B. O. FANSLOW.

CHECKWRITER.

APPLICATION FILED SEPT. 13, 1916.

1,308,941.

Patented July 8, 1919.

4 SHEETS—SHEET 1.

Fig 1.

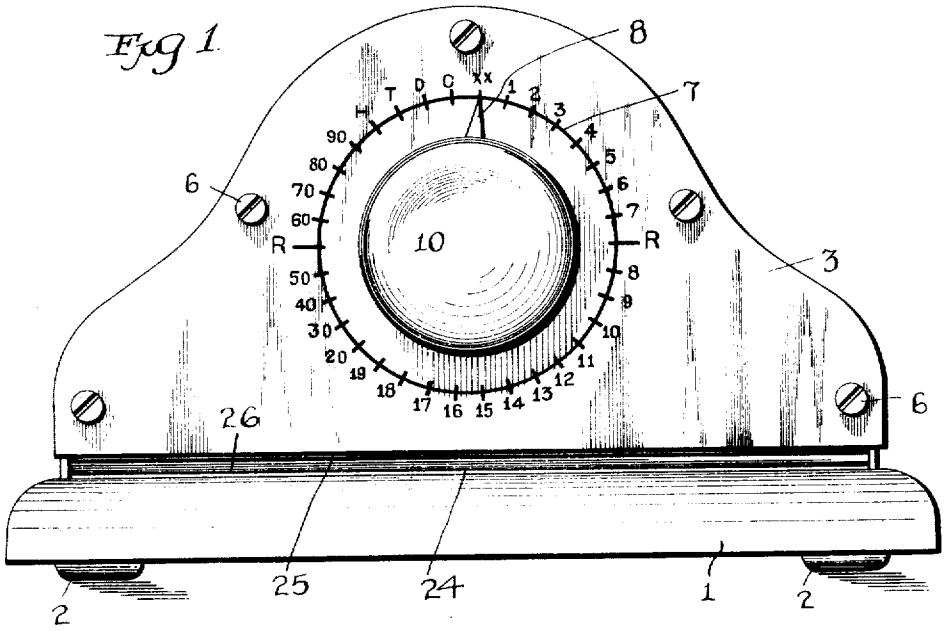
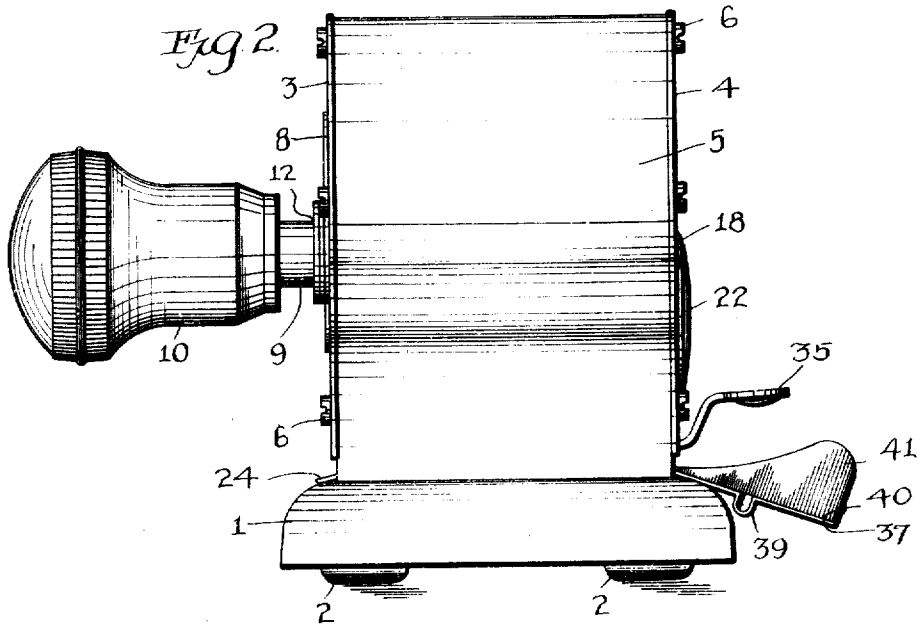


Fig 2.



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4 SHEETS—SHEET 2.

Fig. 3.

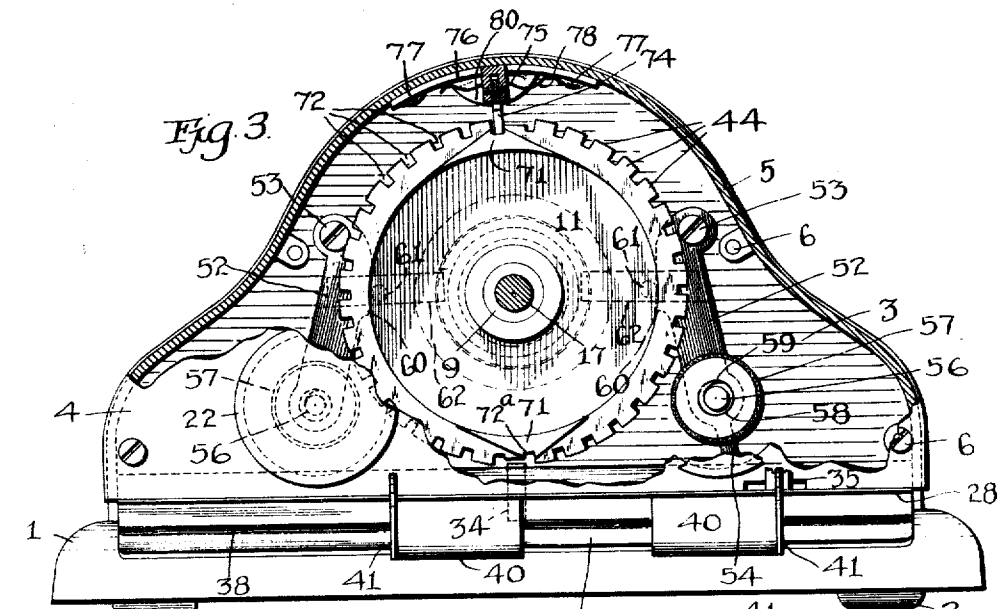
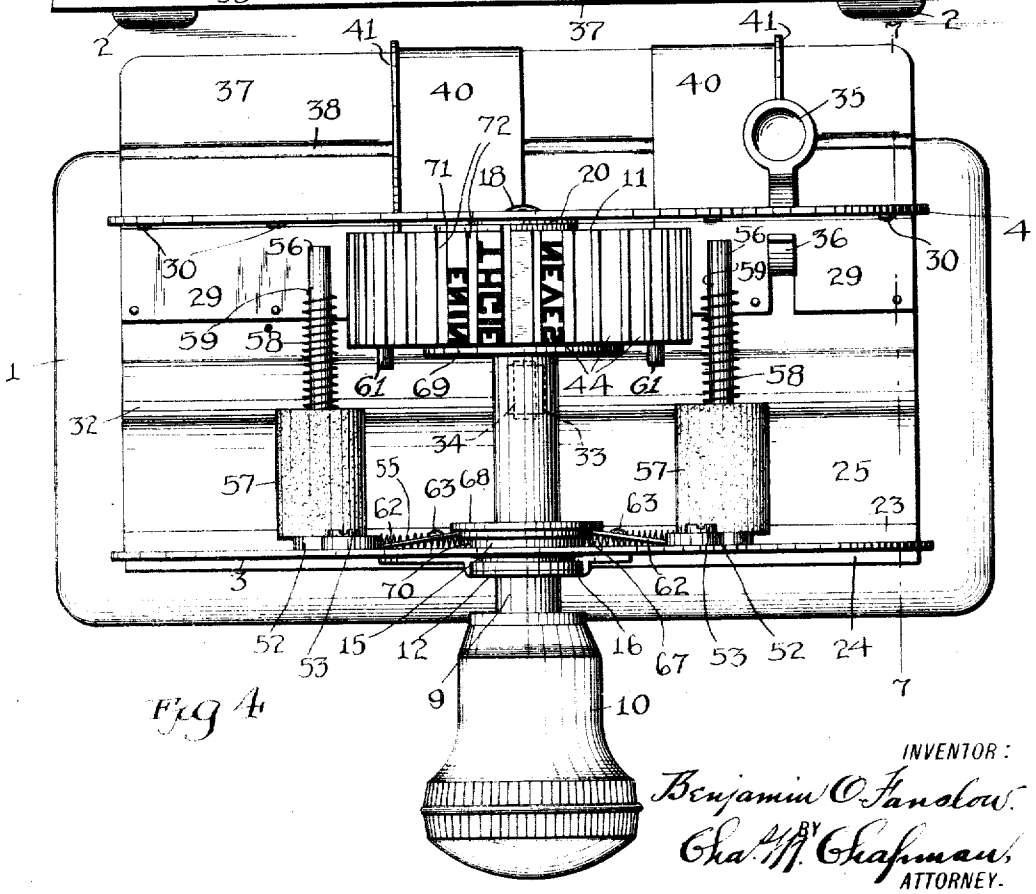


