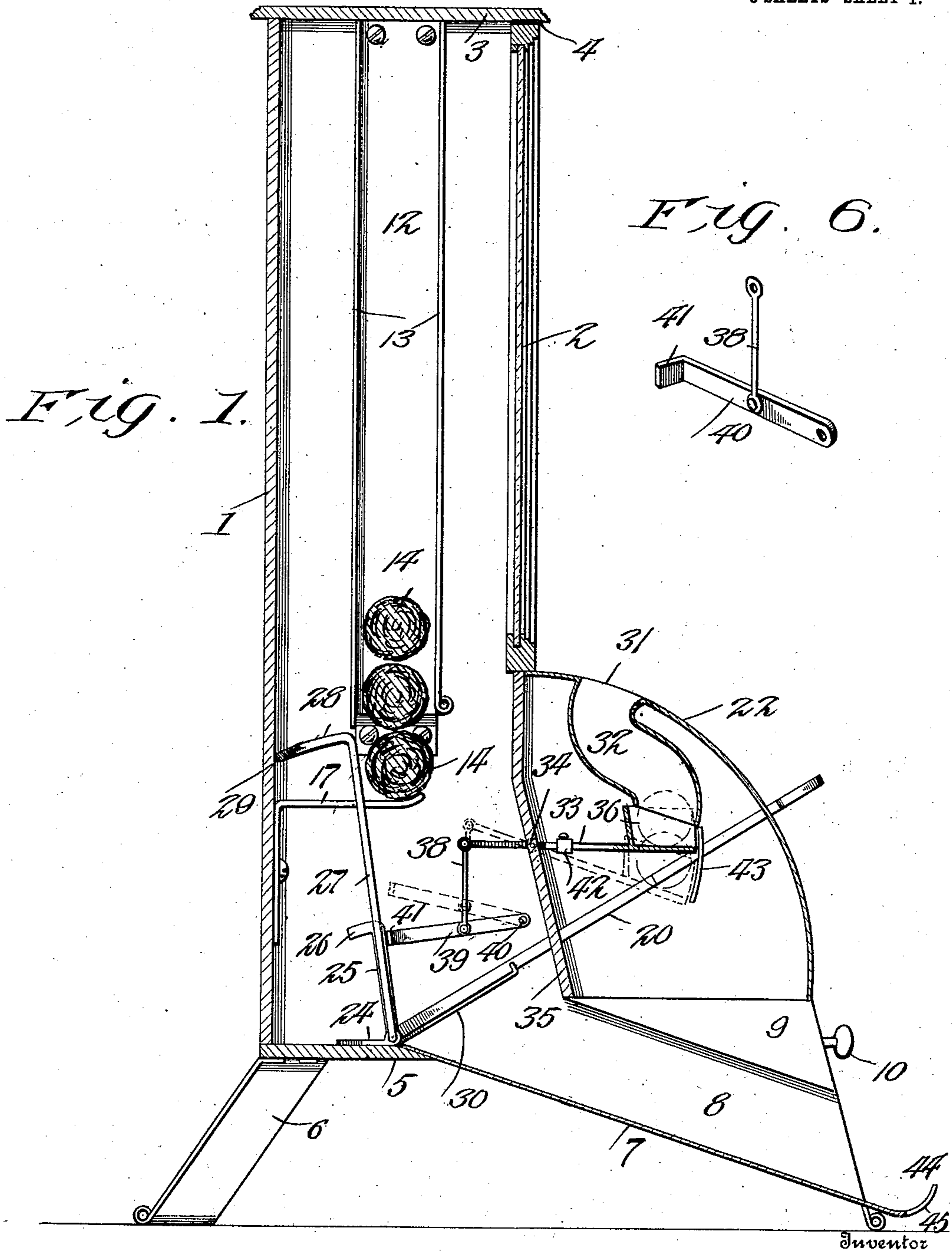


A. S. KILLINGER.
VENDING MACHINE.
APPLICATION FILED OCT. 26, 1907.

929,448.

Patented July 27, 1909.
3 SHEETS—SHEET 1.



Witnesses.

Thos. W. Riley.
R. M. Smith.

