No. 841,201. PATENTED JAN. 15, 1907.

C. A. WELLMAN.

MAIL BOX.

APPLICATION FILED MAY 19, 1906.

4 SHEETS—SHEET 1.

Fig. 1.

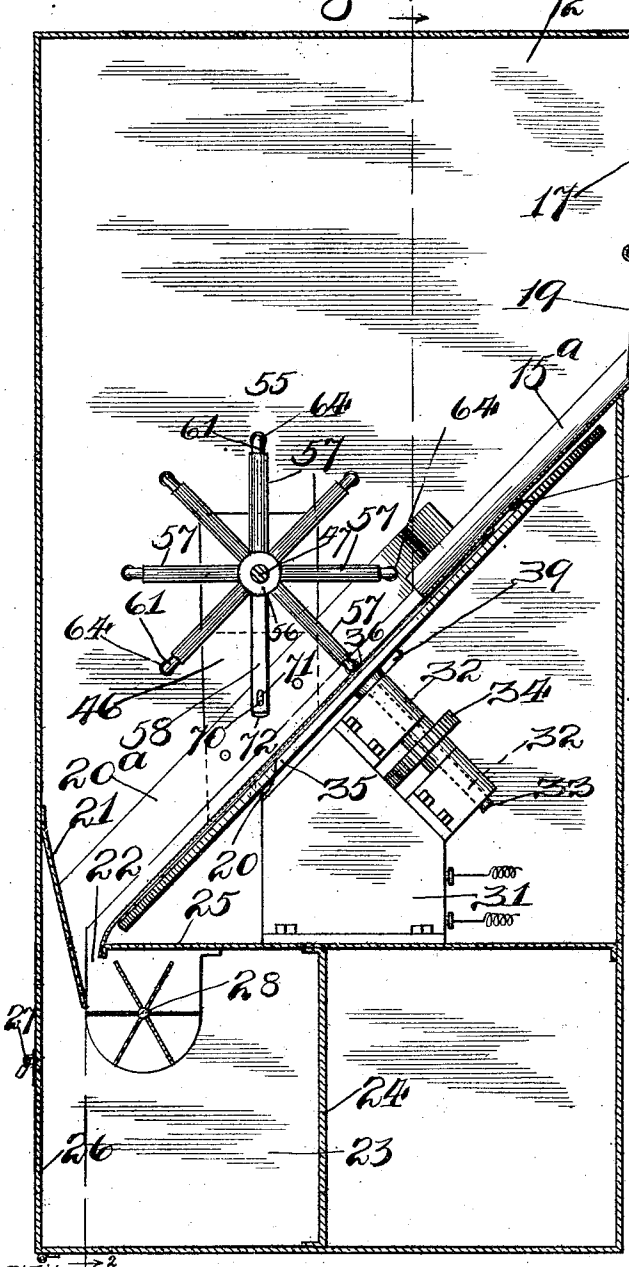


Fig. 10.

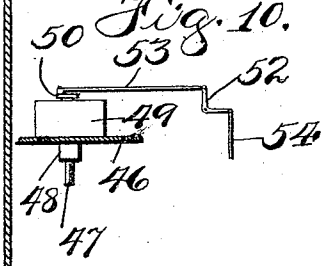
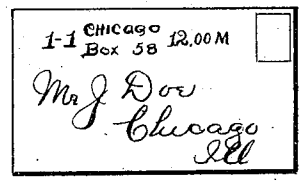


Fig. 11.



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THE NORRIS PETERS CO., WASHINGTON, D. C.