Fig. 4.



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4 SHEETS—SHEET 3.

Fig 5

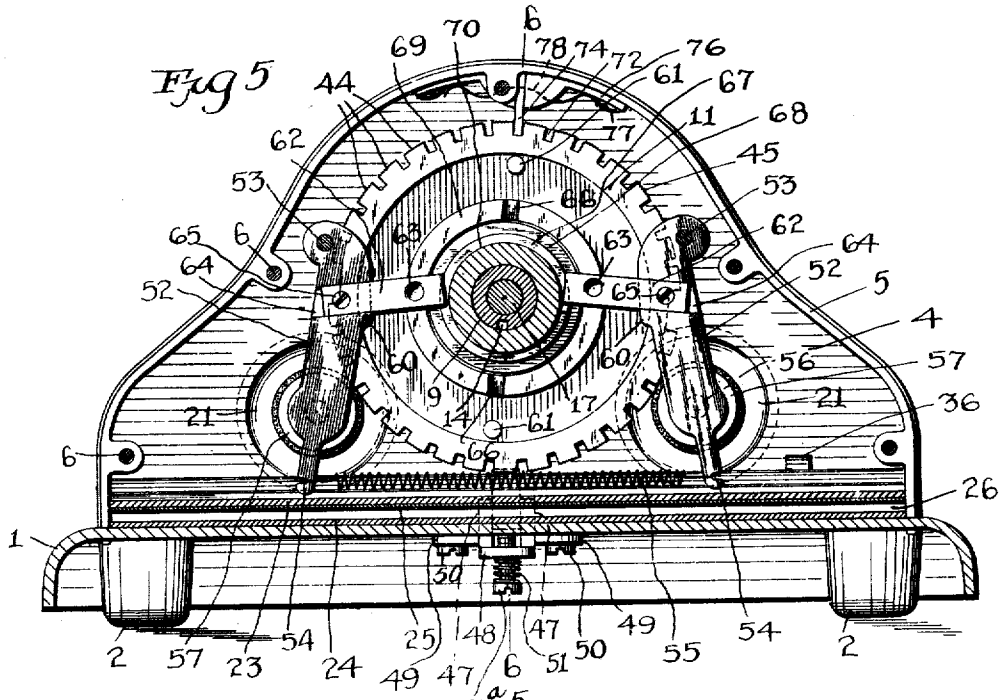
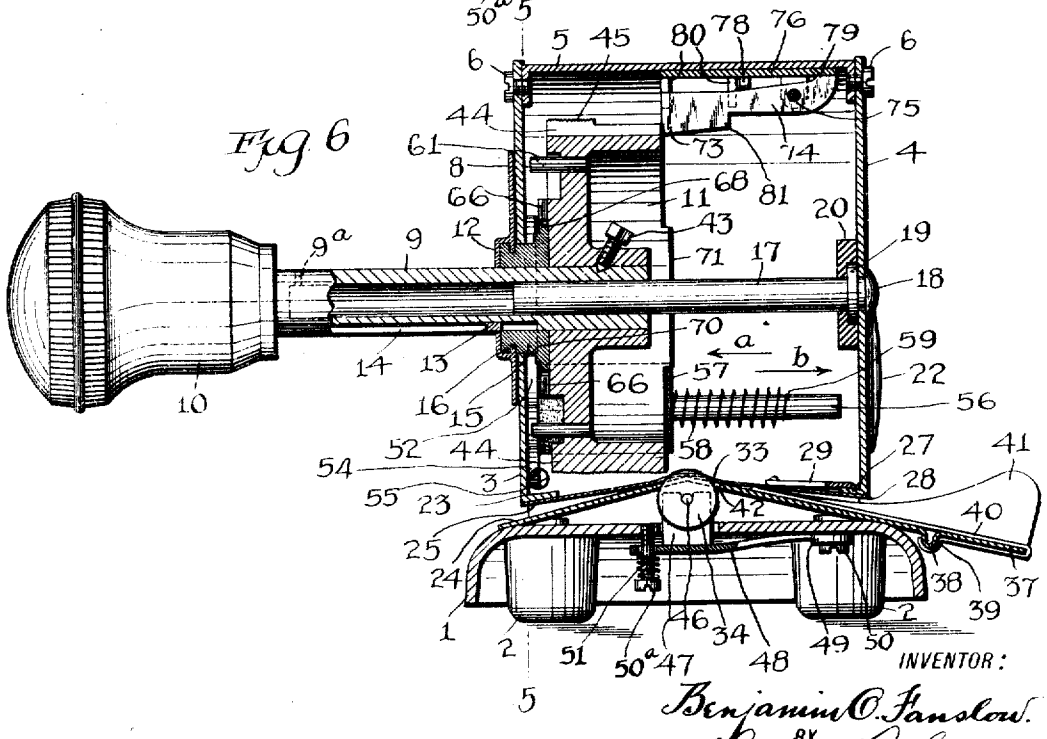


Fig 6



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4 SHEETS—SHEET 4.

