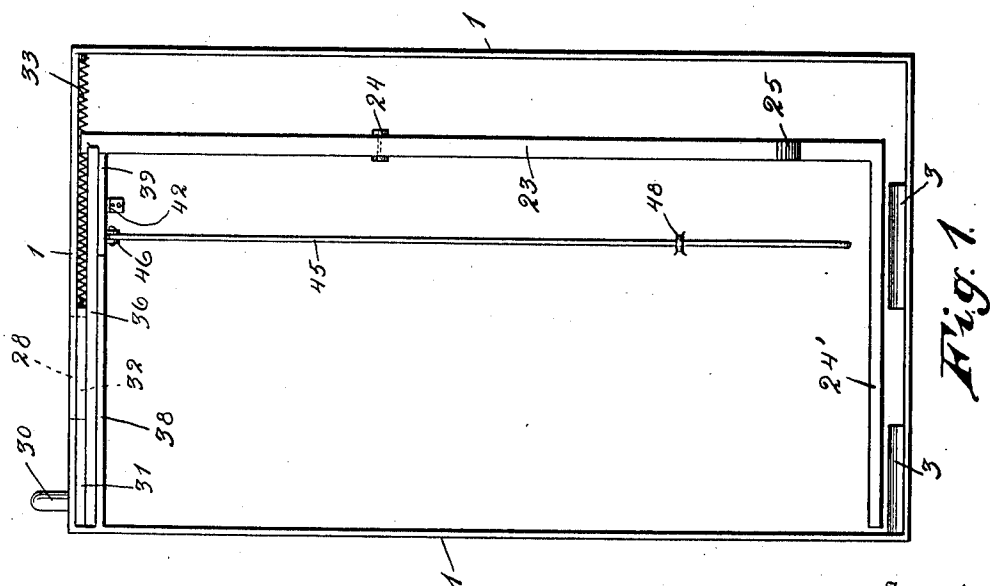
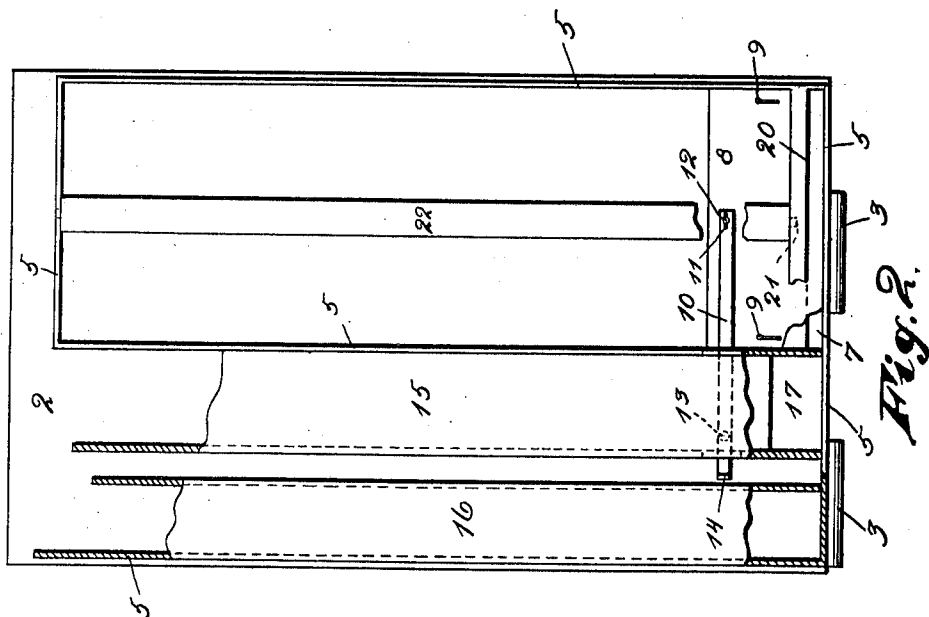


1,020,403.

M. ELZAS.
VENDING MACHINE.
APPLICATION FILED APR. 22, 1911.

Patented Mar. 19, 1912.

3 SHEETS—SHEET 1.



Witnesses

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3 SHEETS—SHEET 2.

