Dec. 10, 1935. N. R. HARVEY 2,023,955

VENDING MACHINE

Filed May 9, 1933 4 Sheets-Sheet 1

Fig. 2

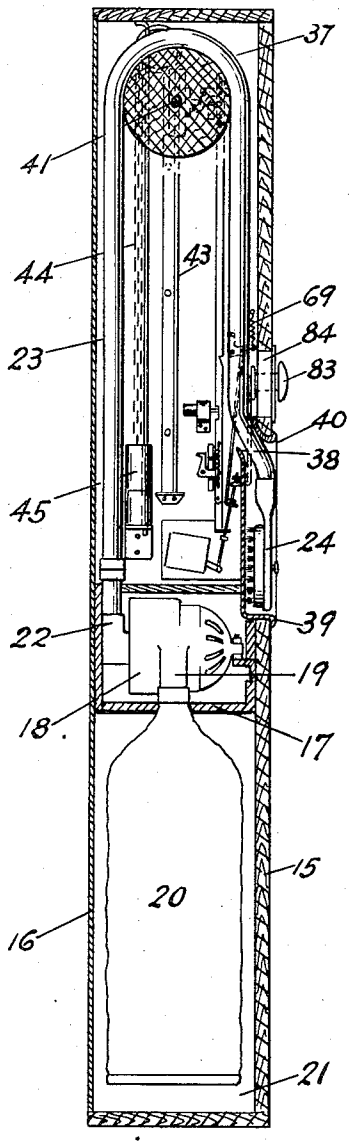
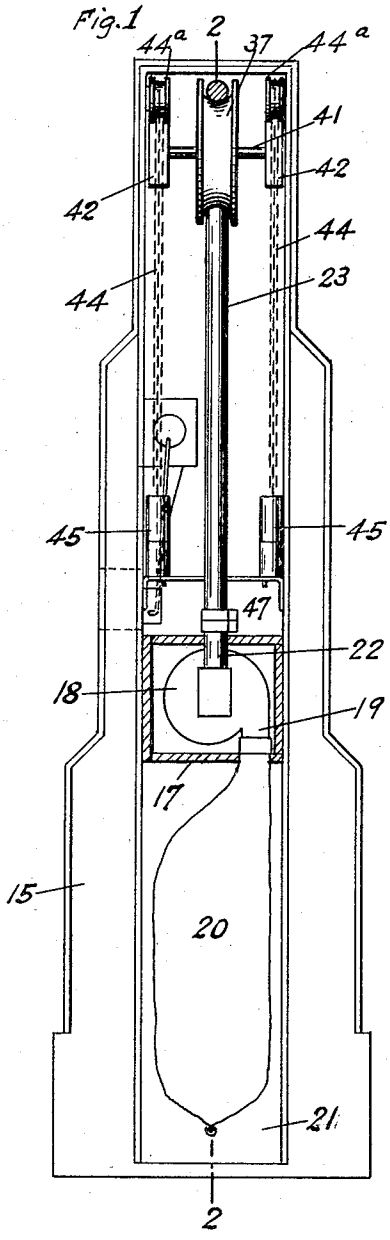


Fig. 1



INVENTOR.
NATHAN R. HARVEY
BY Mills & Hekkenberg
ATTORNEYS.

Dec. 10, 1935. N. R. HARVEY 2,023,955

VENDING MACHINE

Filed May 9, 1933 4 Sheets-Sheet 2

Fig. 3.