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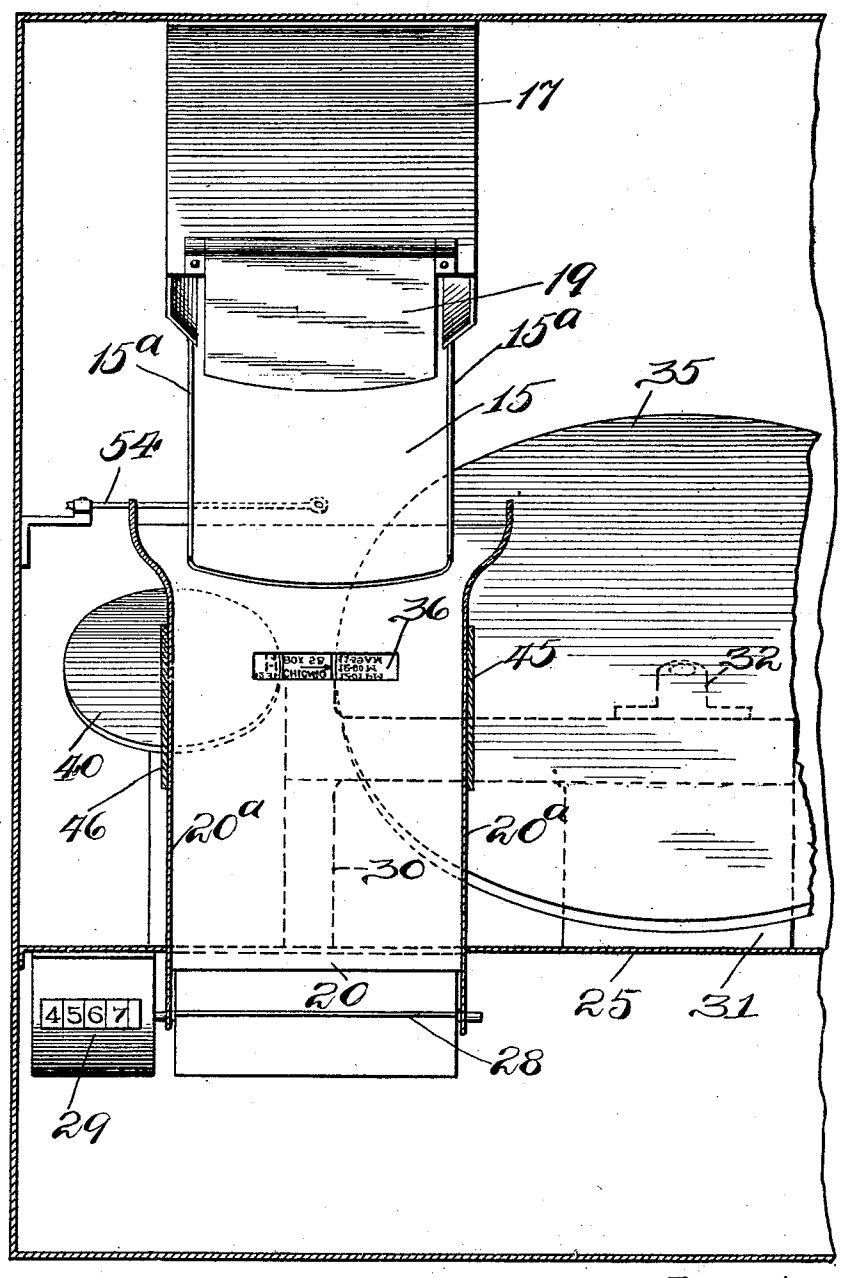
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4 SHEETS—SHEET 2.

Fig. 2.



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4 SHEETS—SHEET 3.

Fig. 3.

