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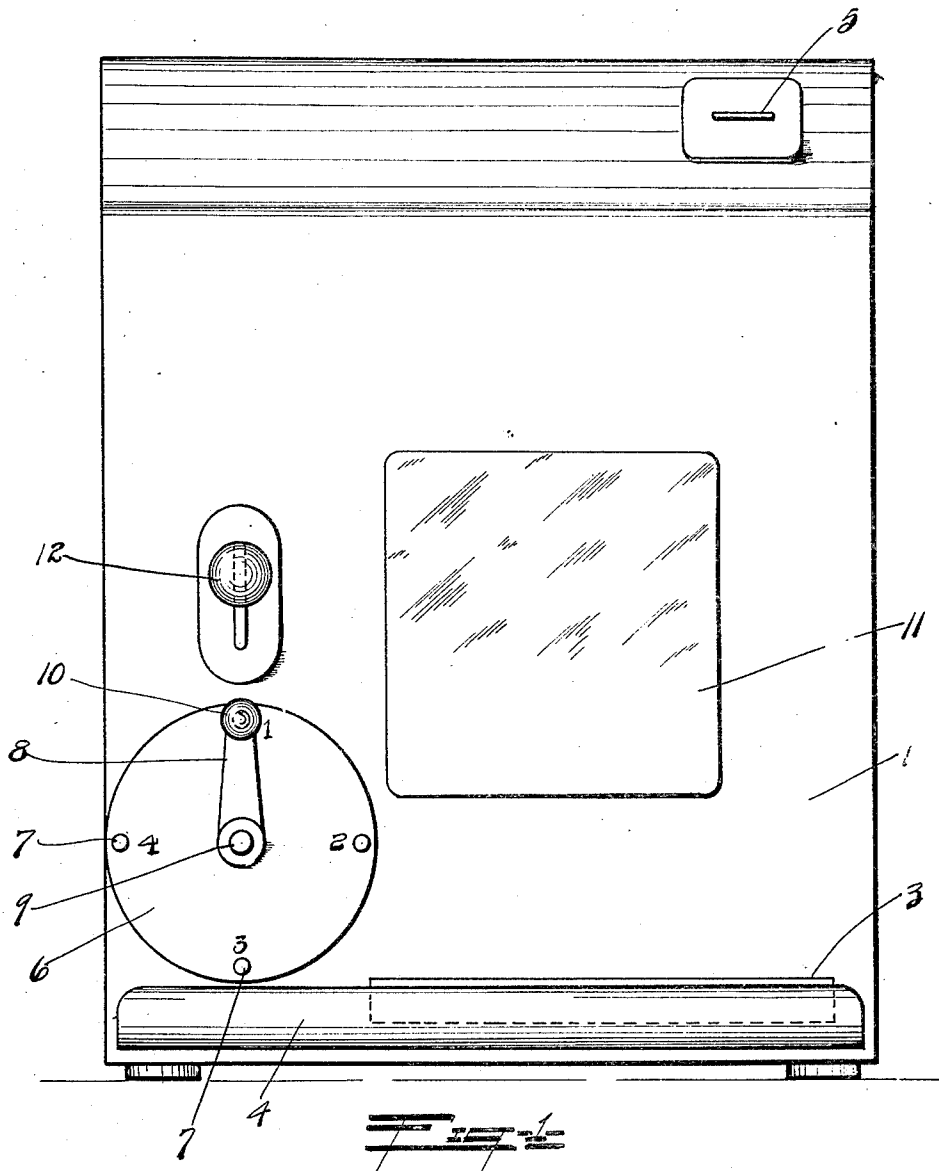
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W. WALDRON

PENCIL VENDING MACHINE

Filed Jan. 2, 1923

5 Sheets-Sheet 1



INVENTOR.