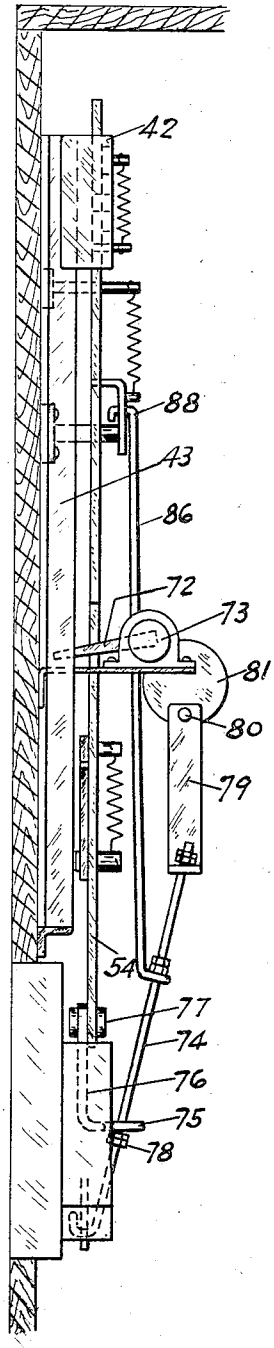
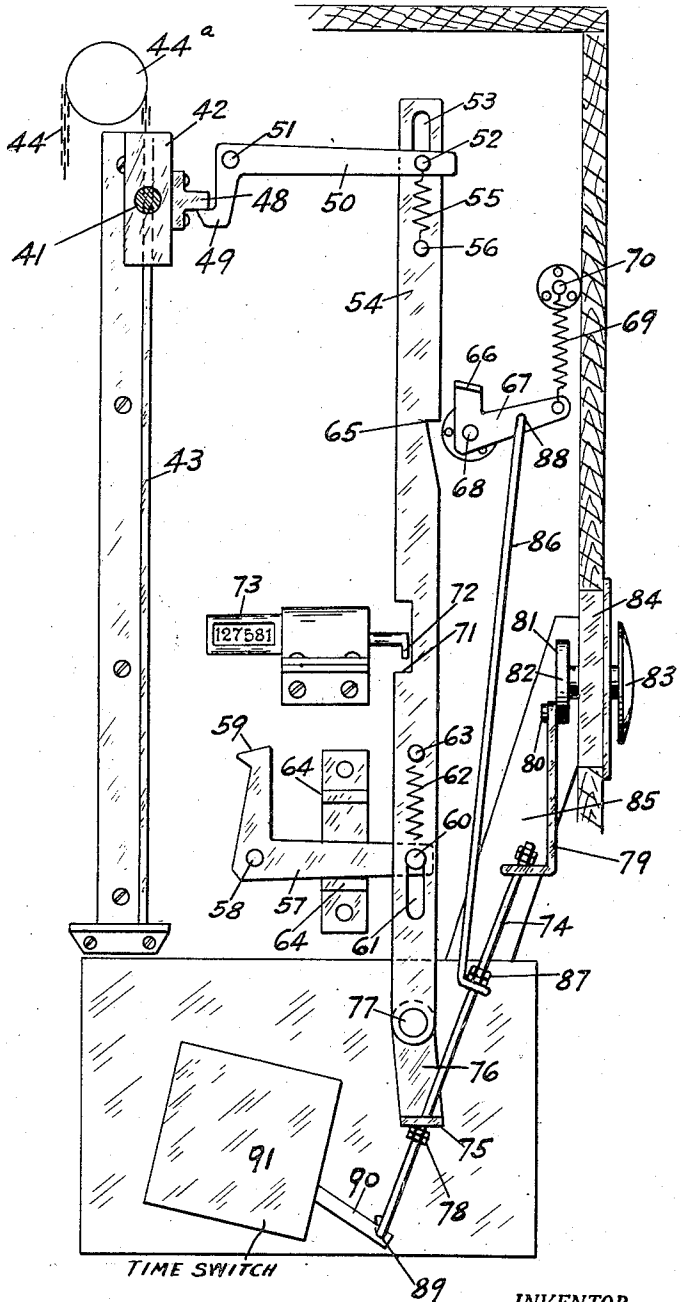


Fig. 4



INVENTOR.
NATHAN R. HARVEY
BY
ATTORNEYS.