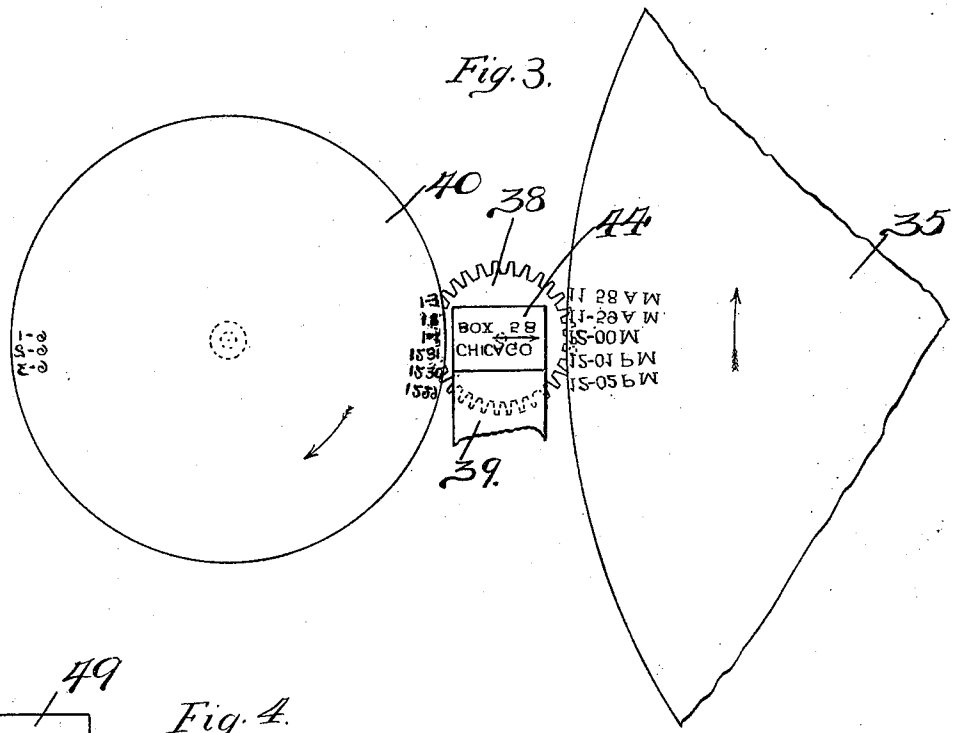
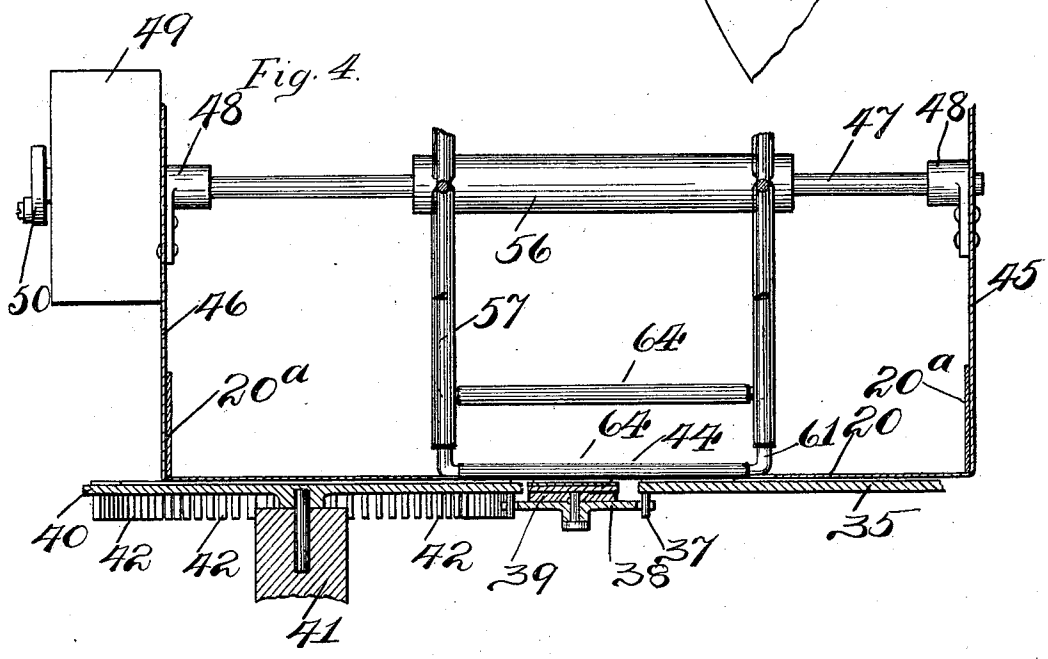


Fig. 4.



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4 SHEETS—SHEET 4.

Fig. 5.