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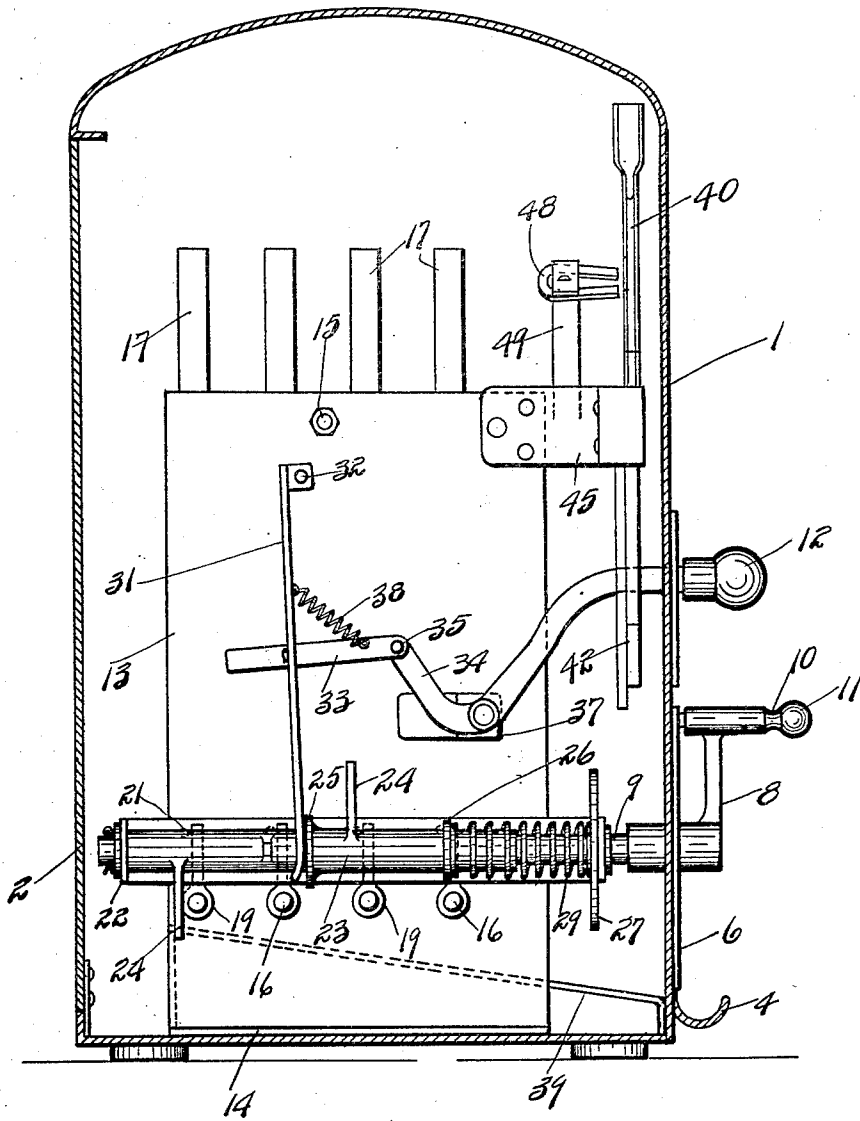