Fig 7.

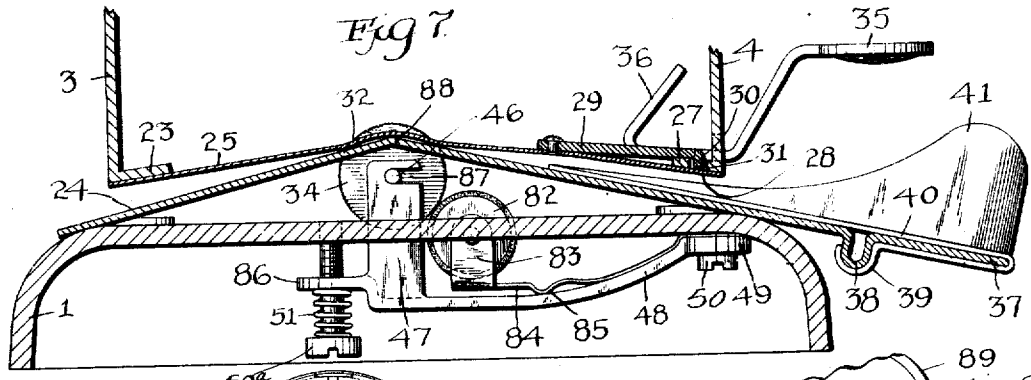


Fig 8.

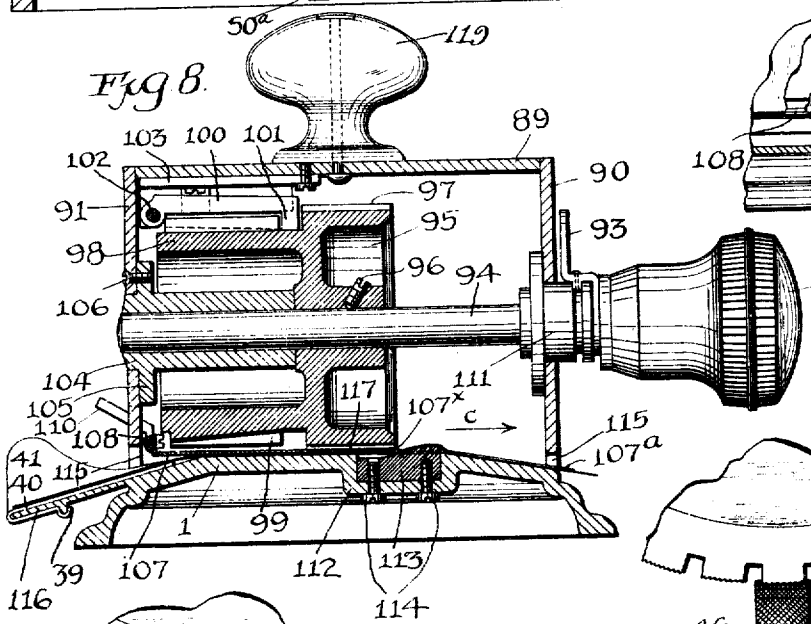


Fig 9.

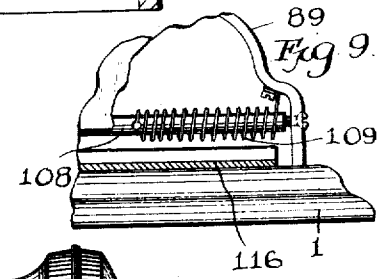


Fig 11.

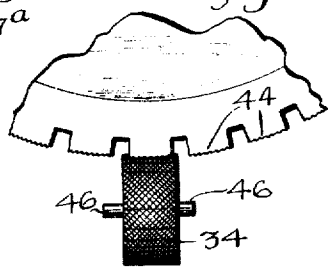


Fig 10.

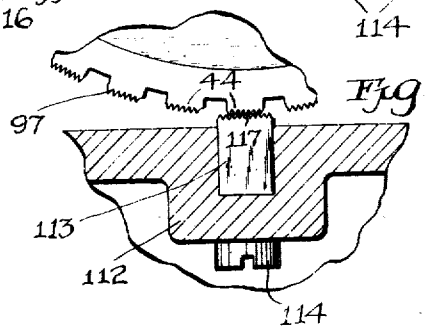


Fig 12.

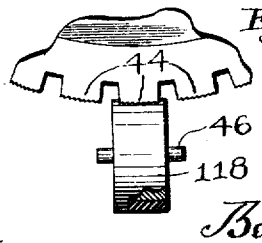
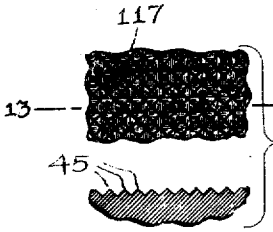


Fig 13.



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1,308,941. Specification of Letters Patent. Patented July 8, 1919.

Application filed September 13, 1916. Serial No. 119,854.

To all whom it may concern:

Be it known that I, BENJAMIN O. FANSLOW, a citizen of the United States, residing in Rye, county of Westchester, and State of New York, have invented a new and useful Improvement in Checkwriters, of which the following is a description.

This invention has reference to check protecting machines and particularly to the type of check protecting machines known as check writers.

My invention includes, among its objects, to provide a simple and effective check writer which is cheap to produce and which embodies means whereby the check may be fed variably by the coöperation of two members which are held in a normal position so as to at all times engage each other when one of the members is shifted for operation; to provide means whereby a printing wheel, having type-blocks of varying length, may coöperate with a platen normally held in position to engage the same, whereby to variably feed the check during one movement of reciprocation of the printing wheel; to provide means by which the platen may be held normally at all times in position to engage the printing wheel, and means whereby the latter may engage the platen during one movement and is enabled to avoid the platen in its other movement in returning to normal position.

With the above objects in view and others which will be detailed during the course of this description, my invention consists in the parts, features, elements and combinations thereof hereinafter described and claimed.