Dec. 10, 1935. N. R. HARVEY 2,023,955

VENDING MACHINE

Filed May 9, 1933 4 Sheets-Sheet 3

Fig. 7

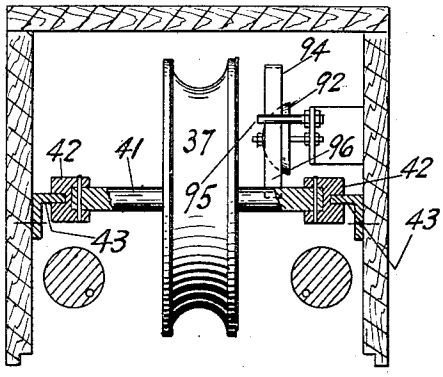


Fig. 8

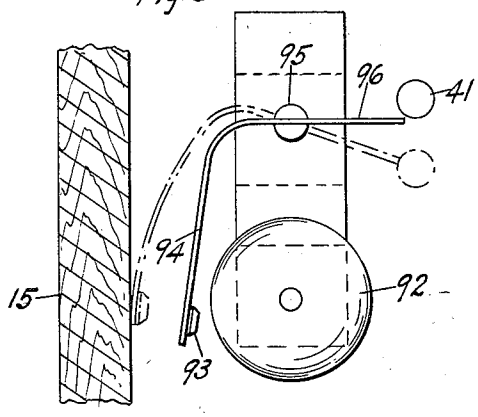


Fig. 5

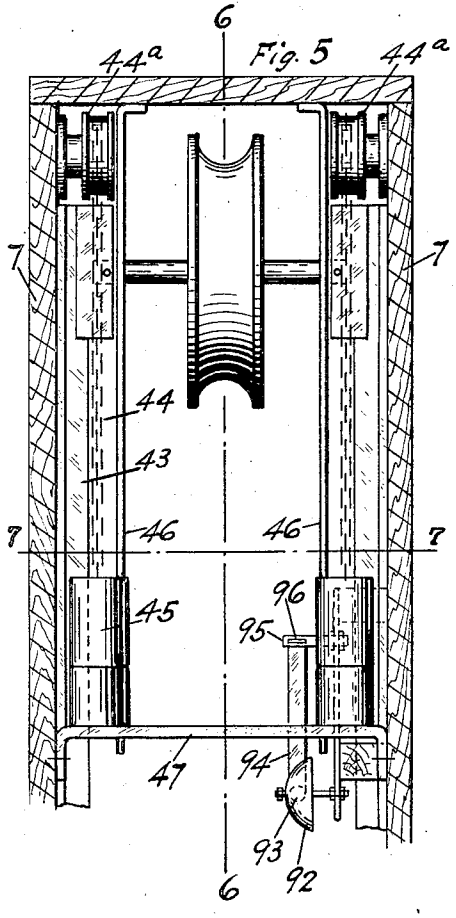
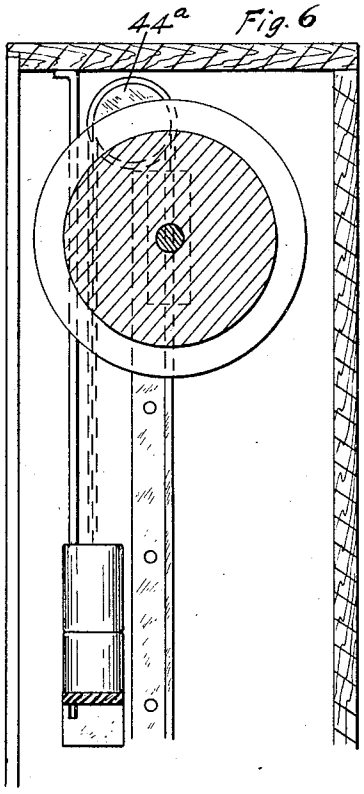


Fig. 6



INVENTOR.
NATHAN R. HARVEY
BY Mills & Hebbeler
ATTORNEYS.

Dec. 10, 1935. N. R. HARVEY 2,023,955

VENDING MACHINE

Filed May 9, 1933 4 Sheets-Sheet 4

Fig. 9.

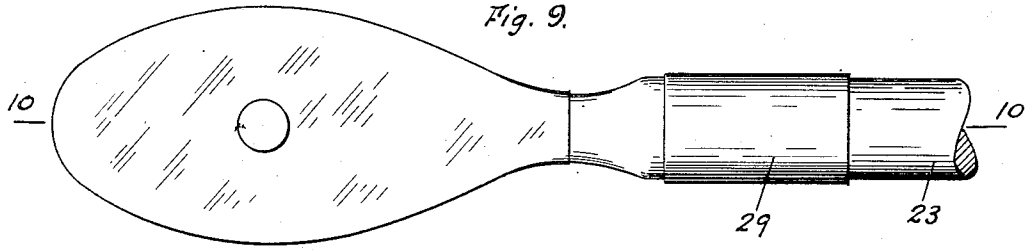


Fig. 10.

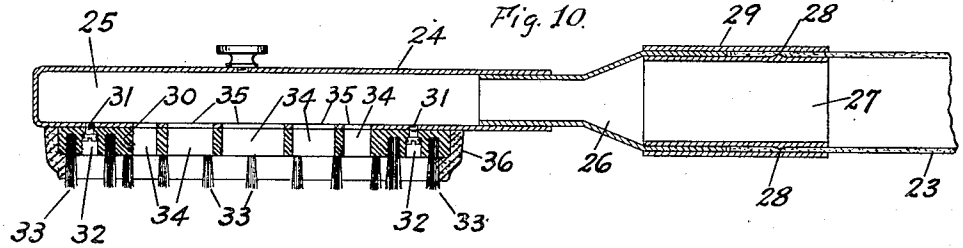


Fig. 11.

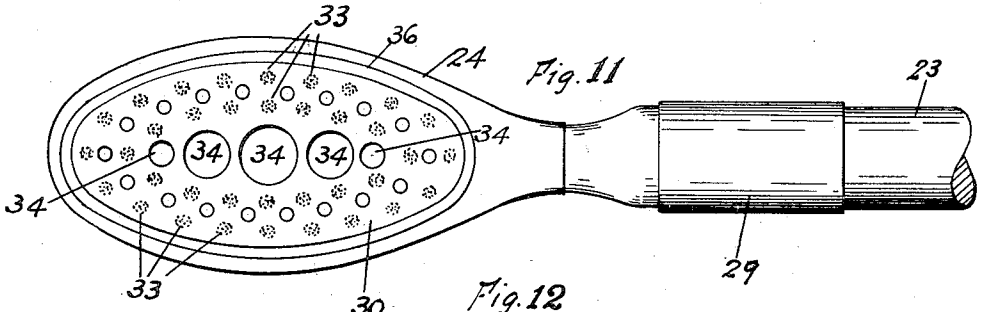
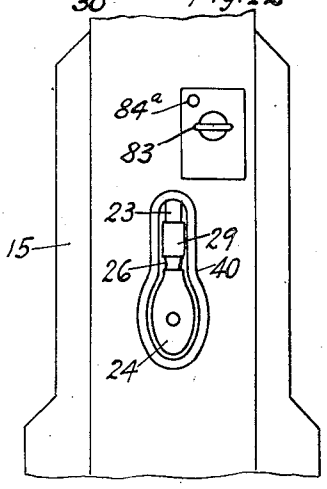


Fig. 12.



INVENTOR.
NATHAN R. HARVEY
BY Pickard Kehlenbeck
ATTORNEYS.