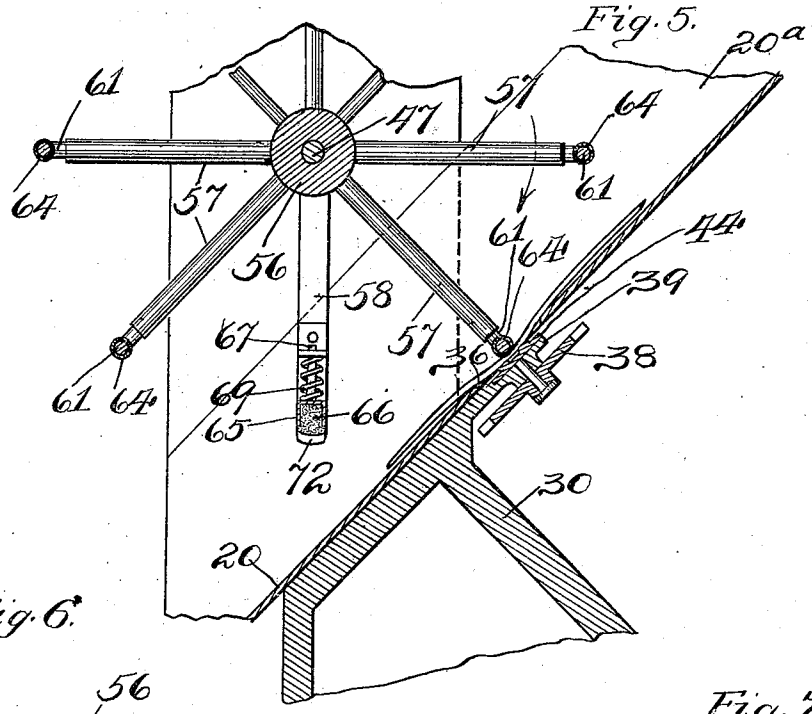


Fig. 6.

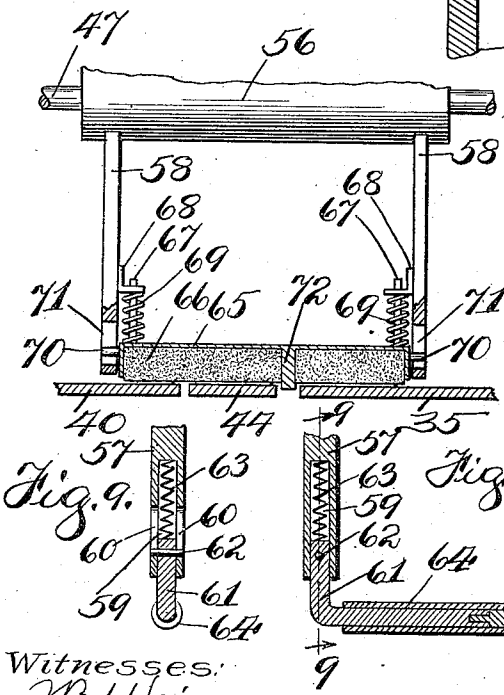


Fig. 9.

Fig. 8.

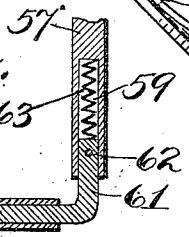


Fig. 7.

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UNITED STATES PATENT OFFICE.

CHARLES A. WELLMAN, OF OTTUMWA, IOWA.

MAIL-BOX.

No. 841,201. Specification of Letters Patent. Patented Jan. 15, 1907.

Application filed May 19, 1906. Serial No. 317,704.

To all whom it may concern:

Be it known that I, CHARLES A. WELLMAN, a citizen of the United States, residing at Ottumwa, in the county of Wapello and State of Iowa, have invented certain new and useful Improvements in Mail-Boxes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved box; and its object is to provide a mail-box in which the time and date of the insertion of letters therein may be automatically stamped upon the letters and also in which the number of letters received may be registered.

In the accompanying drawings, Figure 1 is a vertical section of my improved mail-box. Fig. 2 is a section on line 2 2 of Fig. 1. Fig. 3 is an enlarged detail, being a view of one of the marking-wheels, a portion of the other, and the intermediate marking device, illustrating the operation of the parts. Fig. 4 is an enlarged detail, being a view of the reel and the marking or printing mechanism, partially in section. Fig. 5 is a side view of the reel with some of the arms broken away, showing its supporting device and the plate along which the letters slide, partially in section. Fig. 6 is an enlarged detail, being a view of the inking-arm of the reel, other parts being broken away. Fig. 7 is a side view of a portion of the reel with some of the arms broken away, showing the operation of the inking mechanism. Fig. 8 is an enlarged detail, being a section through one of the arms of the reel and its roller, which coöperates with the printing devices to stamp the envelops. Fig. 9 is an enlarged detail, being a section on line 9 9 of Fig. 8. Fig. 10 is an enlarged detail showing the bell-crank lever and links by which the plate down which the letters slide is vibrated, and Fig. 11 shows an envelop as marked by my apparatus.

Referring to the drawings, 12 indicates the letter-box, which is preferably formed of sheet-steel.

13 indicates a slot through which the letters are inserted, which is closed on the inside by a hinged plate 14, which opens, of course, as the letters are passed through the slot 13.