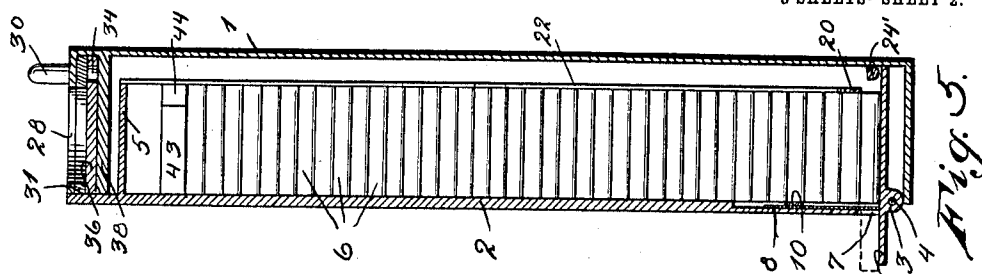


Fig. 3.

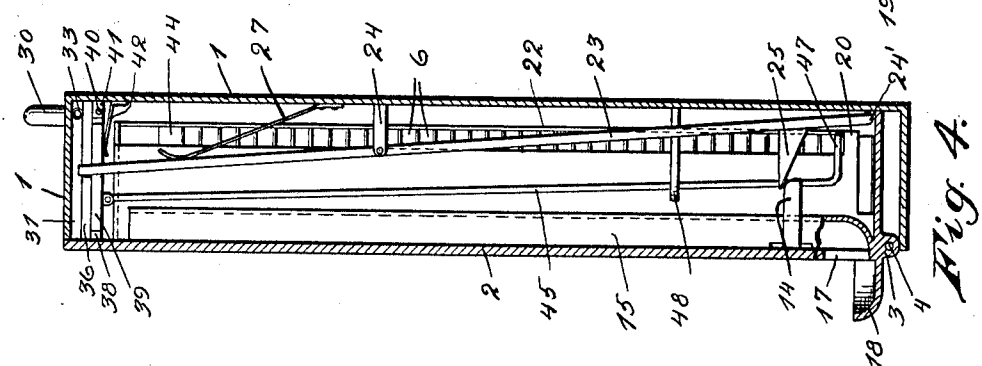


Fig. 4.

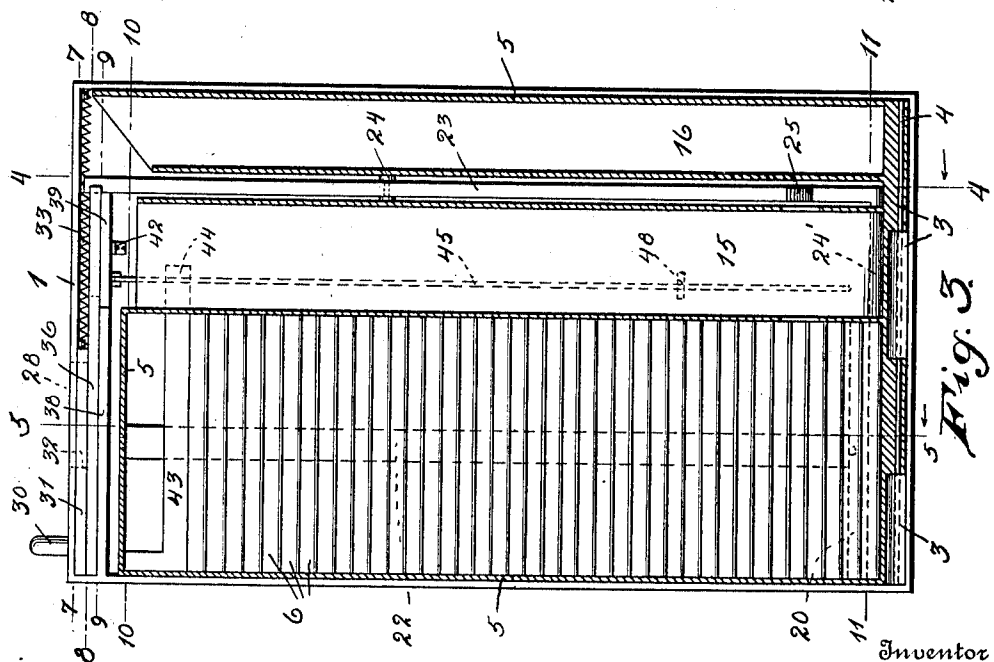


Fig. 5.