Fig. 2

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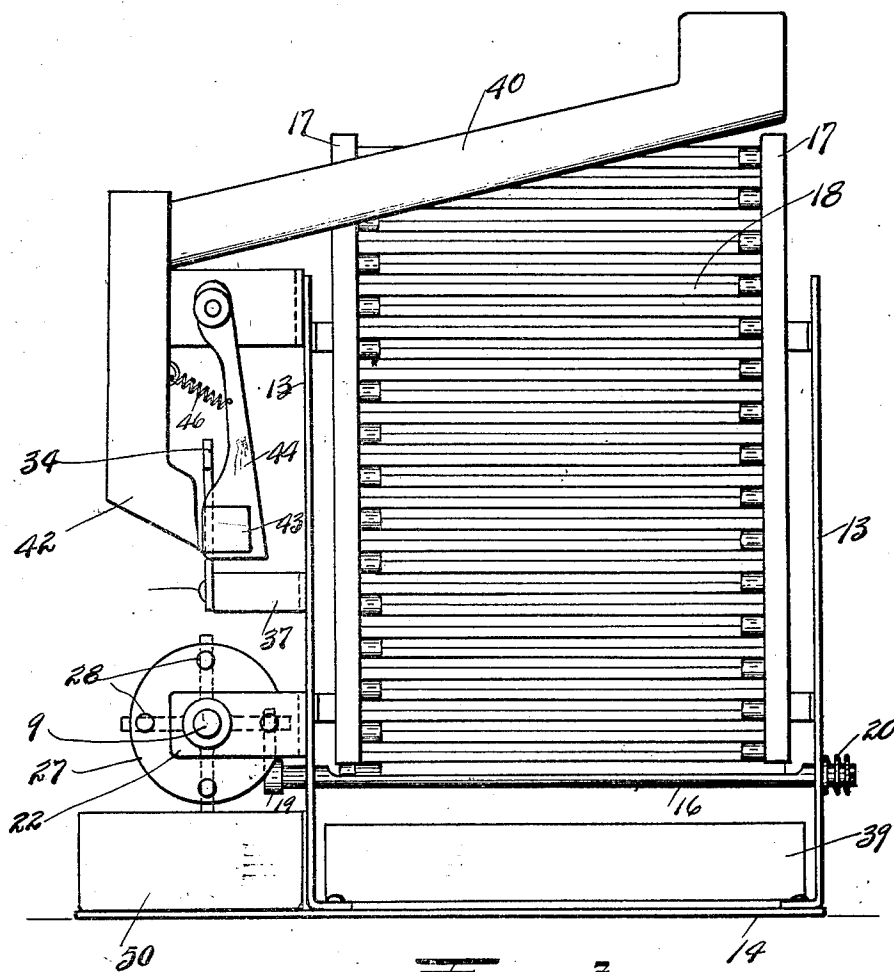


Fig. 3-

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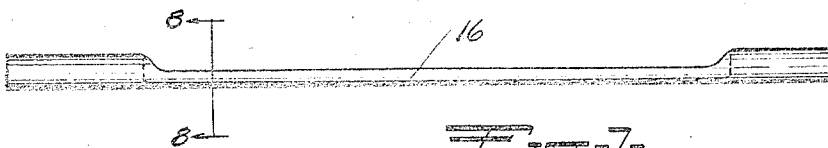
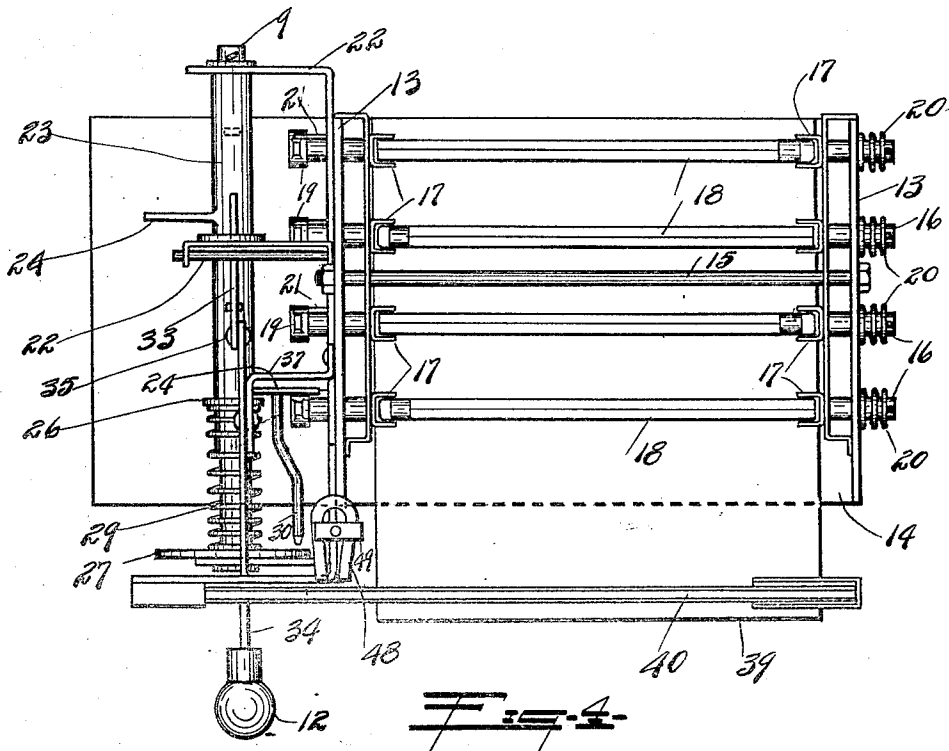
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W. WALDRON