In order that my invention may be clearly understood, I have provided drawings wherein:

Figure 1 is a front elevation of a check writing machine embodying my invention;

Fig. 2 is an end elevation of the machine of Fig. 1;

Fig. 3 is a sectional elevation with the rear plate of the machine broken away to show details of construction;

Fig. 4 is a top plan with the top frame member removed;

Fig. 5 is a section on the line 5—5 of Fig. 6;

Fig. 6 is a section on the line 6—6 of Fig. 5;

Fig. 7 is an enlarged sectional view of the machine shown in the preceding figures on the line 7—7 Fig. 4, and illustrating an inking device for the platen;

Fig. 8 shows a form of my invention which I have found effective and of advantage;

Fig. 9 is a detail showing the means for controlling the presser and stripper of Fig. 8;

Fig. 10 is a sectional detail showing the form of platen and coöperating type wheel employed in the machine of Fig. 8;

Fig. 11 is a sectional detail of the platen and coöperating type wheel of Figs. 1 to 7, inclusive;

Fig. 12 is a view similar to Fig. 11 showing a smooth roller platen coöperating with the type wheel; and

Fig. 13 shows in plan and section on the line 13—13, the view being very much enlarged, the form of the surfaces of the type characters and platen of Figs. 1 to 7 and 11.

Referring to the drawings, the numeral 1 indicates the base of the machine which is flanged downwardly, as shown in Fig. 5, and provided with a plurality of feet or supports 2 which may be of soft material, such as raw-hide, rubber, felt or any other material found suitable for the purpose of preventing friction on the table-top or support and scratching the latter. 3 is the face-plate and 4 the back-plate of the machine, and 5 is the top frame or closure member, the same being set within the face and back plates 3 and 4 and secured thereto by screws 6, which may have their heads countersunk or partially so in the face and back-plates, respectively of the machine. The face-plate is provided with a dial of circular form, generally indicated by 7, over which the pointer 8 operates, said pointer being carried in any suitable manner by the tubular shaft 9, to which the handle 10 is connected and which shaft carries the printing wheel generally indicated by 11. The shaft 9 is provided with an air-hole 9^a to prevent resistance of air therein. The pointer 8 may be made a part of the boss 12 having a lug 13 thereon adapted to engage the longitudinal groove 14 in the tubular handle 9. A sleeve or hub 15, which may be of rubber, hide, or metal, is set within the face-plate 3 and a flange 16 on the boss 12 is set within a groove of said hub, thus holding both the boss and pointer and the hub in position on the face-plate. The hub 15 acts, at its rear end, as a buffer for the face of

the printing wheel 11, as clearly shown in Fig. 6. The tubular shaft 9 receives within its bore the guiding and supporting pin 17 which is held to the back-plate 4 of the frame by means of its headed end 18 and collar 19, a washer 20 acting as a buffer for the rear end of the hub of the wheel 11 being set to surround the pin 17 and the collar 19. The back-plate 4 is provided with a plurality of openings 21, see Fig. 5, two being shown in this instance of my invention, which are closed by the movable caps or friction plugs 22. These openings are for the purpose of removing the inking rolls presently described. The face-plate 3 is provided with an inturned flange 23 which leaves an opening or slot between the same and the base 1 of sufficient width to receive the check, a paper-support 24, and a combined presser and stripper-plate 25, said slot extending from side to side of the machine, as indicated at 26, Fig. 1. The back-plate is provided with a similar inturned flange 27 leaving a similar slot from side to side of the machine for the reception of the check, the support 24, the guide-plates 40 and the combined stripper and presser 25. The combined stripper and presser is composed of thin metal of considerable temper and flexibility and is secured to the flange 27 by frictional engagement of its rear edge 28 and a plate 29 riveted to the top of the stripper 25 and extending from end to end thereof across the machine. The said plate 29 and the stripper embrace the flange 27, and small lugs 30, see Figs. 4 and 7, carried by the plate 29, extend downwardly into apertures 31 in the flange 27, thus making a loose rocking joint between the flange 27 and the stripper. The front edge of the stripper engages the flange 23 of the front-plate 3, and, by its elasticity of flexure, is normally held in engagement with said flange. Extending longitudinally of the stripper 25 is an upwardly curved or grooved portion 32 adapted to relieve the paper of excessive pressure when placed between the same and the support 24; but, substantially centrally of the grooved portion 32 the stripper-plate is provided with an aperture 33 through which extends the platen 34, which will be presently described. A handle 35 providing a thumb or finger-piece is secured to the stripper-plate and extends through the back-plate 4, or a vertical slot therein; and, the plate 29 is provided with an upstanding and rearwardly curved lug 36 positioned to engage the inner surface of the back-plate which latter operates as a stop against further flexure of the stripper-plate, which may be produced by depressing the handle 35. Thus, the stripper-plate may be so flexed as to relieve pressure of its central, longitudinal, grooved portion upon the surface of the check at the point of coöperation of the platen 34 therewith, it being understood that the normal tendency of the plate is to spring upwardly so as to make its forward end engage the inturned flange 23, and it being also understood that, when the plate is flexed, as just described, its central, grooved portion will be lifted without causing the front edge to slide beyond the holding range of the said flange 23. The support 24, at its rear edge extends from the frame of the machine a considerable distance, as shown in Figs. 2, 6 and 7, the extension being indicated by 37, in which, or on which, is provided a flange 38 for the engagement of the curved member 39 of each of two angular guides 40, which, by the connection shown, are enabled to slide relatively to, and on, the extension 37 of the guide-plate. The upstanding portions 41 of the guides enable the thumb and finger to slide the same on the support, so as to separate the said guides a distance corresponding with the width of the check, and also to set the said guides on the support in the proper position relatively to the printing line or position of the printing-wheel. The guides 40 extend into the machine almost to the platen, which latter operates through an aperture 42 in said support, see Fig. 6, corresponding with the aperture 33 in the stripper-plate.

The printing couple consists of the printing-wheel 11 and the platen 34; and, as shown, the printing-wheel is fixed in any suitable manner upon the tubular shaft 9, as by a screw 43 passing through the hub of the wheel and spotted in the tubular shaft 9. On its circumference, the printing wheel is provided with a plurality of equi-distantly spaced type blocks 44, said blocks being of varying lengths corresponding to the various words and characters to be printed upon the check, said words being indicated by the numerals on the dial of Fig. 1. As will be readily understood, the printing wheel 11 is twirled or rotated by the handle 10 to position any one of the type blocks 44 in printing position or coöperative relation to the platen 34. As shown in Figs. 10 to 12 the surface of the type blocks, and consequently the surface of the type characters, and the surface of the platen are correspondingly scored with criss-crossed ridges and grooves to provide approximately diamond-shaped points 45 of minute character, and the depth of the openings between the points can be made greater or less, according to the ink-carrying capacity desired. The platen consists of a roller, as shown in Figs. 6, 7, 11 and 12, the surface of which is provided with diamond-shaped points, and this roller is made of metal so as to maintain more or less permanently the diamond-shaped points for co-operation with the depressions between the diamond points of the type blocks 44. The