15 indicates a chute which is pivoted at its top and exterior end to a suitable lug 16, (see Fig. 1,) projecting from the front or mailing side of the box. The chute 15 slopes downward into the interior of the letter-box, as is best shown in Figs. 1 and 2, through a suitable opening in the front or mailing side of the box and is adapted to be vibrated or shaken from side to side on its pivotal point by mechanism hereinafter described.

17 indicates a partition which extends across the box a suitable distance inside of the mailing-slot 13 to form a compartment 18, which receives the letters. 19 indicates a flap which is hinged to the bottom of the partition 17, having its lower end resting against the upper surface of the chute 15. As is best shown in Figs. 1 and 2, the chute 15 is slightly concave across its upper surface and has two side portions 15^a projecting upward therefrom to form guides down which the letters will slide. The bottom of the hinged flap 19 is slightly convex to conform to the concavity of the upper surface of the chute 15, against which it rests normally, the flap 19 being somewhat longer than the space between the lower end of the partition 17 and the upper surface of the chute 15, so that the flap 19 will rest upon the chute at an angle, as is shown in Fig. 1, for the purposes hereinafter described.

20 indicates a plate which is suitably supported in the interior of the box and which extends diagonally downward, as is best shown in Figs. 1 and 2, its upper end extending a short distance beyond and under the lower end of the chute 15. The plate 20 is provided with upwardly-extending side portions 20^a, which flare outwardly at the top, as is best shown in Figs. 1 and 2, to permit the vibrating of the plate 15. The lower end of the plate 20, as is best shown in Fig. 1, curves downward, where it meets the top of the receptacle into which the letters are ultimately received and hereinafter described.

21 indicates a sloping plate which is secured to the back side of the box—that is, the side away from the mailing side—and which slopes downwardly and inwardly, so as to form a slot 22 between it and the lower end of the plate 20, through which the letters slide after having been stamped or printed.

23 indicates a chamber formed within the box by an upright partition 24 and cross horizontal partition 25, into which the letters are received and from which they may be removed through a hinged door 26, provided with a lock 27.

28 indicates a reel which is connected with a registering mechanism 29 of any approved

type for the purpose of registering the number of letters put into the box, as hereinafter described.

The plate 20 is supported firmly in place by a casting 30, mounted upon the cross-partition 25, as best shown in Fig. 2 and in dotted lines in Fig 5, which shows the top portion of the casting.

31 indicates a case which contains clockwork mechanism, preferably electrically operated and which may be of any approved form and construction, and therefore is not shown, as it by itself forms no part of my present invention.

32 indicates bearings mounted upon the top of the clockwork 31.

33 indicates a shaft journaled in the bearings 32 and provided with a gear-wheel 34, secured thereto and driven by the clockwork 31.

35 indicates a circular disk which is secured to the upper end of the shaft 33. The circular disk 35 extends under the plate 20, as is best shown in Figs. 2 and 4. Its upper surface is parallel with the plate 20 and extends below inwardly under said plate below a slot 36 in the plate 20, the slot 36 being of suitable width and length to expose the printing devices hereinafter described and to admit the pressure-rollers hereinafter described. The clockwork is so arranged as to give the disk 35 one rotation in twenty-four hours, and its upper surface, near the periphery, is provided with a series of type which indicate the hours and minutes of the day, as is best shown in Fig. 3, where several of the selected figures only are shown for purpose of clearness and not to confuse the drawings. The figures thus shown in Fig. 6, for instance, are "11:58 A. M., 11:59 A. M., 12. M., 12:01 P. M., 12:02 P. M.," these figures being preferably so arranged as to mark each minute of each hour of the twenty-four, and the slot 36 is of sufficient length, as is best shown in Fig. 2, to expose its figures successively as the disk 35 rotates. The disk 35, as is best shown in Fig. 4, is provided on its lower surface with a single pin 37, which as it comes into position once every twenty-four hours will engage the teeth of a spur-wheel 38, journaled in a suitable support 39 in the upper end of the standard 30.