PENCIL VENDING MACHINE

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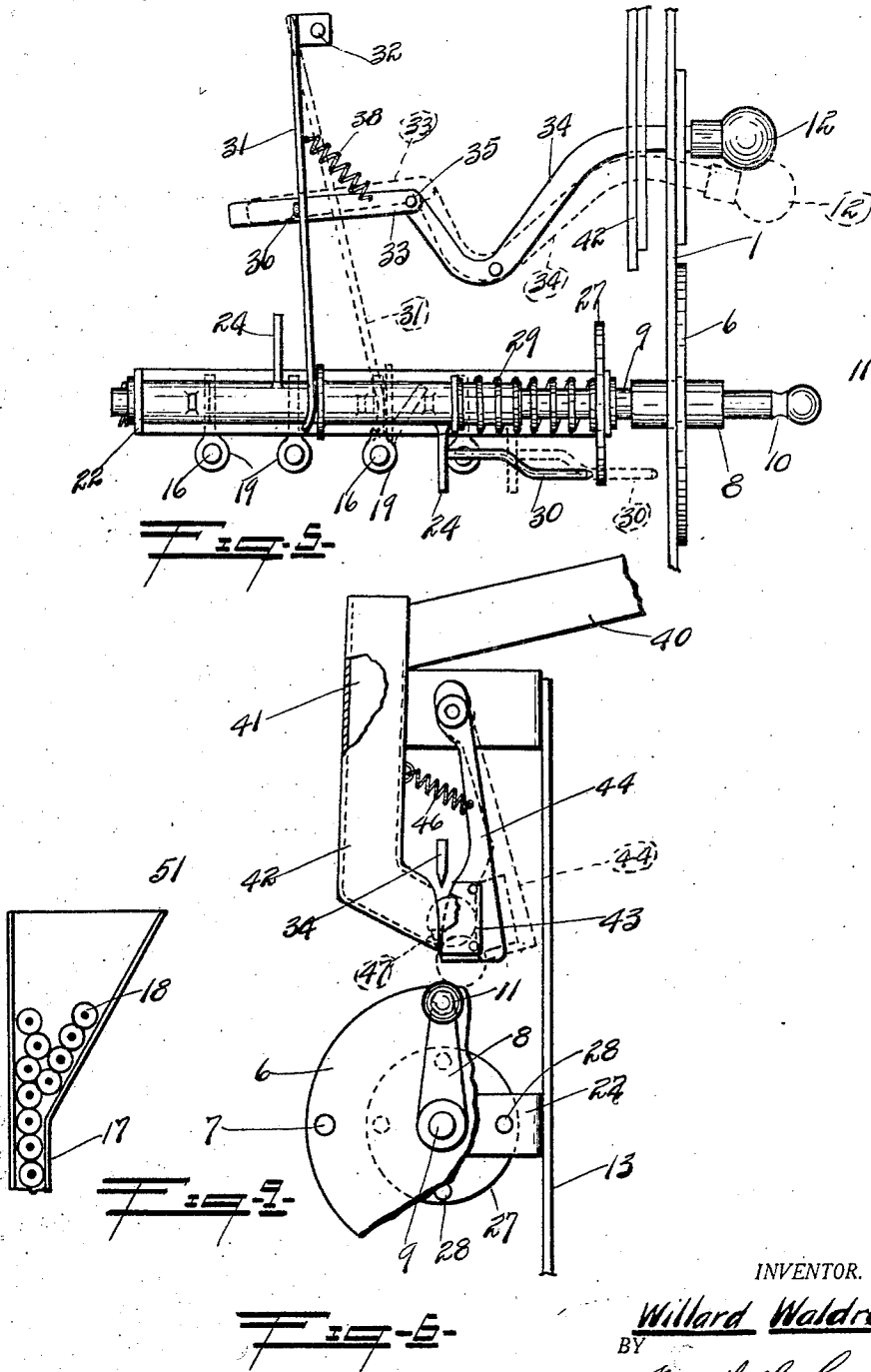
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W. WALDRON

PENCIL VENDING MACHINE

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5 Sheets-Sheet 5



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Patented Feb. 23, 1926.