Alvin S. Killinger

By Victor J. Evans
Attorney

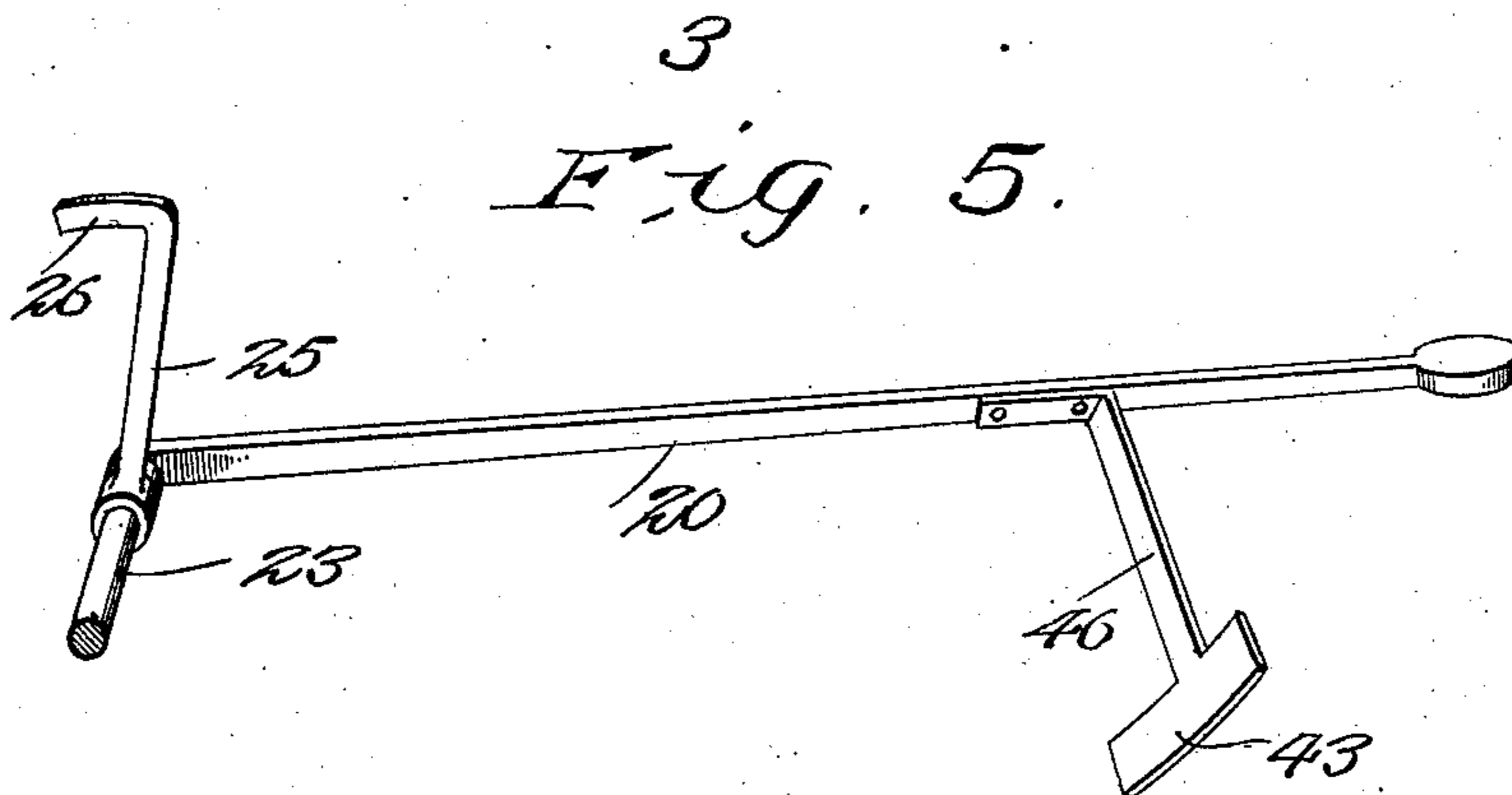