Patented Dec. 10, 1935 2,023,955

UNITED STATES PATENT OFFICE

2,023,955

VENDING MACHINE

Nathan R. Harvey, Woodside, N. Y., assignor to Laval A. Cowen, New York, N. Y.

Application May 9, 1933, Serial No. 670,057

5 Claims. (Cl. 15—7)

The invention relates to machines of the class commonly referred to as vending machines, and has for its object to provide a machine of the indicated type which includes a suction cleaning means adapted for cleaning raiment such as is generally worn by human beings. The invention contemplates primarily the provision of a simple and efficient machine whereby a cleaning device such as a clothes brush or its equivalent is made available for a predetermined period of time for clothes brushing or cleaning purposes coincidentally with the development of suction at said brush or its equivalent during such time period. Another object of the invention is to provide the machine with a coin-controlled means whereby the operation of said machine is dependent upon the preliminary insertion of a coin of the proper denomination. Other more specific objects will appear from the description hereinafter and the features of novelty will be pointed out in the claims.

In the accompanying drawings, which illustrate an example of the invention without defining its limits, Fig. 1 is a rear elevation of the machine, with parts in section; Fig. 2 is a sectional elevation on the line 2—2 of Fig. 1; Figs. 3 and 4 are fragmentary detail views, looking at right angles to each other, with the casing in section; Fig. 5 is a fragmentary rear elevation on an enlarged scale; Fig. 6 is a vertical sectional view on the line 6—6 of Fig. 5; Fig. 7 is a horizontal section on the line 7—7 of Fig. 5; Fig. 8 is a detail view of a signal device which may be included in the machine; Fig. 9 is a rear face view of the suction-brush which may form part of the illustrated machine; Fig. 10 is a section on the line 10—10 of Fig. 9; Fig. 11 is a front face view of the brush, and Fig. 12 is a fragmentary front view of the machine.

While the drawings show the machine in its preferred form as coin controlled, it is to be understood that it may also be constructed in a form which does not require the insertion of a coin preliminary to the operation of the machine.

In the illustrated example the machine comprises a casing 15 of suitable dimensions and form and preferably ornamental in appearance, said casing 15 being open at the back or otherwise constructed to render its interior readily accessible at will; if the casing is open at the back it is preferably provided with a movable cover 16 capable of being locked in its operative position to close said casing. The latter is provided interiorly with a substantially sound-proof compartment or auxiliary casing 17 in which an electric suction device 18 is suitably mounted, said suction device 18 being illustrated in the form of a suction motor of the type commonly found in well known vacuum cleaners; the compartment 17 may be made sound-proof in any conventional manner as by being completely closed and sealed or by being otherwise constructed in any well known way to effect the desired result. The motor 18 is provided with an outlet 19 which communicates with a dust bag 20 or its equivalent, said dust bag 20 being removably connected with said outlet 19 in any convenient manner and depending therefrom in an internal chamber 21 located below said compartment 17 in the casing 15 as shown in Figs. 1 and 2. In addition the suction motor 18 includes an inlet 22 with which one end of a flexible tube or suction hose 23 is connected preferably so as to be easily detachable therefrom; the other end of the hose 23 is connected with a suction cleaning device 24 which in the illustrated example comprises a brush of novel construction.

As shown in Figs. 9, 10 and 11 the brush 24 comprises a hollow body 25 provided at one end with a tubular extension 26 in the free end of which a bushing 27 is interiorly secured so as to project beyond the same in an axial direction as shown in Fig. 10. The bushing 27 extends into the end of the hose 23 and is preferably provided with projections 28 adapted to bite into said hose 23 and prevent its withdrawal from the bushing 27; to fix the hose 23 in connection with the brush 24 a sleeve 29 is frictionally fitted externally upon the tubular extension 26 and the contiguous end of the hose 23 as illustrated in Fig. 10. In addition to the body 25 the brush 24 comprises a carrier 30 which is secured to the body 25 in surface engagement therewith by means of screws 31 preferably countersunk in recesses 32 as shown in Fig. 10; the carrier 30 is provided with bristles 33 arranged, for instance, as illustrated in Figs. 10 and 11, and further includes suction openings 34 which register with corresponding suction openings 35 formed in the brush body 25 as indicated in Figs. 10 and 11. In order to localize the suction when the brush 24 is being used, said brush further includes a guard or member 36 preferably of rubber or other yielding material which surrounds the carrier 30 and projects beyond the same so as to enclose the bristles 33; the arrangement is such that the bristles 33 project outwardly beyond the guard or member 36 to a limited extent so that when the brush is being utilized the bristles 33 are free to perform their functions while the guard 36 will engage the surface of the garment

being brushed and thus will localize the suction at said brush to thereby effect a most efficient cleaning action in a minimum of time.