1,573,955

UNITED STATES PATENT OFFICE.

WILLARD WALDRON, OF BAY CITY, MICHIGAN.

PENCIL-VENDING MACHINE.

Application filed January 2, 1923. Serial No. 610,194.

To all whom it may concern:

Be it known that I, WILLARD WALDRON, a citizen of the United States of America, and a resident of Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Pencil-Vending Machines, of which the following is a specification.

This invention relates to vending machines, and particularly to a machine for automatically ejecting pencils and the like when a coin is inserted in the machine and the lever is actuated by the customer.

One object of the invention is to design a very simple, compact, and durable machine having a dial attached to the face thereof, and an indicating mechanism which can be manipulated and set, so that the purchaser may select a certain brand or make of pencil.

A further object is to provide a novel and efficient pencil storage providing a large capacity with a minimum of space.

A still further object is to provide means whereby washers, slugs, and other objects will be automatically ejected without operating the pencil ejecting mechanism.

The above and other objects will appear as the specification progresses, reference being had to the accompanying drawings in which like reference numerals indicate like parts through the several views thereof.

In the drawings:—

Fig. 1 is a front view of my improved vending machine.

Fig. 2 is a side view, the walls of the case being broken away and shown in section.

Fig. 3 is a front view of the operating mechanism, the case being removed.

Fig. 4 is a top plan view of the operating mechanism removed from the case.

Fig. 5 is a side view of the pencil ejecting means, the mechanism being shown in two different positions, the full lines showing the mechanism locked, and the dotted lines illustrating it in position when the pencil is ejected.

Fig. 6 is a fragmentary view of the coin and pencil ejecting mechanism, the parts being shown in two different positions.

Fig. 7 is an enlarged front view of one of the pencil containers or cradles.

Fig. 8 is a transverse cross sectional view taken on the line 8—8 of Fig. 7; and

Fig. 9 is a fragmentary view illustrating an alternate construction for the pencil storage or hopper.

Referring now particularly to the drawings in which I have shown the preferred embodiment of my invention, the numeral 1 indicates the case in which the operating mechanism is housed. This case is provided with a removable back 2 which is adapted to be locked in position by means of a lock and key attachment (not shown), an elongated opening 3 is formed in the front of the case and through which the pencils are adapted to be ejected, falling into a trough or receptacle 4 formed integral with the case. A coin slot 5 is provided for the insertion of money, and a dial 6 is secured to the front of the case and is provided with spaced apart openings 7 in the face thereof, each of these openings being numbered for a purpose to be presently described.

A crank 8 is mounted on a transversally disposed shaft 9, a spring actuated plunger 10 being mounted on the crank and is adapted to engage one of the openings in the dial.

The kinds and grades of pencils are printed on a slip posted or otherwise secured in the glass covered opening 11 in the front of the case, and each particular brand is numbered to correspond to the indicia on the dial, as an example, if a customer wishes to purchase a No. 2 American Velvet pencil, he grasps the knob 11 on the end of the plunger 10, pulls it outwardly, thereby disengaging it from the opening in which it is seated, rotates the crank to the No. 2 as indicated on the dial, releases the knob, and the end of the plunger engages the opening which is correspondingly marked. The mechanism is then set to eject this particular brand of pencil; it is merely necessary to insert the proper coin, grasp the knob 12 forcing it downwardly which will automatically eject the pencil.