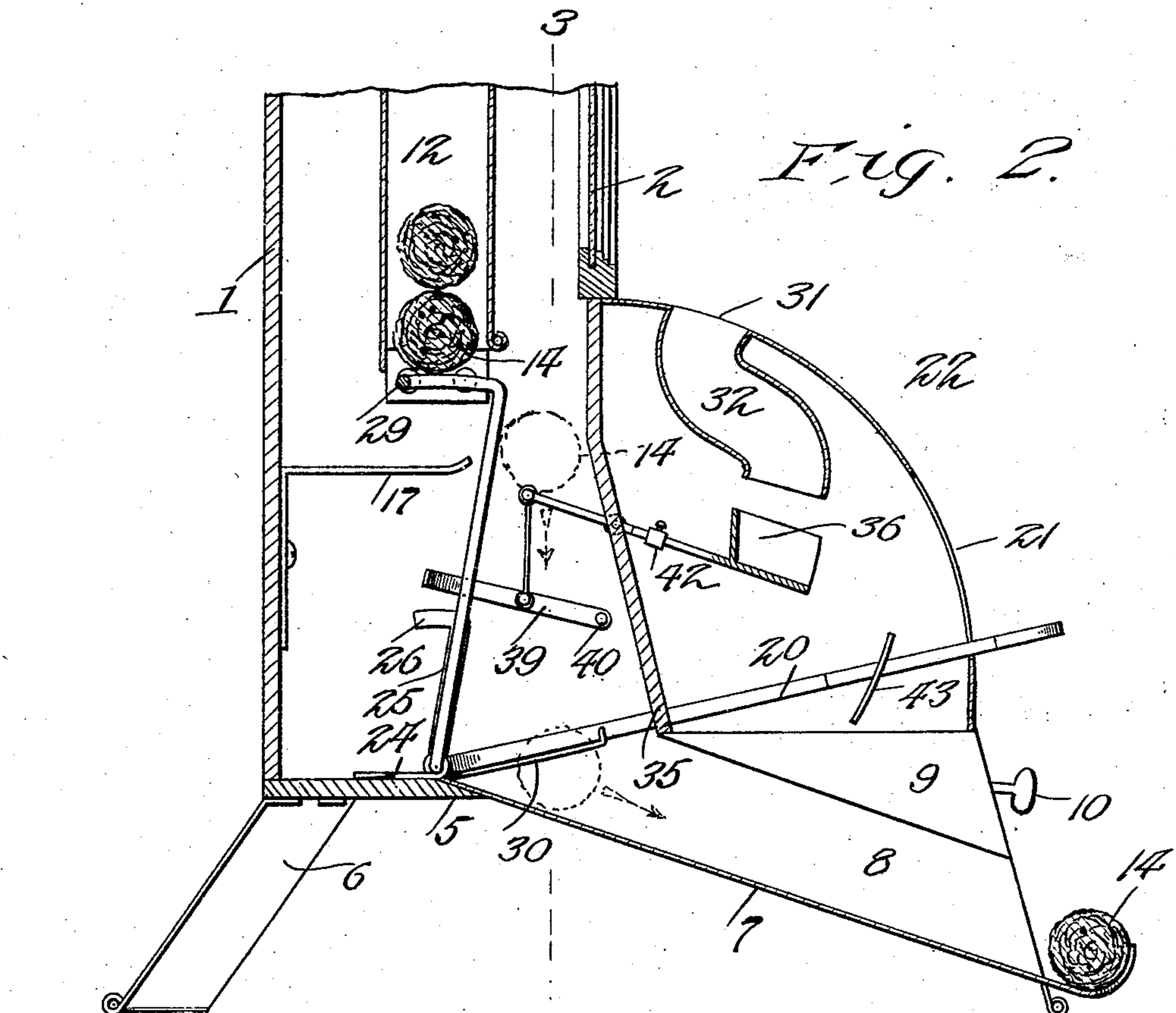
A. S. KILLINGER.
VENDING MACHINE.