platen is provided with oppositely extended journal-pins 46, which, in this instance of my invention, may be dropped into recesses in upstanding lugs or ears 47 carried by the spring-plate 48, secured by means of laterally extending ears 49 and screws 50 to the bottom of the bed 1, see Figs. 5 and 6. The normal tendency of the said plate 48 is to depress or drop the platen 34 from coöperation with the surfaces of the type blocks 44; but, to hold the platen in proper coöperation relative to the type blocks, the forward end of the plate 48 is provided with an aperture through which the screw 50^a extends, and which, at its upper end, is screw-threaded into the bed. A spring 51 surrounding the screw 50^a, and at one end engaging the head thereof, normally tends to press upon the bottom of the plate 48 and lift the platen into the coöperative position shown in Fig. 6. As shown in Fig. 6, it will be seen that the surface of the type blocks, when in printing position, is slightly below the highest portion of the circumference of the platen, thus enabling the blocks to engage the paper between the same and the platen a substantial distance in advance of the highest portion of said platen surface. This enables a sufficient feed movement to be given the paper before the printing actually begins, to provide a space between adjacent words the printing taking place when the surface of the printing blocks is in full engagement with the surface of the platen substantially at its highest point. It will now be understood that the printing wheel is given a right-line movement parallel with its axis of rotation for both feeding and printing the paper in coöperation with the roller platen; and, it will also be understood that, during the printing operation, the points 45 of the type blocks and the points on the surface of the platen coöperate so as to perforate the paper in separated spots and to simultaneously crush the surrounding portions of the paper by reason of the pressure imposed upon the paper from opposite sides by the type blocks and the platen. To avoid excessively crushing the surface of the paper along the printing lines, the platen is made yielding, as previously described, and the requisite pressure is imposed upon the platen by adjustment of the screw 50^a, which regulates the tension of the spring 51 upon the bottom of the spring-plate 48.

In order that the surface of the paper along the printing line may be inked simultaneously with the feed thereof through the machine and the maceration of the printing line, inking means for the type-blocks are provided, as shown in Figs. 3 to 6, inclusive. Referring to Figs. 4 and 5, it will be seen that levers 52 are pivoted at 53 at their upper ends to the front-plate of the machine, said levers, at their lower ends, being provided with hooks or apertures 54, for the reception of loops on the opposite ends of a spring 55, the normal tendency of which is to draw the levers together. Above the hooks, each of the levers 52 is provided with a spindle 56 upon which freely slides and rotates an inking roller 57, the latter being held in its foremost position, as shown in Fig 4, by the coiled spring 58 surrounding the spindle 56 and held in position on the latter by means of the inturned end 59 of the spring, which frictionally engages the spindle and prevents the spring from sliding thereon without considerable pressure. By this means, the spring may be adjusted on the spindle, so as to hold the roller thereon in the proper position and to prevent said roller from being jarred or otherwise caused to leave its proper position at the face-plate of the machine. Each of the levers 52 is also provided with a cam 60 adapted to engage one or the other of the pins 61, carried by the printing wheel on its forward end, said pins, in the rotation of the printing wheel, being adapted to simultaneously engage the cams 60 and spread the levers so as to shift the inking rollers from engagement with the surface of the printing wheel against the tension of the spring 55. Each of the levers 52 is also provided with a spring-plate 62 provided on its back with a teat 63, and held upon the lever in proper position by fitting tightly in the groove 64, and by means of the screw 65. The teats 63 are adapted to engage the recesses or grooves 66 in a rim of the printing wheel, when the latter is rotated, to bring the same into proper position. The normal tendency of the spring-plates 62 is to spring rearwardly, as shown in Fig. 4, and ride on the collar surface 67 and against the flange 68. When the printing wheel is drawn forward to the position of Fig. 6, the rim portion 69 of the printing wheel containing the recesses 66 will engage the teats 63 and push the spring-plates 62 forward so as to shift them from the collar surface 67, thus permitting the spring 55 to operate upon the levers 52 to press the inking rollers against the circumference of the printing wheel and thus cause the inner ends of the spring-plates 62 to engage the collar surface 70 in front of the collar surface 67. When the printing wheel is rotated to ink the type-blocks and to obtain a return position, the pins 61 will engage the cams 60 to press the inking rollers away from the surface of the printing wheel and the spring-plates will snap into the position shown in Fig. 4 and cause the teats thereof to enter the recesses 66, before the printing wheel is moved into the position of Fig. 4. This enables the inking rollers to be removed from contact with the surface of the printing wheel before the latter is started in its right-line movement

to shift the same from the front position of Fig. 6 to the rear position of Fig. 4, in which latter position the printing wheel may be rotated freely to position any desired type-block in printing position.

The rear end of the printing wheel is provided with a plurality of cams 71 oppositely disposed, as shown in Fig. 3, and the upper middle portion of each of which cams is provided with a notch 72^a corresponding with a notch between two type-blocks, it being understood that the type blocks are individual and separated by grooves 72 extending from end to end of the printing wheel. The notch in each cam is adjacent a shallow type block devoid of printing characters, enabling the printing wheel to be shifted from front to rear of the machine without engaging the platen or the paper extended thereover. These blank blocks and the cam apexes are thus related, see Fig. 3, to provide an abrupt stop to the rotation of the printing-wheel in the forward position as a preliminary to the shifting of the printing wheel to the rear position, the wheel thus being brought to a stop always at a blank which enables the wheel to be shifted. Other cams and blanks may be provided to give more return points for the wheel. The surfaces of the cams 71 are adapted to cooperate with the lower forward end or toe 73 of an enlargement of a lever 74, pivoted at 75 in the ears of the plate 76, at the top of the cover 5 of the frame of the machine, the said plate being secured to the machine-frame by screws 77. A spring 78 is interposed between the lever 74 and the supporting-plate 76 to normally press the lever downwardly and hold the same in the position shown in Fig. 6, the downward movement of the lever being limited by the rear end lug 79, which engages the said supporting-plate 76. Guiding lugs or ears 80 prevent the lever from having lateral movement and hold it to operate in a fixed plane relatively to the printing wheel, so that it will always drop into a notch 72^a at the proper time. The rear end of the enlarged portion of the lever 74 is provided with a heel 81 which is higher than the toe 73. Thus, when the printing wheel has been drawn to the forward position shown in Fig. 6, the toe 73 of the lever will drop behind the wheel below the bottom of any one of the grooves 72 and prevent the wheel from being returned to the position of Fig. 4 until one or the other of the cams 71 has lifted the said lever, so that the toe 73 may enter one of the notches 72^a.