40 indicates a circular disk which is journaled in the upper end of a standard 41, supported upon the horizontal cross-partition 25, and is provided on its under surface with a number of pins 42, which are engaged by the teeth of the spur-wheel 28. The circular disk 40 is parallel with the plate 20 and extends underneath the same a suitable distance to pass within one end of the slot 36. The upper surface of the disk 40 is provided with a number of type-figures, which give the number of the month and the number of the day of the month throughout the year. These are diagrammatically illustrated in Fig. 3, where, for illustration, the figures "12–29," "12–30," "12–31," "1–1," "1–2," and "1–3" are shown upon one side and "6–1, 6–2, 6–3" upon the other, indicating, of course, the twenty-ninth day of the twelfth month, the thirtieth day of the twelfth month, the thirty-first day of the twelfth month, the first day of the first month, &c. The slot 36 in the plate 20 is long enough to extend beyond and expose the figures on the upper surface of the circular disk 40, as is best shown in Fig. 2.

It will be obvious from the above description that with each complete rotation of the disk 35 once in twenty-four hours the disk 40 will be moved one point, so as to bring below the slot the next figure to the one which has just been used, thus changing the disk 40 once for each day. Below the center of the slot 28 and mounted upon the support 39 is a plate 44, which has upon its upper surface the number of the box and preferably the name of the city or town in which the box is located. As shown in Fig. 3, these type-figures are "Box 28, Chicago." These letters and figures, it will be understood, are all so arranged that when the envelop is printed or stamped, as hereinafter described, the printing will read in the usual manner.

45 46 indicate upright plates or supports which are bolted or otherwise secured to the upright portions 20^a of the plate 20.

47 indicates a shaft which is journaled in suitable bearings 48, mounted on the plates 45 and 46.

49 indicates clockwork, which is indicated only conventionally, as it may be of any approved form and description, and which drives the shaft 47.

50 indicates a crank which is driven by the clockwork 49.

52 indicates a bell-crank lever which is pivoted upon a suitable support, one arm of which is connected by a link 53 with the crank 50 and the other arm of which is connected by a link 54 with the lower side of the chute 15 near its bottom end, as is best shown in Fig. 2.

It will be obvious from the above description that when the clockwork 49 is set in motion and the crank turned the chute 15 will be given a vibratory motion from side to side on its pivot for the purpose hereinafter described.

55 indicates a reel which is composed of a hub 56, keyed or otherwise secured to a shaft 47, and of a number of pairs of radial arms 57 and a pair of radial arms 58. Referring to Figs. 6, 7, 8, and 9, where these devices are best shown, the radial arms 57 are provided with a cylindrical opening 59 at their lower ends, into which short slots 60 open upon each side.

61 indicates supports whose ends are bent at right angles and are adapted to be inserted

into the openings 59 of the pairs of radial arms 57.

62 indicates pins which pass through the slots 60 and through the inner ends of the bent portions of the supports 61.

63 indicates springs which bear against the upper end of the opening 59 and the inner ends of the bent portions of the supports 61 and tend normally to hold the pins 62 against the bottom of the slot 60. The supports 61 are preferably formed in two parts doweled together by a pin, as is best shown in Fig. 8.

64 indicates a cylindrical cushion, of composition or other suitable material, which is placed upon the supports 61. The arms 57 and the spring-seated supports 61 are so adjusted that as the reel is revolved the covering 64 will contact the surface of the plate 20 before the support 61 reaches the slot, the springs 61 yielding, and as the device passes the slot the support 61 will tend to be thrown into it when no letter is engaged. When a letter passes under the arms, as hereinafter described, it will be obvious that the action of the reel will be to force the letter into the slot, so that its surface will receive the print from the printing mechanism.

The pair of arms 58, as is best shown in Fig. 6, support a casing 65, in which are mounted ink-pads 66, separated from one another by a partition 72, which extends below the lower surface of the pads for the purpose of preventing the ink-pads coming in contact with an envelop in case one should be engaged by this portion of the reel as it descends the plate 20. The casing 65 is supported on the arms 58 by means of pins 67, which are secured to and project from the casing 65 and the upper ends of which pass through the suitably-apertured brackets 68, secured to the inner surfaces of the arms 58, and by springs 69, which surround the pins 67 and bear against the lower side of the brackets 68 and the upper surface of the casing 65. The movement of the casing is limited by pins 70, which engage with slots 71 in the lower end of the arms 58, as is best shown in Fig. 6. The casing with its ink-pad is so adjusted upon the supporting-arms 58 that as the reel rotates the ink-pad 66 will tend to be forced into the slot as it passes over it and supply ink to the type on the printing mechanisms below. The ink-pad may be supplied with ink from time to time in any suitable manner by opening the case. The reel 55 is rotated with the shaft 47, which is driven by the clockwork mechanism 49, as has been above stated.