The tube or hose 23 passes over a grooved roller 37 and out through an opening 38 to the exterior of the casing 15; in the preferred arrangement the opening comprises part of a recessed fitting 39 suitably mounted on the casing 15 to provide an external recess 40 in which the brush 24 is normally accommodated as shown in Figs. 2 and 12. The roller 37 is rotatably mounted on an axle 41 and fixed thereon against axial displacement in any convenient manner, said axle 41 having its opposite ends fixed in carriers 42 slidably mounted on upright guide members 43 located interiorly of the casing 15 as shown in Figs. 5, 6 and 7. For the purpose to be more fully set forth hereinafter the carriers 42 are connected, by means of chains 44 or the like with counterweights 45 which are slidably mounted for vertical movement on guide rods 46 secured at the proper places in the casing 15 as illustrated in Fig. 5; to facilitate the operation of the parts the chains 44 pass over idler rollers 44a suitably mounted in the casing 15. In the normal raised position of the roller 37, in which the brush 24 or its equivalent is located in the recess 40, the counterweights 45 occupy a lowered position in which they rest upon a supporting bracket 47 suitably fixed within the casing 15 as indicated in Fig. 5.

As shown in Fig. 4 at least one of the carriers 42 is provided with a lug or projection 48 which is engaged by the hooked end 49 of an upper locking lever 50 pivoted at 51 within the casing 15 and adapted to lock the carriers 42 and consequently the roller 27 against downward movement; as a result the brush 24 or its equivalent is held in the recess 40 and the hose or tube 23 is locked against withdrawal from the casing 15. In order to operate the lever 50 in a manner to shift the hooked end 49 thereof into and out of its operative position, the lever 50 is provided with a pin 52 which projects into the slot 53 of a vertically slidable member 54 as shown in Fig. 4; the lever 50 is further influenced by a spring 55 one end of which is connected with the pin 52 and the other end with a pin 56 carried by the member 54.

During the operative periods of the machine in which the brush 24 is removed from the recess 40 and the hose 23 is withdrawn from the casing 15, the roller 37 and carriers 42 occupy lowered positions as will be more fully explained hereinafter. In order to lock the roller 37 and its associated elements in such lowered position, to thereby relieve the hose 23 and the brush 24 or its equivalent from a pulling force developed by the counterweights 45 and tending to withdraw said hose 23 into the casing 15, a lower locking lever 57 is pivoted at 58 within the casing 15. The lever 57 is provided with a hooked end 59 adapted to cooperate with the lug 48 to prevent the carrers 42 and roller 37 from rising in said casing 15, and said lever 57 is connected by means of a pin 60 and slot 61 with said vertically slidable member 54 as shown in Fig. 4; in addition a spring 62 has its one end connected with said pin 60 and its other end attahed to a pin 63 mounted on the slidable member 54. In the preferred arrangement the lever 57 is movable between spaced stops 64 suitably located in the casing 15 and serving to limit the pivotal movements of said lever 57 as shown in Fig. 4. The member 54 is provided with a notch or recess 65 for the accommodation of the locking nose 66 of a bell-crank intermediate locking lever 67 pivoted at 68 in the casing 15 as illustrated in Fig. 4, a spring 69 having its one end connected with said lever 67 and its other end with a pin 70 fixed in the casing 15 and exerting a tension tending to adjust the locking nose 66 into its operative position. The locking nose 66 of the lever 67, in co-operation with the notch 65, serves to lock the slidable member 54 in its raised position in the manner and for the purpose to be more fully set forth hereinafter. In addition to the parts so far described the slidable member 54 may be provided with a shoulder 71 or equivalent device adapted to engage and actuate the operating member 72 of a recording device 73 of any conventional type; with this arrangement the recording device 73 is operated each time the member 54 is raised and thereby records the number of times the machine has been operatively utilized, this being of particular importance if the machine is coin-controlled, and in case serving as a check upon the amount of money which should be contained in the coin box or receiver.

In the illustrated machine, the slidable member 54 is controlled by means of a main rod 74 extending slidably through a lug 75 located at one end of a member 76 pivotally connected at 77 with the member 54, said main rod 74 being provided with a projection 78, preferably adjustable thereon and adapted to engage said member 76 in the manner to be more fully set forth hereinafter. The rod 74 is operatively connected with a link 79 pivoted at 80 to a crank illustrated in the form of a disk 81 fixed upon the end of a rotatable shaft 82. The latter is operated by means of an externally accessible operating member 83 shown in Figs. 2 and 4; if the machine is coin-controlled, as illustrated, the shaft 82 is made in two parts journalled in a suitable coin-operated device 84 so arranged that the two parts of the shaft 82 are capable of operation only after a coin of the proper denomination has been inserted in a coin slot 84a with which the machine in such case is provided. It will be understood that any conventional arrangement may be substituted whereby operation of the shaft 82 is possible only through the medium of a selected coin, and otherwise is incapable of being actuated; in any case the coin after having performed its function passes into a coin-chute 85 and finally drops into a suitable coin-box or receptacle properly located within the casing 15. As shown in Figs. 2 and 4 the rod 74 is slidably connected with a second or auxiliary rod 86 and is provided with a projection 87 which in the preferred arrangement is adjustable on said rod 74, and in any case is adapted to engage and operate the second rod 86 as will appear more fully hereinafter. The second rod 86 is pivotally connected at 88 with the intermediate locking lever 67 and serves to shift the locking nose 66 thereof into its inoperative position in predetermined operative synchronism with the other operative parts of the machine.