The mechanism on the interior of the case is arranged as a unit, and comprises a pair of upright side plates or members 13 securely fastened to the base plate 14; these are braced by means of the rod 15. A plurality of longitudinally disposed shafts 16 are journaled in these side members, the central portion thereof being machined to form a seat or cradle for the pencil which is adapted to be nested therein, the ends of the shaft being solid. Vertically extending channel members 17 are secured to the side plates in direct vertical alinement with the said shafts, and are so spaced so that the ends of the pencils 18 rest in the chan-

nels, the pencils are then placed one upon the other in superimposed relation, and this provides a very compact supply with a large capacity.

5 The shafts 16 extend through the side plates and cranks 19 are mounted on the one end thereof, each shaft and its actuating mechanism is identically alike, and I shall therefore describe but one unit; a coiled
10 spring 20 is carried on the opposite end of the shaft, the one end being anchored to the shaft proper and the opposite end being anchored to the upright plate; this spring is wound to provide a tension on the shaft,
15 a stop 21 being provided on the opposite end and is normally engaged by the crank 19 when the shaft is stationary, and the spring is wound to normally force the crank against the stop.

20 I shall describe the pencil ejecting mechanism in detail, and this comprises the transversally disposed shaft 9 which is mounted in the bracket 22 secured to the side member 13 and on which the crank member 8
25 is mounted.

A spider 23 is mounted on this shaft 9 and is longitudinally slidable thereon being prevented from rotation on the shaft by means of a slot and feather key (not shown)
30 but which will however admit of this longitudinal movement of the spider on the shaft. Outwardly extending arms 24 are formed integral with the spider 23 in spaced relation, and collars 25 and 26 are also formed
35 thereon. A flat circular disk 27 is securely riveted to the bracket 22; openings 28 are formed therein in spaced relation, a coiled spring 29 being interposed between the said disk and the collar 26 as shown. A transversally projecting pin 30 is also fixed on
40 one of the spider arms, and is adapted to engage one of the openings in the disk 27 when the mechanism is in correct operating position, an arm 31 being pivotally mounted
45 on the pin 32 which is set in the side of the plate member 13, the end being forked to straddle the hub of the spider and engage the collar 25 thereon; this arm is slotted to receive the link 33, which is pivotally connected to the lever 34 at the point 35. a pin
50 36 being mounted in the opposite end as shown. The lever 34 is pivoted to a bracket 37 which is securely riveted to the side plate, the end extending through the front of the case, and having the knob 12 detachably
55 mounted thereon, a coiled spring 38 being anchored to the link and the lever for forcing the lever 34 back to its original position.

Normally all the cranks on the shafts are
60 in upright vertical position as shown in Fig. 2 of the drawings, and when the mechanism is set in correct operating position, one of the spider arms 24 will be in horizontal position projecting inwardly towards the side
65 plate, and when the knob 12 is forced down-

wardly, the member 31 will slide the spider on the shaft 9 compressing the spring 29; the spider arm will engage the crank 19 on the end of the longitudinal shaft 16 which is formed as clearly shown in Figs. 7 and 8
70 of the drawings, rocking it in its bearings so that the pencil cradled therein will be discharged or fall therefrom, and when the knob 12 is released the spring 29 will force the spider and lever 31 back to their original
75 positions, and the coiled spring 20 on the end of the longitudinal shaft will automatically rock this shaft back to its original position against the stop 21 and another pencil will feed down and be cradled therein. 80

An inclined plate 39 is located directly beneath the pencil storage or channels, so that when the pencil is ejected it will roll by gravity through the slot in the case, into the
85 trough on the front thereof, from which it is taken by the purchaser. 90

It will be obvious that the mechanism cannot be operated unless it is properly set, as the end of the pin will contact with the solid surface of the disk 27 and prevent the knob
90 12 being forced downwardly, thereby insuring correct manipulation. The spring 38 will naturally return the knob 12 to its proper position. 95