Witnesses

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3 SHEETS—SHEET 3.

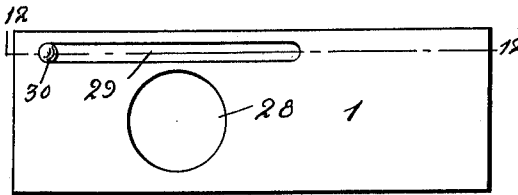


Fig. 6.

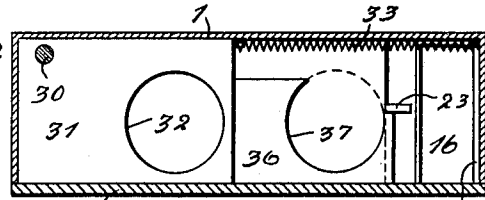


Fig. 7.

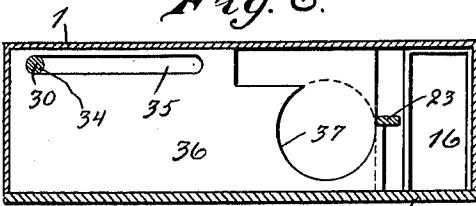


Fig. 8.

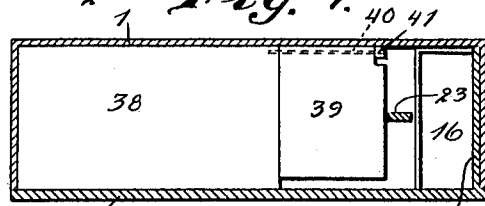


Fig. 9.

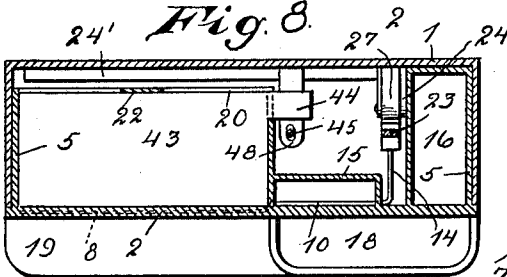


Fig. 10.

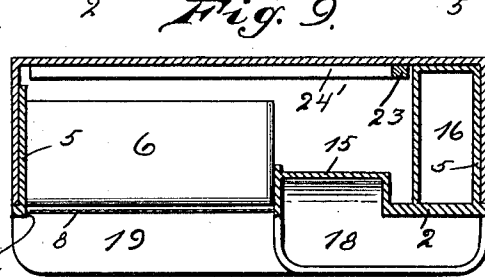


Fig. 11.

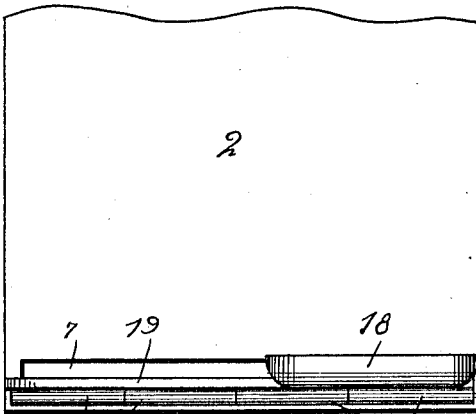


Fig. 13.

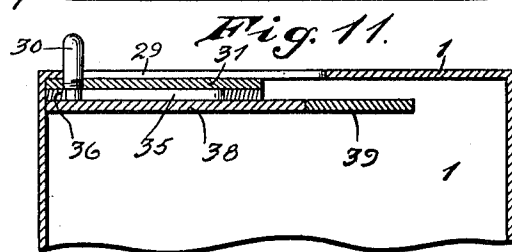


Fig. 12.

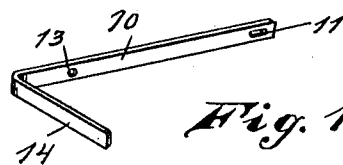


Fig. 14.