To cause the machine to remain in operation for a predetermined time period and to restore the parts to their initial position coincidentally with the automatic stopping of the machine at the end of said time period, the rod 74 is operatively connected at 89 with the switch lever 90 of a time switch 91 or equivalent time controlled mechanism capable of being adjusted for different predetermined time periods; inasmuch as

the time controlled mechanism, per se, forms no part of the invention it has not been deemed necessary to illustrate the same in detail as any conventional form of such mechanism suitable for the purpose may be utilized. In any case the time controlled mechanism or time switch 91 is located in circuit with the suction motor 18 and controls the starting and stopping thereof.

For the purpose of audibly indicating each withdrawal of the hose 23 from the casing 15 to permit the brush 24 or its equivalent to be used for its intended purpose, the machine may include a signal comprising, for instance, a bell 92 suitably mounted within the casing 15. In the illustrated example the bell 92 is sounded by means of a resilient hammer 93 carried by an arm 94 pivoted at 95 within the casing 15 and including an extension 96 projecting into the path of the axle 41 as shown in Figs. 5, 7 and 8; the arrangement is such that when the extension 96 is engaged and depressed by the axle 41, the hammer arm 94 will engage an adjacent portion of the casing 15 and be flexed thereby as indicated by dotted lines in Fig. 8. Under such conditions the hammer arm 94 will develop a tension and when released, because of the passage of the axle 41 beyond the extension 96, will snap the hammer 93 into contact with the bell 92 with considerable force and thereby produce a ringing of said bell 92 which will be audible over any noise existing in the vicinity of the machine.

With the parts in the normal position shown in the drawings, the hooked end 49 of the upper locking lever 50 is located beneath and in engagement with the lug 48 of one of the carriers 42 so that it is impossible to withdraw the hose 23 from the machine, and, as a result, the brush 24 or its equivalent is locked against removal from the recess 40; this is due to the fact that the engagement of the hooked end 49 of the upper locking lever 50 prevents the carriers 42 from moving downwardly. Under such conditions the suction motor 18 is not in operation and consequently no suction is developed in the hose 23 or at the brush 24 or equivalent device.

On the assumption that the machine is coin-controlled, use of the brush 24 or its equivalent may be obtained for the time period for which the time switch or time controlled mechanism 91 is set, by simply inserting a coin of the proper denomination into the previously mentioned coin-slot 84a. The inserted coin by passing into the coin-operated device 84 makes it possible to operate the shaft 82 by suitably rotating the operating member 83 and brings about a rotation of the crank-disk 81 in a direction to lift the link 79 and thereby correspondingly raise the rod 74. The upward movement of said rod 74 operates the switch lever 90 in a manner to close the circuit in which the suction motor 18 is located and at the same time to start the time switch or time controlled mechanism in operation; as a result the suction motor 18 develops suction in the hose 23 and at the brush 24 or its equivalent. Coincidentally with the above operations the stop 78 exerts a lifting action on the member 76 and thereby raises the slidable member 54 into its upper position; as said member 54 is thus moved upwardly the shoulder 71 by engagement with the operating member 72 will actuate the recording device 73 to record thereon the operation of the machine. At the same time the upward adjustment of the member 54 will swing the upper locking lever 50 in a direction to shift its locking nose 49 out of engagement with the lug 48 so that the carriers 42 are now free to move downwardly on the guide members 43; the upward actuation of the member 54 also swings the lower locking lever 57 in a direction to move its nose 59 into the path of the lug 48 as will be clear from Fig. 4 of the drawings.

The brush 24 or its equivalent is now free to be removed from its recess 40 and by exerting a pull on said brush 24 or equivalent device and thereby developing a pulling force on the hose 23, the carriers 42 will be moved downwardly on the guide members 43 and the hose 23 will be withdrawn from the machine to permit the brush 24 or its equivalent to be used for brushing or cleaning the clothes of the person desiring use thereof. As the carriers 42 reach their lowered position the locking nose 59 of the lower locking lever 57 will snap over the lug 48 of the one carrier 42 and accordingly will lock said carriers 42 in their lowered position to thereby relieve the hose 23 from a pulling force tending to withdraw it into the casing 15 and the brush 24 or its equivalent into the recess 40; it will be understood that as the carriers 42 move downwardly in the manner set forth the counterweights 45 are pulled upwardly on the guide rods 46 and thereby develop a force tending to raise the carriers 42 to their upper positions which is prevented during the operative periods of the machine by the nose 59 of the lower locking lever 57 in cooperation with the lug 48 as described above.

In addition to the operations so far described, the upward movement of the rod 74 correspondingly raises the stop 87 and accordingly permits the second rod 86, under the influence of the spring 69, to move upward and to swing the intermediate locking lever 67 in a direction to shift its locking nose 66 into the notch 65; the member 54 is thereby locked in its raised position and the locking levers 50 and 57 are correspondingly locked in the positions to which they have been adjusted by the upward movement of said member 54. It will be understood that as soon as the inserted coin has completed its function of bringing about the operation of the rod 74 and associated elements, said coin passes downwardly through the coin chute 85 into the coin-box or receptacle with which said chute 85 communicates; the accumulated coins may be removed from said coin-box by an authorized person at will.