The operation of the device above described is as follows: The letters being inserted through the mailing-slot 13 fall to the bottom of the chamber 18 upon the chute 15. The chute 15 being shaken or vibrated by the clock mechanism above described, the letters are impelled downward by the action of gravity, assisted and settled into position by the vibrating movement of the chute 15, the door 19, which rests normally against the upper surface of the chute 15 at a slight angle, as above described, being of sufficient weight to prevent more than one letter passing below it at a time, but at the same time yielding to permit the passage of the letter as the chute 15 is vibrated. The somewhat convex shape of the surface of the chute 15 assists the letter in assuming a proper position on the surface of the chute 15 between its upright sides 15^a 15^a as it is shaken down the chute. As the letter passes from the chute 15 it passes to the plate 20, where it is almost immediately engaged by the reel and by the cylindrical cushions 64 on the end of the reel. As the letter passes downward it passes over the slot and, as is best shown in Fig. 5, the spring-seated support 61 is pushed outward, pushing the letter into the slot and against the type on the printing devices below. As the reel continues its rotation the letter passes on down the slide and being freed from the reel falls through the slot 22, after which, striking one of the arms of the reel 28, it causes a movement of the registering mechanism 29, thus registering the number of letters deposited, and then falls into the compartment 23, coming out stamped something in the manner shown in the diagram Fig. 11. As has been explained above, the disk 35 rotates so that the hour and minute of the day is changed preferably once every minute, although this of course may be varied within proper limits, and thus the time of the receipt of the letter is stamped. By means of the fixed plate 44 the number of the box and the city are stamped upon each letter. By means of the disk 40, which, as has been explained above, is so rotated as to change the date once every twenty-four hours, the number of the month and the day of the month are changed from day to day.

In case the portion of the reel which holds the inking-pads should come in contact with an envelop instead of one of the other arms of the reel the partition 72, which, as has been said, extends below the surface of the pad, will come in contact with the envelop and prevent its being inked by the pads, as is best shown in Fig. 7, and at the same time will tend to force the envelop into the slot and cause it to be printed. The partition 72 is in register, as is best shown in Fig. 6, with the space between the plate 44 and the disk 35 and will thus allow the ink-pad to be pressed upon the type when no envelop is present by the action of the springs 69.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination with a letter-box, of a chute extending into said box and adapted to receive letters placed in said box, mechanism for agitating said chute to cause the letters to move along it into the box, and clock-

actuated mechanism adapted to print upon letters delivered to said box along said chute, substantially as described.

2. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, and clock-actuated mechanism adapted to automatically stamp upon letters delivered to said box through said chute the hour and date at which they are deposited in the box, substantially as described.

3. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, an inclined plate to which letters are delivered by said chute and having a slot therein, clock-actuated mechanism containing type adapted to print upon a letter passing over said slot the time and date of the entrance of the letter into the box, and clock-actuated mechanism adapted to engage the letter as it slides down said plate and passes over said slot and press the same against the printing devices below, substantially as described.

4. The combination with a letter-box, of an inclined chute pivoted to said box and passing into the same and adapted to receive the letters as they are deposited in the box, mechanism for vibrating said chute, an inclined plate to which letters are delivered by said chute and having a slot therein, clock-actuated mechanism containing type adapted to print upon a letter passing over said slot the time and date of the entrance of the letter into the box, clock-actuated mechanism adapted to engage the letter as it slides down said plate and passes over said slot and press the same against the printing devices below, a counting device, and mechanism adapted to be engaged by a letter passing off said plate to actuate said counting device, substantially as described.

5. The combination with a letter-box, of an inclined chute pivoted to said box and entering the same and adapted to receive letters deposited in said box, mechanism for vibrating said chute, an inclined plate in said box adapted to receive letters from said chute and provided with a suitable opening, a clock-actuated disk containing type adapted to print the hour and minute of the day passing below said opening in said plate, a second disk holding type adapted to print the month and day of the month, means for moving said second disk once every twenty-four hours, and a clock-actuated reel adapted to engage a letter as it passes down said plate and press the letter into the slot and against the type exposed below on said disks.

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