Witnesses

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UNITED STATES PATENT OFFICE.

MARTIN ELZAS, OF NEW YORK, N. Y., ASSIGNOR TO LIBERTY VENDING CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

VENDING-MACHINE.

1,020,403.

Specification of Letters Patent.

Patented Mar. 19, 1912.

Application filed April 22, 1911. Serial No. 622,663.

To all whom it may concern:

Be it known that I, MARTIN ELZAS, a subject of the King of Great Britain, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to vending machines and has particular reference to such machine for dispensing relatively small articles.

An important object of this invention is to provide a machine of the above character, which is so constructed that in case a person inserts a coin into the machine after the same has become empty or contains no articles to be vended, such coin will be returned to the operator.

The invention further aims to provide a vending machine of simple structure and compact arrangement of elements, so that the machine as a whole may be manufactured in a suitable size to be attached to a theater chair or in other places where space is needed.

A further object of my invention is to provide a vending machine so constructed that the same may not be easily tampered with or fraudulently operated to remove the goods.

Other objects and advantages of this invention will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same, Figure 1 is an inner side view of the casing of the machine, showing the operating lever and associated members in elevation and the swinging door removed, Fig. 2 is a similar view of the swinging door, certain elements carried thereby being shown in elevation and others partly in section, Fig. 3 is a vertical sectional view taken through the junction of the swinging door and casing and looking inwardly, Fig. 4 is a transverse vertical sectional view taken on line 4—4 of Fig. 3 and looking in the direction

of the arrows, Fig. 5 is a similar view taken on line 5—5 of Fig. 3, and looking in the direction of the arrow, Fig. 6 is a plan view of the machine, Fig. 7 is a horizontal sectional view taken on line 7—7 of Fig. 3, Fig. 8 is a similar view taken on line 8—8 of Fig. 3, Fig. 9 is a similar view taken on line 9—9 of Fig. 3, Fig. 10 is a similar view taken on line 10—10 of Fig. 3, Fig. 11 is a similar view taken on line 11—11 of Fig. 3, Fig. 12 is a vertical sectional view taken on line 12—12 of Fig. 6, Fig. 13 is a fragmentary view of the lower end of the machine, and, Fig. 14 is a perspective view of a swinging lever.

In the drawings wherein is illustrated a preferred embodiment of my invention, the numeral 1 designates a preferably rectangular casing, formed of suitable material and having one side thereof open, for the reception of a downwardly swinging door 2. The lower end of this door is pivotally connected with the lower end of the casing 1 through the medium of interfitting knuckles 3, having openings formed there-through for the reception of a pintle 4.

A disadvantage encountered in connection with a great many types of vending machine, is that it takes too long to fill the same with the articles to be vended and to remove the coins which the machine has taken in. To overcome this disadvantage I have mounted the means for holding the articles and the coin upon the inner side of the downwardly swinging door, which door may be readily moved to a position whereby the articles may be easily and quickly replenished and the coins removed in the like manner.

As clearly shown in Fig. 2, the door 2 is provided upon its inner face with a rectangular inwardly extending flange 5 forming a magazine for the reception of articles 6 to be vended. These articles are arranged to form a vertical stack, so that the lowermost article may be discharged through an opening 7 formed through the door 2. The passage of the article through the opening 7 is controlled by a vertically movable door 8, which is guided during movement by pins

9 which are fast upon the door 2 and operate in elongated slots formed through the door 8. The door 8 is raised by a swinging lever 10 (see particularly Fig. 14), which is provided at one end with an elongated slot 11 for the reception of a pin 12 that is rigidly connected with the door 8 midway the ends thereof. This swinging lever 10 is pivoted to the door 2, as shown at 13 and has one end thereof bent at substantially right angles to form a transverse portion 14. The means to operate the lever 10 will be described hereinafter.