The parts remain in the positions set forth above during the operative period for which the time controlled mechanism 91 is set, and during such period permit the brush 24 or its equivalent to be freely used for its intended purpose. As soon as the predetermined time period has passed the time-switch or time controlled mechanism 91 will operate to throw the switch lever 90 downwardly back to the position illustrated in Fig. 4; the electric circuit will thus be interrupted and the suction motor 18 will be accordingly stopped so that the development of suction in the hose 23 and at the brush 24 or its equivalent coincidentally ceases.

As the switch lever 90 moves downwardly by the action of the time controlled mechanism 91, a downward pull is exerted upon the rod 74 which, by correspondingly pulling the link 79 downwardly, restores the crank-disk 81 and shaft 82 to the normal positions shown in Figs. 3 and 4. At the same time the downward movement of the rod 74, through the medium of the stop 87, exerts a downward pull on the second

rod 86 which swings the intermediate locking lever 67 against the tension of the spring 69 in a direction to shift its locking nose 66 out of the notch 65, the stop 78 on the rod 74 being coincidentally moved away from the lug 75 of the member 76. The slidable member 54 is thereby released and drops, by gravity, back to its original position shown in Fig. 4 and accordingly swings the upper locking lever 50 in a direction to shift its locking nose 49 into the operative position, and at the same time moves the lower locking lever 57 in a direction to disengage its locking nose 59 from the lug 48 of one of the carriers 42; during these return movements of the parts, the member 54 develops no operative action on the operating member 72 which simply returns to the initial position shown in Figs. 3 and 4 without operative effect upon the recording device 73. As soon as the locking nose 59 of the lower locking lever 57 is disengaged from the lug 48, the counterweights 45 will slide downwardly on the guide rods 46 and by means of the chains 44, will lift the carriers 42 and the grooved roller 37 back to the elevated positions shown in Figs. 5 and 6. The raising of the carriers 42 and roller 37 will react on the hose 23 in a manner to withdraw the same into the casing 15 and to restore the brush 24 or its equivalent to the recess 43; as soon as the carriers 42 reach their upper positions, the locking nose 49 of the upper locking lever 50 will snap beneath the lug 48 and thereby lock the carriers 42 and associated elements in the raised positions, so that the hose 23 and the brush 24 or equivalent device are again locked in the inoperative position illustrated in Fig. 2. The machine is now again ready for the insertion of another coin to bring about another operative period of said machine in the manner previously set forth herein.

If the machine is not coin-controlled the parts may be operated by simply manipulating the operating member 63 as set forth above, the latter and its associated elements, in such case, being constructed in a manner to bring about the desired results, without requiring a suitable coin to be first inserted into the machine.

In all of its forms the machine provides a suction brush or equivalent device for use as a bushing or cleaning medium throughout a given time period, predetermined by the type of service which is to be performed by said brush or the like; the well recognized efficiency of the suction type of cleaning device is thus made readily available for brushing or otherwise cleaning the apparel of any one requiring or wishing the service. At the end of the predetermined time period the brush or equivalent cleaning device is automatically returned to its recess in which it occupies an inconspicuous, though easily accessible, position. The machine is ornamental in appearance and may be installed in theatres, hotels, restaurants, the home, and in fact at any place where it may find utility. The machine furthermore is extremely simple in construction and reliable in action and requires no particular skill in the control and operation thereof.

By locating the suction motor 18 within the casing 15 in a substantially sound-proof compartment or auxiliary casing 17, any operating noises developed by said motor 18 are effectively muffled, and the machine is rendered practically noiseless.

Various changes in the specific forms shown and described may be made within the scope of the claims without departing from the spirit of the invention.

I claim:

1. A vending machine of the type described comprising a casing, a suction producing device in said casing, a receptacle within said casing removably connected with the outlet side of said suction producing device, a suction hose connected with the inlet side of said suction producing device and extending outwardly of said casing, a suction cleaning device connected with said suction hose exteriorly of said casing, a roller in said casing over which said hose passes, carriers on which said roller is mounted, guideways in said casing on which said carriers are vertically movable, counter-weights connected with said carriers whereby the latter are maintained in and returned to a raised position in said casing, a lug on one of said carriers, an upper locking lever co-operating with said lug for locking said carriers and roller in said raised position, a lower locking lever co-operating with said lug for locking said carriers and roller in a lowered position, a vertically slidable member in said casing for adjusting the two locking levers to and from operative positions in inverse relation, the upper locking lever being in locking position when the vertically slidable member is in its lowered position and the lower locking member being in locking position from said member is in its upper position, an intermediate locking member for locking said slidable member in its raised position, time-controlled switch mechanism controlling the starting and stopping of said suction producing device, a main rod connected with said time-controlled switch mechanism for operating the same to start said suction producing device and having a loose operative connection with said vertically slidable member to permit said time-controlled switch mechanism to operate independently of said vertically slidable member to stop said suction producing device, an auxiliary rod connected with said main rod and with said intermediate locking member for shifting the latter to its inoperative position, a spring for adjusting said intermediate locking member to its operative position, and means for operating said main rod to start said time-controlled switch mechanism and to coincidentally adjust said slidable member in an upward direction and to release said auxiliary rod whereby said intermediate locking member is adjusted to its operative position by said spring, said main rod being actuated by the aforesaid independent operation of said time-controlled switch mechanism to operate said auxiliary rod and thereby shift said intermediate locking member to its inoperative position whereby the vertically slidable member and associated elements are released and restored to normal positions by gravity.

