it has its counterpart for controlling the corresponding lever 31′. It is obvious that there will be two levers 32 and 31′ for controlling the moving rod 31 at each end, two cams 34, two levers 35 and two levers or links each corresponding to 36, 37 and 38.

As the front half of the bottom 30 always has a tendency to fall down, preferably through the action of a spring on the underside (not shown), it will be obvious that the effect of moving the delivering bell-crank lever 33 forward will be as follows. The lever 32 will be acted on, and will raise the moving rod 31. Simultaneously, as the cam 34 takes up a lower position, the lever 35 will correspondingly be lowered, and as it is connected to the front half of the bottom of the cabinet, such front part will take up the position shown in Fig. 6 and in dotted lines in Fig. 3. Simultaneously, the transverse rod 39 will be moved forward. The effect of pulling the delivering bell-crank lever 33 forward is that the moving rod 31 is raised, the front half of the bottom of the cabinet is dropped, whilst the rod 39 is moved forward.

Used in the cabinet there will be a plurality of cards. In fact, the number of cards that can be used will merely be limited by the capacity of the cabinet. Each of the cards will be provided along its rear edge with a plurality of serrations, the number of serrations and their relative position being a characteristic of each particular card. Actually, the cards before being cut so as to be characteristic of the particular name or use to which it is to be put, will have serrations corresponding to each of the operating keys and appurtenant parts. When a card in its uncut condition is pushed into the cabinet, the effect will be that each and every one of the serrations along its rear edge will be engaged by a locking bar 13. To make the cards characteristic of the particular individual or object they are to indicate, it will be necessary to remove all the serrations other than those giving the characteristic combination.

Thus, consider the card referenced 40 and shown in Fig. 6. The card in question is intended to be characteristic of an individual named L. E. Shapcott. Thus, in the arrangement shown, the serration 44 corresponds to the control button L, the serration 45 to the control button E, the serration 46 to the control button S, the serration 47 to the control button H, the serration 48 to the control button A, the serration 49 to the control button P, the serration 50 to the control button C, the serration 51 to the control button O, and the serration 52 to the control button T. Actually, if the name of the individual concerned had one of the letters duplicated, such would not be a material fact, as the likelihood of the particular combination recurring with another name would be exceedingly remote. If considered desirable, whenever one of the letters is duplicated in the name, the punctuation mark could be operated.

Each of the cards has a spring associated therewith. This is effected by cutting away the card near a lower corner and attaching sheet-metal housings 41 and 42, in which works a spring 43.

The card cabinet operates as follows:

Assume that the cabinet contains a plurality of cards, one of which it is desired to peruse. In such cabinet all of the cards will be held by their characteristic serrations being engaged by the corresponding locking

rods 13. In such case, the whole of the locking rods will be in vertical alignment. Assume then it is desired to peruse the card in the name of L. E. Shapcott. The keys, L, E, S, H, A, P, C, O, T are pressed, with the result that the corresponding control rods 13 move rearwardly and free from the corresponding serrations in the card in question. That is, the corresponding locking rods 13 take up the position shown on the right in Fig. 6. The remaining locking rods are not affected, so that the whole of the other cards in the cabinet, although they may be released from one or two or even a few of their characteristic locking rods, will be held in position. The delivering bell-crank lever 33 is then pulled forward. The effect is that the moving rod 31 is raised. The front half of the bottom of the cabinet is simultaneously dropped, and the supplementary delivery rod 39 moved forward. The effect on the card is that when the moving rod moves, it presses against the spring 43, and as the card is otherwise free, the tendency is to tilt it. This tendency is favoured by reason of the fact that simultaneously the front half of the bottom 30 will tilt or move downwards, thus permitting the card to tilt as a whole, the front downwardly and the rear upwardly. After said card has begun to tilt, the rod 39 is moved against the rear edge of its corner, pushing on the card. In consequence, the card characteristic of L. E. Shapcott takes up the tilted position shown in Fig. 6, and so its position is immediately revealed and the card can be removed from the cabinet. In the case of the remaining cards, as previously stated, they will be held by all or at any rate most of their characteristic serrations being engaged by the locking bars 13, and the tendency to lift, due to the raising of the moving rod 31, is resisted, the effect merely being that the springs 43 are bent upwards (see Fig. 4). When the removed card has been perused, the cabinet is reset by the bell-crank delivery lever 33 being pushed backwards, thus raising the front half of the bottom of the cabinet, moving the supplementary delivery rod 39 backwards, and lowering the moving rod 31. The machine is brought back to the normal position by pressing the resetting button 29, which results in the locking rods 13 that moved to the rear to unlock the card in question moving back to their original and normal position.

It should be noted that cabinets could be built on in sections. Thus, another cabinet could be superimposed on that illustrated. In such case, the bottom of each shaft 20 would be socketed so as to fit over the shafts 20 in the illustrated cabinet. Connections would also be made so as to operate the moving rod 31 and hinged front of the cabinet bottom. Furthermore, a cabinet could be placed at the side by connecting up the locking rods 13 in the additional cabinet to the links 14 and other operating parts.

I claim:

1. A filing device of the character described comprising a cabinet having filing cards therein, a plurality of locking rods mounted in said cabinet and engaging corresponding serrations formed upon the cards for holding the latter within the cabinet, means for moving said locking rods to release the same from the serrations on the cards, a spring connected to each card and operable to displace the latter outwardly of the cabinet, and means to tension said spring while the card is held by said locking rods.

2. A filing device of the character described comprising a cabinet having filing cards therein, a plurality of locking rods engaging portions of said cards for holding the latter within the cabinet, means for moving said locking rods to release the same from the cards, tensioning means associated with said card to displace the latter outwardly of the cabinet upon releasing the locking rods, and means to return the locking rods to their normal locking position.

3. A filing device of the character described comprising a cabinet having filing cards therein, a plurality of locking rods mounted in said cabinet and engaging corresponding serrations formed upon the cards for holding the latter within the cabinet, means for selectively moving certain of said rods to release the same from certain of the cards, spring means carried by the cards and means acting thereon to displace the latter outwardly of the cabinet.

4. A filing device of the character described comprising a cabinet having filing cards therein, a bottom for said cabinet mounted to move downwardly with respect thereto, means for moving the bottom of said cabinet means normally holding the cards in filing position within the cabinet, and means operable to release said card-holding means whereby the cards may tilt outwardly of the cabinet following the movement of said bottom.

5. A filing device of the character described comprising a cabinet having filing cards therein, a bottom for said cabinet mounted to move downwardly with respect thereto, a plurality of locking rods mounted in said cabinet and engaging portions of the cards for holding the latter within the cabinet, means operable to move said locking rods thereby releasing the cards, a spring carried by the cards and means acting thereon to cause the same to tilt outwardly of the cabinet following the movement of said bottom.

6. A filing device of the character described comprising a cabinet having filing cards therein, a spring element carried by each of said cards, means engaging said cards and

locking the same within the cabinet, means for releasing said locking means, and means to tension said spring whereby the latter will cause the cards to move outwardly of the cabinet upon releasing the locking means.

Dated this ninth day of April 1930.

MALCOLM WALLACE BROMELL.