Mounted upon the door 2 are coin returning and collecting chutes 15 and 16, respectively, which may preferably be cast integral with the door although the same could be separately made and attached to the door. The chutes 15 and 16 are spaced to provide an opening within which the portion 14 of the lever 10 extends. The door 2 is provided at its lower end with an opening 17 having communication with the return coin chute 15, to deliver the coin upon a curved tray 18, formed upon the outer face of the door 2, as clearly shown in Fig. 13. The article 6 passing through the opening 7 is delivered upon a flat tray 19, formed upon the outer face of the door 2 and disposed adjacent the curved tray 18. The lower end of the coin collecting chute 16 is formed closed, as shown. The numeral 20 designates a thin horizontal bar disposed in the rear portion of the casing 1, and having an opening 21 formed therein for receiving the reduced end of a removable spring-rod 22. The spring rod 22 has the upper end thereof correspondingly reduced to fit within an opening formed in the horizontal portion of the flange 5. The function of this spring rod is to prevent the articles 6 from coming out of article magazine. Any suitable means (not shown) may be employed to lock the door 2 in its closed position.

The numeral 23 designates an upstanding operating lever, pivoted intermediate its ends with a stationary bracket 24, which is fast upon the casing 1. The lever 23 is disposed in alinement with the space formed between the chutes 15 and 16 and is normally partly within such space. The lever 23 is bent at right angles at its lower end to form a horizontal delivery arm 24', adapted to be moved into engagement with the article 6 for discharging the same from the machine. The return coin chute 15 has its inner face at the lower end thereof properly constructed to allow sufficient movement of the delivery arm 24'. This movement is not very great as the article is only discharged upon the tray 19 sufficiently so that the operator may catch hold of it and draw the same entirely out of the machine.

The operating lever 23 is provided near its lower end with a laterally extending lug 25, having its lower side beveled and disposed to engage the portion 14 of the lever 10, as clearly illustrated in Fig. 4. The lever 23 is held in its normal position, by a leaf-spring 27, which is suitably mounted upon the casing 1. Check controlled means are provided to operate the lever 23 and these means will now be described.

The top wall of the casing 1 is provided with an opening 28 for the reception of a coin and an elongated slot 29, within which operates an upstanding rod 30, which is rigidly connected with a reciprocatory delivery plate 31, as clearly illustrated in Figs. 7 and 12. The plate 31 is provided with an opening 32 for the reception of the coin and the construction of the different parts is such that the openings 28 and 32 are normally in registration. A compressible coil spring 33 tends to hold the plate 31 in its normal starting position. The rod 30 has the lower end thereof in the form of a reduced cylindrical portion 34, which is disposed for operation in a slot 35 formed through a reciprocatory operating plate 36. The slot 35 is formed shorter than the slot 29, for a purpose to be described. The operating plate 36 is provided with a substantially semi-cylindrical cut-out portion 37 at one end thereof, which is adapted for the reception of a coin. The free end of the plate 36 is cut away, as shown in Fig. 8, so that the upper end of the operating lever 23 may engage the coin positioned in the opening 37, whereby the lever 23 will ride upon the coin and the upper end thereof oscillated rearwardly to move the lower end thereof forwardly, when the plate 36 is moved to the right. The plate 36 is disposed under the plate 31 and has slidable engagement therewith and a relatively stationary plate 38 is placed below the plate 36. The plate 36 is capable of sliding upon the plate 38. Disposed at one end of the plate 38 is a swinging trap door 39, which when in its normal position forms in effect, a continuation of the plate 38. The trap door 39 is pivoted at its rear end by means of a pin 40 operating within a stationary lug 41 and the plate 38. The trap door 39 engages the lower face of the plate 36 and is normally held in such position by a leaf-spring 42. The trap door 39 is positioned above the return coin-chute 15, as clearly illustrated in Fig. 3.

Disposed upon and supported by the articles 6 is a weight 43, having at one end an extension or tongue 44, adapted to travel in proximity to a rod 45, as is more clearly shown in Fig. 10. The upper end of the rod 45 has pivotal connection with the trap door 39, as shown at 46 and the lower end

of the rod 45 is bent laterally and horizontally, as shown at 47 in Fig. 4, to be named door, a lever pivoted intermediate its ends with the first named door and having
5 disposed in the path of travel of the extension 44. The rod 45 operates through a guide bracket 48.