2. A vending machine of the type described comprising a casing, a suction producing device in said casing, a receptacle within said casing removably connected with the outlet side of said suction producing device, a suction hose connected with the inlet side of said suction producing device and extending outwardly of said casing, a suction cleaning device connected with said suction hose exteriorly of said casing, a roller in said casing over which said hose passes, carriers on which said roller is mounted, guideways in said casing on which said carriers are vertically movable, counter-weights connected with said carriers whereby the latter are maintained in and returned to a raised position in

said casing, a lug on one of said carriers, an upper locking lever co-operating with said lug for locking said carriers and roller in said raised position, a lower locking lever co-operating with said lug for locking said carriers and roller in a lowered position, a vertically slidable member in said casing for adjusting the two locking levers to and from operative positions in inverse relation, the upper locking lever being in locking position when the vertically slidable member is in its lower position and the lower locking member being in locking position when said member is in its upper position, an intermediate locking member for locking said slidable member in its raised position, time controlled switch mechanism controlling the starting and stopping of said suction producing device, and means operatively connected with said time-controlled switch mechanism, said vertically slidable member and said intermediate locking member whereby said switch mechanism, said vertically slidable member and said intermediate locking member are coincidentally controlled to start and stop said suction producing device in accordance with a predetermined time period, to lock and release said carriers, and to lock and release said vertically slidable member all in accordance with said time period.

3. A vending machine of the type described comprising a casing, a suction producing device in said casing, a receptacle within said casing removably connected with the outlet side of said suction producing device, a suction hose connected with the inlet side of said suction producing device and extending outwardly of said casing, a suction cleaning device connected with said suction hose exteriorly of said casing, a roller in said casing over which said hose passes, carriers on which said roller is mounted, guideways in said casing on which said carriers are vertically movable, counter-weights connected with said carriers whereby the latter are maintained in and returned to a raised position in said casing, a lug on one of said carriers, an upper locking lever co-operating with said lug for locking said carriers and roller in said raised position, a lower locking lever co-operating with said lug for locking said carriers and roller in a lowered position, actuating means connected with said locking levers for operating the same in inverse relation, time-controlled switch mechanism controlling the starting and stopping of said suction producing device in accordance with a predetermined time period, and manually operated means accessible exteriorly of said casing for starting said time-controlled switch mechanism, said manually operated means being loosely connected with said actuating means for controlling the operation of said upper and lower locking members in inverse relation coincidentally with the starting of said suction producing device to lock said carriers in their lower positions at the beginning of said time period and to permit independent operation of said actuating means and locking levers by gravity to lock said carriers in the upper positions at the end of said time period.

4. A vending machine of the type described comprising a casing, a suction producing device in said casing, a receptacle within said casing removably connected with the outlet side of said suction producing device, a suction hose connected with the inlet side of said suction producing device and extending outwardly of said casing, a suction cleaning device connected with said suction hose exteriorly of said casing, vertically movable means controlling the withdrawal of said suction hose from said casing and its return thereto, a plurality of devices for locking said vertically movable means against operation at the opposite ends of its vertical movements, time-controlled switch mechanism for controlling the starting and stopping of said suction producing device and the stopping thereof at the end of a predetermined time period, and manually operated means accessible exteriorly of said casing for starting the time-controlled switch mechanism, and for controlling the operation of said locking devices coincidentally with each other and with the starting and stopping of said time-controlled switch mechanism in relatively reversed inverse relation to each other to lock said vertically movable means in its lower and upper positions respectively at the beginning and end of said predetermined time period.

5. A vending machine of the type described comprising a casing, a suction producing device in said casing, a receptacle within said casing removably connected with the outlet side of said suction producing device, a suction hose connected with the inlet side of said suction producing device and extending outwardly of said casing, a suction brush connected with said suction hose exteriorly of said casing, movable means within said casing for controlling the withdrawal of said suction hose therefrom and its return into said casing, means including locking devices for locking said movable means when said hose is fully retracted in said casing and when said hose is withdrawn therefrom to a predetermined extent, time-controlled switch mechanism for starting and stopping said suction producing device, and controlling means for starting said time-controlled switch mechanism and for coincidentally actuating said locking devices in inverse relation to each other whereby said movable means is released to permit withdrawal of said hose from said casing and subsequently locked to fix said hose against retraction into said casing, said time-controlled switch mechanism operating automatically after a predetermined time interval has elapsed to stop said suction producing device and to coincidentally operate said locking devices in reverse inverse relation to each other independently of said controlling means whereby said hose is automatically retracted into said casing and locked against withdrawal therefrom.

NATHAN R. HARVEY.