When the machine is set and a coin of the proper value is inserted in the opening
5 provided in the case, it drops into an inclined runway or trough 40, thence rolling into the passage 41 provided in the leg 42 and lodging in the position as clearly
100 shown in Fig. 6, the larger portion of the coin being contained in a pocket 43 formed in the member 44 which is pivotally mounted on the support or bracket 45 rigidly secured to the side plate, a coiled spring 46
105 being anchored to the stationary leg 42 and to the pivoted member 44; the lever 34 on which the knob 12 is mounted is provided with a knife edge on its underside, and extends between the members 42 and 44 above
110 the coin, and this pivoted leg 44 is provided with a jaw or slightly inclined horizontal surface 47 directly beneath the lever, and when attempting to operate the machine without first inserting the coin, this lever 34
115 will engage the jaw 47 and prevent further downward movement thereof, but when the proper coin has been inserted, the lever will engage the coin to one side of the vertical center thereof, and continued downward
120 pressure will force the member 44 outwardly as shown in dotted lines in Fig. 6, this in turn forces the lever 31 forwardly, the pin 30 engaging one of the openings in the disk 27, and the arm 24 on the spider
125 engaging the crank 19 on the end of the shaft 16, thereby rocking the said shaft sufficiently to cause the pencil to fall therefrom.

A conventional magnet 48 is mounted 130

on a support 49 secured to the side plate 13 and the coin trough 40 is cut away so that when a washer or other slug is inserted in the coin opening, the attraction of the magnet will draw it from the trough and allow it to fall into the coin receptacle 50 placed beneath the operating mechanism, smaller coins will also fall from the trough at this point due to the opening therein and the slight angle at which the trough is set.

In Fig. 9 of the drawing I have shown an alternate form of pencil storage, the upper end being enlarged in one direction as shown at 51 and provides a much larger capacity; in this construction the pencils feed in an exactly similar manner and do not hang or clog therein.

From the foregoing description it will be obvious that I have perfected a practical, simple and efficient pencil vending machine, which is positive in its operation, and very economical to build.

What I claim is:—

1. In a pencil vending machine comprising a case, having a plurality of spring tensioned shafts journaled therein and formed to nest or cradle a single pencil, cranks on the ends of the shafts, a transversely disposed shaft adjacent the said cranks, and a spider slidably mounted thereon, means for rotating the spider to selectively engage one of the said cranks, and means for sliding the spider on the shaft to engage a crank and rock the shaft to discharge or eject a pencil therefrom.

2. In a pencil vending machine comprising a case, a plurality of spring tensioned shafts journaled therein and formed to nest or cradle a single pencil, cranks on the ends of the shafts, and vertically extending channels above said shafts for feeding the pencils thereinto, a transversely disposed shaft adjacent the said cranks, and a spider slidably mounted thereon, arms on the spider, means for setting said spider in a predeter-

mined position to aline one of said arms with one of said cranks, and means for shifting it longitudinally on the shaft to cause the said spider arm to engage the said crank for rocking the shaft to eject a single pencil therefrom.

3. In a pencil vending machine comprising a case having a plurality of spring tensioned shafts journaled therein, and formed to nest or cradle a single pencil, cranks on the ends of the shafts and stops adjacent thereto, a transversely disposed shaft adjacent the cranks, a spider slidably mounted thereon, a disk adjacent the spider and provided with spaced apart openings therein, a pin on the spider adapted to selectively enter the openings in the disk to operably position the spider to engage one of said cranks, means for sliding the spider on the shaft to engage said crank, and means on the transverse shaft to force the spider back to original position.

4. A pencil vending machine comprising a case having a series of longitudinally extending spring tensioned shafts journaled therein, said shafts being formed to nest or cradle a single pencil, spaced apart vertically extending flared channels above said shafts adapted to contain pencils therein, cranks on the ends of the shafts, stops adjacent thereto, a transversely disposed shaft adjacent the cranks, a spider slidably mounted thereon, a disk in front of said spider and having spaced apart openings formed therein, a forwardly projecting pin on the spider adapted to register with one of the openings in the disk to operably position the spider to engage one of said cranks, means for sliding the spider on the shaft to engage said crank, and means on the transverse shaft to force the spider back to original position.

In testimony whereof I affix my signature.

WILLARD WALDRON.