In the operation of the machine, the operator inserts a coin through the opening 28
10 to deposit the same in the opening 32 of the delivery plate 31. He then moves the rod 30 so that the plate 31 is moved to bring openings 32 and 37 into registration. The coin then drops into the opening 37, and the
15 portion 34 of the pin 30 having reached the end wall of the slot 35, further movement of the rod 30 will cause plates 31 and 36 to move together. When the plate 36 is thus
20 moved toward the operating lever 23, said lever will ride upon the periphery of the coin and hence be oscillated to move the lower end of the lever forwardly for discharging the articles. Further movement of the plate 36 in the same direction will carry
25 the coin over the trap door 39 and drop the same into the coin collecting chute 16. Upon the above referred to movement of the lever 23, the lug 25 engages the portion 14 of the lever 10, to oscillate said lever for raising
30 the door 8, to uncover the opening 7, subsequently to which the delivery arm 24 engages the lowermost article and discharges the same through said opening 7. As soon as the coin falls from within the opening 37,
35 spring 27 returns the operating lever to its normal position. As soon as the article is entirely removed from the opening 7 the door 8 will at once gravitate to its closed position. A spring may be used to hasten
40 the closing of the opening 7 by the door 8 if it is found necessary. The operator then returns the rod 30 to its normal starting position and the different elements of the coin controlled means are returned to their normal
45 starting position. As soon as the last article has been vended, the tongue 44 will engage the end portion 47 of the rod 45, whereby the trap door 39 will be brought to a tilted position to deliver the coin into
50 the return coin-chute 15. If a coin is now placed in the coin-controlled means and such means operated as above described, said coin will not reach the lever 23 to operate the same, but on traveling across the now inclined or tilted trap door, said coin will
55 fall out of the opening 37 and be conducted by said trap door into the chute 15. The coin will then move downwardly in this chute and be discharged into the tray 18,
60 where it may be reclaimed by the operator. As soon as the weight 43 is elevated to replenish the articles the spring 42 will automatically return the trap door to its normal position. When it is desired to re-

plenish the articles 6 the door 2 may be
65 swung to a substantially horizontal position, whereby this operation is rendered easy and simple. By swinging the door 2 a little below the horizontal the coins contained in the chute 16 will gravitate out of
70 the same and hence may be easily collected.

I wish it understood that the form of my invention herewith shown is to be taken as a preferred example of the same and that certain changes in the shape, size,
75 and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I
80 claim:—

1. In a machine of the character described, a casing having one side thereof formed open, a movable door for normally closing the open side and having an opening
85 formed therethrough to permit of the discharge of the articles from the machine, means for discharging the articles from the machine including a pivoted operating lever, a movable door for controlling the
90 passage of articles through the opening formed in the first named door, means to move the second named door including a pivoted lever connected therewith and having a lateral extension at one end, and a
95 beveled lug connected with the operating lever for engaging said extension to depress the same.

2. In a machine of the character described, a casing having one side thereof
100 formed open, a swinging door having its lower end pivotally connected with the corresponding end of the casing, means mounted upon the swinging door for holding articles to be vended, said swinging door being provided with a discharge opening adjacent the means to permit the articles to pass therethrough, a movable element for controlling the passage of the articles through the discharge opening, a lever pivoted
110 intermediate its ends upon the swinging door and having one end thereof connected with said element and the opposite end provided with a lateral extension, and common means for discharging the articles from the machine and moving said extension of the pivoted lever.
115

3. In a machine of the character described, a casing having one side thereof formed open, a door pivotally connected at
120 its lower end with said casing to swing in a vertical plane and be moved to a horizontal position, a receptacle for holding articles to be vended rigidly mounted upon the door, an operating lever pivotally
125 mounted within the casing to swing in a vertical plane and having its lower end bent to form a horizontal portion ex-

tending at right angles to the direction of travel of said operating lever to be positioned behind the articles, a vertically movable door slidably mounted upon the first
5 named door, a lever pivoted intermediate its ends with the first named door and having pivotal connection at one end with said vertically movable door, said second named lever carrying at its other end a horizontal

extension, and a lug carried by said operating lever and having a beveled face engaging the free end of said horizontal extension. 10

In testimony whereof I affix my signature in presence of two witnesses.

MARTIN ELZAS.

Witnesses:

JOSEPH ROSENZWEIG,

ABRAHAM RUDENSEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