It will now be understood that the printing and feeding is in a right line indicated by the arrow *a*, Fig. 6, and that, when the printing wheel has reached the position of Fig. 6, the inking rolls will be in engagement with the printing wheel, as shown in Fig. 5, since the spring-plates have been forced forwardly from the position of Fig. 4 to that of Figs. 5 and 6, by engagement of the portion 69 of the printing wheel with the said plates. The spring 55 now holds the inking rolls against the circumference of the printing wheel and the locking lever 74 has dropped, under the influence of the spring 78, in position to hold the printing wheel forward and prevent it from being moved rearwardly without twirling it considerably. The extent to which the wheel may be twirled is limited only by the position of the cams 71, one or the other of which will engage the toe 73, and lift the latter gradually until the center notch 72^a thereof, corresponding to a groove 72, is reached, when the locking lever will drop into the notch of the cam 71 and a portion of the registering groove 72, in the surface of the printing wheel between two adjacent blocks, as shown in Figs. 3 and 5. This position is indicated on the dial at the opposite points R R, (return) and, when the pointer reaches either one or the other of said return positions, the locking lever will prevent the printing wheel from being turned farther. When the locking lever drops into the notch of the cam 71, inward pressure on the handle 10 will enable the printing wheel to be shifted from the front to the rear of the machine, and, during such shifting movement, the inking rollers are free of the circumference of the printing wheel, so that no drag or friction between the two is permitted. The shifting of the inking rolls from the circumference of the printing wheel was produced during the rotation of the printing wheel in its forward position to find a return slot, the shifting being caused by engagement of the opposite pins 61 with the opposite cams 60 of the levers 52, which separated the inking rolls from the printing wheel and enabled the spring-plates 62 to snap into engagement with the collar surface 67 and the teats 63 to enter the opposite grooves 66 in the extended portion 69 of the printing wheel. The printing wheel having been moved rearwardly, or in the direction of the arrow *b*, Fig. 6, to the position of Fig. 4, in which position the enlarged end of the locking lever 74 will have had its heel end pass entirely through the groove between two type-blocks 44, the locking lever, under the impulse of the spring 78, will now drop downwardly in front of the printing wheel, thus enabling the latter to be rotated or twirled by the handle 10 to any extent desired to set any one of the type blocks in printing position. Inasmuch as the heel 81 of the enlarged end of the locking lever 74 is higher than the toe 73, the printing wheel can be moved toward the front of the machine for feeding and printing purposes any time a groove between printing blocks is

made to register with the head of the locking lever, as will be readily understood, the raised heel 81 of the lever offering no obstruction to the movement of the printing wheel, and the latter in consequence being capable of being moved forward readily and without any impediment. As the printing wheel reaches the forward position of Fig. 6, the portion 69 thereof will engage the teats 63 of the spring-plates 62, thus shifting the latter from the collar portion 67 and enabling the spring 55 to draw the inking rollers into engagement with the printing wheel. Any portion of the check can be written upon by properly shifting the guides 40 and the paper can be readily slid into the machine over the guides 40 by depressing the finger-piece 35 and bowing or lifting the stripper and presser-plate along the groove 32 from coöperation with the platen 34. When the paper has been entered sufficiently in the machine,—and it may be slid forward until its front edge is seen at the front of the machine through the slot 26,—the finger-piece 35 will be released, whereupon the paper will be firmly pressed by the stripper and presser-plate about the circumference of the roller platen 34 and will be held from ordinary jars or accidental movement of the machine.

From the foregoing it will be understood that the primary characteristic of my machine is that the printing wheel is confined to rotate upon or with its axis and to right-line reciprocations from front to rear of the machine; and that the printing and feeding operations take place during one movement of the right-line reciprocations, while the type-setting operation is the result of the twirling or rotary movement given to the printing wheel in its rear position. Neither the platen nor the printing wheel is given a movement at a right-angle to its axis. The printing results from the inking of the printing wheel, and the contact of the platen in engagement with the printing wheel.

In Fig. 7 I have shown a means by which the roller platen 34 is inked by an inking device 82 in the form of a roller journaled in the ears 83 of a spring support 84 having the teat or bend 85 to aid in giving resiliency, the said support being secured at its rear end by the screws 50, which secures the platen support 48 in position. In this form of my invention, the platen support is bowed downwardly more than that shown in Fig. 6, and the upstanding ears 47 are, in consequence, slightly longer. The end of the support 48 is also offset as at 86, and the spring 51 engages the same and the head of the screw 50^a in the same manner as described with reference to Fig. 6. The platen 34 has its journals 46 retained in the upper end of the ears 47 at the end of the open end slots 87 by means of the inking roller 82, which is so located as to bear with light pressure and yieldingly upon the circumference of the platen below and in rear of the journal of the latter. Obviously, any adjustment of the platen support 48, through the medium of the screw 50^a and spring 51, will carry with it the inking roller support 84. In this view the operation of the parts will be readily understood with reference to the mode in which the presser and stripper engage the paper as it passes over the support 24 of the guiding means; that is to say, support 24, at its longitudinal center, is provided with the ridge 88 which coöperates with the bowed portion 32 of the stripper-plate 25. Both these members, as before noted, have the platen 34 projecting through their central apertures 42 and 33, respectively, and coöperate to bend the paper slightly over the periphery of the platen and at the same time impose just sufficient friction upon the paper along the ridge 88 and groove 32 to prevent the same from moving freely, thus avoiding overthrow in the feeding of the paper through the machine when the printing wheel is given its right-line movement in the direction of the arrow *a*, Fig. 6.

A form of machine which I have found effective is shown in Fig. 8, wherein the top frame member is indicated by 89, the face-plate by 90, back-plate by 91, the handle by 92, pointer by 93 and the wheel carrying shaft by 94, the wheel 95 being secured thereto by the spot-screw 96, so that manipulation of the shaft by the handle 92 will cause the printing wheel to be rotated and also reciprocated in a right-line. The type blocks 97 are disposed about the circumference of the printing wheel in manner similar to that of Figs. 5 and 6; but, the printing wheel in this form is provided with the rear barrel extension 98, in which is formed a series of grooves 99 deeper at the front end than at the rear end, said grooves being formed by cutting down the wheel or applying thereto a plurality of blocks. The catch lever 100 provided with an angular head 101 and pivoted at 102 to a supporting bracket 103, secured to the top frame member 89, coöperates with the blocks and the grooves therebetween to either prevent or permit the reciprocation of the printing wheel. The back-plate 91 of the machine supports the tubular bearing 104 by means of the flange 105 secured to the back-plate by a plurality of screws 106, said bearing receiving the rear end of the shaft 94 and being encircled by the barrel extension 98 of the printing wheel. The length of the sleeve bearing 104 is sufficient to stop the rearward movement of the printing wheel at the proper point and prevent the shaft 94 from projecting beyond the back of the machine. In this form of my invention the presser and stripper is

a flat plate 107 with a forward inclined portion 107^a, and is supported upon the bar 108 journaled in opposite sides of the machine as suggested in Fig. 9, and normally caused to turn so as to depress the stripper plate upon the bed-plate 1, over which the paper passes to the printing wheel, by the coiled spring 109 surrounding said shaft 108, and connected thereto at one end and to the frame at the other. The spring 109 gives proper tension to the stripper-plate. The handle 110 enables the stripper-plate to be lifted by turning the shaft 108 against its spring control. The bushing or bearing 111 for the shaft 94 may be in all material respects substantially the same as that shown in Fig. 6; and the front-plate of the machine is provided with a dial having the proper indicia corresponding to the characters on the type bars 97.

In this form of my invention, the base 1 of the machine has a pocket or depression at 112 in which a stationary metal platen 113 is set by means of screws 114, the surfaces of the platen and type blocks being provided with parallel ridges and grooves extending lengthwise of the platen and of said characters, and parallel with the axis of the printing wheel. This form of platen and printing characters is shown in Fig. 10. The stripper plate 107 is provided with a transverse slot 107^x long and wide enough to permit the passage of any of the type-blocks on the printing wheel and receive the platen 113. By this means the paper is pressed upon the platen and held thereto with sufficient friction to enable the type-blocks to perform their functions of feeding and printing and, in combination with said platen, slitting, cutting or macerating the paper. The face-plate and back-plate of the machine are each provided with a slot 115 extending from side to side of the machine just above the base to provide an inlet and outlet for the paper, to enter the latter into the machine and feed the same through the machine. The rear portion of the base of the machine is provided with an extension 116 upon which the guides similar to 40—41 are secured and are slidable, as by the means 39 similar to that shown in Fig. 6.

The operation of this form of my invention is that by twirling the handle 92, shaft 94, and printing wheel 97, the type blocks may be set, according to the dial and pointer, in position to coöperate with the platen, and this either before or after the paper has been inserted in the machine. Inasmuch as the grooves 99 are deeper adjacent the printing blocks of the printing wheel, the catch 101 will slide thereinto when the printing wheel is drawn forward to print and feed the check; and the slots in which the catch 101 operates are sufficiently short to enable said catch to emerge from the rear end of said slots when the printing characters have performed their functions of feeding and printing. The catch 101, therefore, drops from the bottom of a groove onto the periphery of the end of the barrel and the wheel can not be returned to the position of Fig. 4 until a neutral or return slot has been caused to register with the catch, permitting it to pass into one of the grooves, such return groove being deep enough to permit the entrance of the latch end 101 for the return movement of the printing wheel. Viewing Fig. 8, it will be seen that the highest portion of the platen 113 is above the lowest portion of the type block in coöperative relation thereto. The result of this arrangement is that, when the printing wheel is moved in the direction of the arrow *c*, for printing and feeding the paper, the feed of the latter will take place slightly in advance of the printing and before the highest portion of the platen coöperates with the lowest portion of the type block coöperating with it. Thus the initial feed for spacing is produced, as has been described with reference to the roller platen of Fig. 6. Since the ridges and grooves 117 in the type characters and platen are parallel with the shaft 94, Figs. 8 and 10, the paper will be crimped or cut lengthwise of the word or character printed, and, owing to the pressure between the printing and feeding couple, the fiber of the paper will be macerated and the ink applied to the surface of the printing characters will be thoroughly embedded in the macerated paper along the entire length of the word printed.

In the details of Figs. 11, 12 and 13, I have shown different forms of roller platen and coöperating type characters. In Fig. 11, the roller platen is the one shown at 34, Fig. 6, is made of metal and its entire circumference is milled, scored or grooved in criss-cross manner, so as to produce the diamond-shaped projections 117 shown in Fig. 13. In Fig. 12, however, the roller platen 118 is made of hard rubber, raw-hide, or other composition or with a comparatively soft and yielding surface of said materials. In both instances of the roller platens, the coöperating faces on the type blocks of the printing wheel are grooved and scored to produce the diamond-shaped points shown in Fig. 13. It has been found in practice that this form of surface for the printing couple is very effective, produces a plurality of almost indiscernible punctures in the paper and crushes the paper around and about the said punctures; and this crushing action can be regulated by adjusting the pressure of the platen against the surfaces of the printing blocks, as has been described. A handle 119 may be used to hold the machine.

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

1. In a check protecting machine, in combination, a printing wheel mounted to rotate axially and reciprocate in a right-line parallel to its axis; means by which said movements may be given the wheel; a platen mounted to aid the wheel in feeding the paper; means for holding the platen at all times in position to engage the printing surfaces of the wheel during a movement of its reciprocation; and means enabling the wheel to be given its other movement of reciprocation without engaging the platen.

2. In a check protecting machine, in combination, a printing wheel mounted to rotate axially and reciprocate in a right-line parallel to its axis; means by which said movements may be given the wheel; a platen mounted to aid the wheel in feeding the paper; means for yieldingly holding the platen at all times with a portion of its surface in the plane of operation of the printing surface of the wheel during a movement of its reciprocation; and means enabling the wheel to be given its other movement of reciprocation without engaging the platen.

3. In a check protecting machine, in combination, a printing wheel mounted to rotate axially and reciprocate in a right-line parallel to its axis; a single means by which said movements may be given the wheel; a platen mounted to aid the wheel in printing the paper; means for holding the platen at all times with a portion of its surface in the plane of operation of the printing surface of the wheel during a movement of its reciprocation; and means enabling the wheel to be given its other movement of reciprocation without engaging the platen.

4. In a check protecting machine, in combination, a printing wheel mounted to rotate axially and reciprocate in a right-line parallel to its axis; means by which said movements may be given the wheel; a rotary platen mounted to aid the wheel in printing and feeding the paper; means for holding the platen at all times with a portion of its surface in the plane of operation of the printing surface of the wheel during a movement of its reciprocation; and means enabling the wheel to be given its other movement of reciprocation without engaging the platen.

5. In a check protecting machine, in combination, a printing wheel having on its circumference a plurality of type-blocks of varying length, said wheel being mounted to rotate and to reciprocate parallel with its axis; and a platen mounted in advance of the wheel, to coöperate with the type-blocks thereon, and with a portion of its surface always in the plane of operation of said wheel, whereby, during a movement of reciprocation of the wheel, the paper may be fed between the platen and a type-block, a distance slightly greater than the length of said type-block.

6. In a check protecting machine, in combination, a printing wheel having a plurality of type-blocks of varying lengths, and mounted to rotate and to reciprocate in a right-line parallel with its axis; and a roller platen mounted relatively to the printing-wheel in advance of the latter, with a portion of its surface always in the plane of operation of said wheel, so as to give to the paper a feeding movement slightly in excess of the length of the type-block coöperating with it.

7. In a check protecting machine, a rotary printing wheel mounted so as to reciprocate in right-lines parallel with its axis; inking mechanism coöperating with the printing-wheel; and means whereby the inking mechanism will be moved from engagement with the printing-wheel during the reciprocating movements of the latter.

8. In a check protecting machine, in combination, a rotary printing-wheel, mounted to reciprocate in right-line between the back and front of the machine; inking mechanism normally coöperating with the printing-wheel at one extreme of its movement; and means whereby the inking means will be removed from engagement with the printing-wheel during its reciprocating movements.

9. In a check protecting machine, in combination, a rotary printing wheel, mounted to have right-line reciprocations parallel with its axis; a platen mounted to be at all times in coöperative relation to the printing surfaces of the wheel; and means whereby, during one movement of reciprocation, the printing wheel will coöperate with the platen to feed the paper from back to front of the machine.

10. In a check protecting machine, in combination, a printing-wheel mounted to rotate and to have right-line reciprocations; means for locking the printing-wheel from right-line movement at one extreme of its reciprocation, and permitting the right-line movement of the wheel from its other extreme of reciprocation.

11. In a check protecting machine, in combination, a printing-wheel mounted to rotate and to reciprocate parallel with its axis; and means for automatically locking the wheel from right-line movement at one extreme of the latter and permitting it to move from the other extreme of its right-line movement.

12. In a check protecting machine, in combination, a printing wheel mounted to rotate and to have right-line reciprocations parallel with its axis; means enabling the wheel to be rotated only at its two extremes of right-

line movements; and means to lock the printing-wheel at one extreme of its right-line movements.

13. In a check protecting machine, in combination, a printing wheel mounted to rotate and to reciprocate in right-lines to feed the check; a platen for coöperating with the printing-wheel; a paper support coöperating with the platen; a stripper also coöperating with the platen; and means whereby the paper to be printed is yieldingly held by the support and stripper, bent over the surface of the platen in position to be engaged and fed by the printing-wheel, during one of its right-line movements.

14. In a check protecting machine, a printing wheel, provided with type-blocks of varying length, mounted to rotate and to reciprocate between the back and front of the machine; a platen and means for holding the same at all times in position to engage the printing surfaces of the wheel during a movement of reciprocation of the latter; the mounting of the platen being midway between the two extremes of reciprocation of the wheel and with a portion of its surface normally in advance of the wheel when the latter is in its rearmost position, whereby the paper may be fed variably during printing operations.

15. In a check protecting machine, a printing wheel, provided with type-blocks of varying length, mounted to rotate and to reciprocate between the back and front of the machine; a platen and means for yieldingly mounting the same so as to be at all times in position to engage the printing surfaces of the wheel during a movement of reciprocation of the latter; the mounting of the platen being midway between the two extremes of reciprocation of the wheel and with a portion of its surface normally in advance of the wheel when the latter is in its rearmost position, whereby the paper may be fed variably during the printing operation.

16. In a check protecting machine, a printing wheel, provided with type-blocks of varying length, mounted to rotate and reciprocate between the back and front of the machine; a rotary platen and means for holding the same at all times in position to engage the printing surfaces of the wheel during a movement of reciprocation of the latter; the mounting of the platen being midway between the two extremes of reciprocation of the wheel and with a portion of its surface normally in advance of the wheel when the latter is in its rearmost position, whereby the paper may be fed variably during the printing operation.

17. In a check protecting machine, a support for the check over which it may be fed; a platen and means for holding the same so as to at all times project through the support; a printing wheel, provided with type-blocks of varying length, journaled to rotate above said support and to move over and in engagement with said platen; and means whereby the wheel may be moved from one side to the other of the platen in engagement with the latter to print and variably feed the check according to the character printed.

18. In a check protecting machine, a support for the check over which it may be fed; a rotary platen and means for mounting the same in the support so that it shall at all times project through the latter; a printing wheel, provided with type-blocks of varying length, journaled to rotate above said support and to move over and in engagement with said platen; and means whereby the wheel may be moved from one side to the other of the platen in engagement with the latter to print and variably feed the check according to the character printed.

19. In a check protecting machine, a support for the check over which it may be fed; a platen and means for yieldingly mounting the same in the support so that it will at all times project through the latter; a printing wheel, provided with type-blocks of varying length, journaled to rotate above said support and to move over and in engagement with the said platen; and means whereby the wheel may be moved from one side to the other of the said platen in engagement with the latter to print and variably feed the check according to the character printed.

20. In a check protecting machine, a support for the check over which it may be fed; a platen and means for mounting the same in the support so that it will at all times project through the latter; a printing wheel, provided with type-blocks of varying length, journaled to rotate above said support and to move over and in engagement with said platen; and means whereby the wheel may be moved from one side to the other of said platen in engagement with the latter to feed the check a distance greater than the length of the character printed.

21. In a check protecting machine, a printing wheel having characters of different length on its periphery; means for mounting said wheel so that it may be rotated and reciprocated; a platen and means for mounting the same in advance of the rearmost position of the wheel and so that it may at all times project normally in the path of reciprocation of the wheel; and means whereby the wheel may be rotated and moved from rear to front of the machine and thereby caused to feed the check over the platen variably according to the length of the character in printing position plus a spacing distance.

22. In a check protecting machine, a printing wheel having characters of different length on its periphery; means for mounting said wheel so that it may be rotated and reciprocated; a platen and means for mounting the same between the front and back of the machine and in position so that it will at all times project in the path of reciprocation of the wheel; and means whereby the wheel may be rotated and moved from one side to the other of said platen and thereby caused to feed the check over the platen variably according to the length of the character in printing position plus a spacing distance.

23. In a check protecting machine, a printing wheel; means for rotating and reciprocating said wheel; a platen mounted to coöperate with the wheel; inking means mounted to coöperate with the printing wheel; means for holding the inking means in contact with the wheel during rotary movements of the latter and for removing the same from contact with the wheel during its reciprocating movements.

24. In a check protecting machine, a printing wheel; means for rotating and reciprocating said wheel; a platen mounted to coöperate with the wheel; inking means mounted on opposite sides of the printing wheel; means for holding the inking means in contact with the wheel during rotary movements of the latter and for removing the same from contact with the wheel during its reciprocating movements.

25. In a printing machine, means for printing and feeding a check, including a printing wheel and a platen; a support for the platen; and means for inking the platen and for holding the same in its support.

26. In a check printing machine, a frame having a check support projecting from the back thereof and extending through the machine and projecting from the front thereof; an adjustable gage on said support at the back of the machine; and a presser and stripper coöperating with said support and extending from the back to the front of the machine for holding the check upon the support.

27. A check protecting machine comprising a frame having a guideway therethrough for the passage of a check; a dial on the front of the frame; a shaft mounted in the frame above the guideway and carrying a printing wheel; means permitting the wheel to be rotated and reciprocated on the shaft; a pointer at the front end of the shaft mounted to rotate with the wheel and cooperate with the dial, whereby to place in printing position the desired printing character.

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