APPLICATION FILED OCT. 26, 1907.

929,448.

Patented July 27, 1909.

3 SHEETS—SHEET 2.



Inventor
Alvin S. Killinger

Witnesses

Thomas Riley
P. M. Smith.

By Victor J. Evans
Attorney.

UNITED STATES PATENT OFFICE.

ALVIN S. KILLINGER, OF THOMAS, OKLAHOMA.

VENDING-MACHINE.

No. 929,448.

Specification of Letters Patent.

Patented July 27, 1909.

Application filed October 26, 1907. Serial No. 399,281.

To all whom it may concern:

Be it known that I, ALVIN S. KILLINGER, a citizen of the United States of America, residing at Thomas, in the county of Custer, Oklahoma, have invented new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to vending machines, the object of the invention being to provide a simple, cheaply constructed and reliable machine for vending articles of merchandise, such as cigars, tobacco and packages of merchandise in general.

The machine embodies a magazine and delivering mechanism in combination therewith to insure delivery of one article or package at a time, and a coin controlled element associated with suitable tripping means whereby the delivery mechanism may be put in operative condition upon depositing in the machine a coin of the proper denomination.

With the above and other objects in view, the nature of which will more readily appear as the description proceeds, the invention consists in the improved construction, combination and arrangement of parts hereinafter fully described, illustrated and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of a vending machine embodying the present invention, illustrating the parts thereof in their normal or inoperative positions. Fig. 2 is a similar view of the lower portion of the machine showing the position the parts assume after a coin has been deposited in the machine and the operating lever depressed. Fig. 3 is a vertical section taken at right angles to Fig. 1. Fig. 4 is a detail perspective view of the coin-operated lever and the coin pocket carried thereby. Fig. 5 is a detail perspective view of the operating lever and its attachments. Fig. 6 is a detail perspective view of the trip and link.

The machine comprises a simple case or cabinet, the upper portion of which is designed to contain the magazine of the apparatus, while the lower and larger portion of the case is designed for the reception of the operative parts of the mechanism herein-after fully described. Said case comprises a back 1 and glass panel front 2 for the magazine section of the case and a top cover 3 which is preferably hinged as shown at 4 so that it may be raised and swung back to allow the magazine to be applied, any

suitable lock being employed to fasten the lid or cover 3 in place. The case also comprises a bottom 5 to which are secured the rear supporting legs 6 which may be of any suitable length and which are preferably constructed out of sheet metal, as indicated in the drawings. A portion of the bottom of the case is formed by the inclined bottom 7 of a gravity chute 8 the top of which is defined by a drawer 9 forming the coin receptacle into which the coins fall after they have performed their work, the drawer 9 being shown as provided with a suitable handle or knob 10 and in practice said drawer will be held closed by means of a suitable lock not shown.

The magazine embodies and contains oppositely arranged flanged guides 11 and 12, each of said guides being three sided or in other words, containing an outer side and parallel inwardly extending flanges 13 arranged at a suitable distance apart to embrace the opposite ends of articles as merchandise indicated at 14. The articles referred to are shown in the form of cigars and while various articles may be sold in the machine herein described for the sake of convenience the machine will be described with special reference to the handling of cigars.

The guides 11 and 12 are open at their lower ends where they are secured to the opposite side walls 15 of the case by flanged extensions 16, the latter being fastened permanently within the case in the manner illustrated in Figs. 1 and 3. Beneath the open discharge ends of the guides or in other words, beneath the discharge end of the magazine, are arranged one or more rests 17, two of such rests being preferably employed as indicated in Fig. 3 and each consisting of a slotted plate 18 vertically adjustable on a binding screw 19 and having a forwardly projecting upper portion which underlies the open discharge end of the magazine and is arranged at a suitable distance therefrom to receive one of the cigars or other articles and hold the same just clear of the magazine in position to be acted upon by the separator of the machine. The rests 17 are made adjustable in height so as to adapt the machine as a whole to articles of different sizes.

The delivery mechanism comprises an operating lever 20 which works through a slot 21 in the curved front 22 of the casing,

which curved front is preferably composed of sheet metal as indicated in the drawings. At its inner end the lever 20 terminates in a rock shaft 23 which is journaled in suitable bearings 24 within the case and which has fast thereon a lever arm 25 the outer end of which is bent to form a trip rest or stop 26 preferably curved in the arc of a circle of which the rock shaft is the center. The rock shaft 23 is also provided with another lever arm 27 which constitutes what I call the separator or in other words, the element which separates the lowermost article 14 from those lying above it, by pushing said article off of the rests 17. Normally, the separator 27 extends upward and lies behind the lowermost article 14 and is of sufficient length only to affect the said single article. Furthermore, the separator 27 is preferably three sided or U-shaped, or in other words, it comprises a pair of arms 27 which at the top are bent back to form cut off portions 28 the same being connected at their rear ends by a cross bar 29, the parts 27, 28 and 29 being preferably formed integrally with the rock shaft 23 as shown in Fig. 3. The cut off portions 28 of the separator are preferably described on the arc of a circle of which the shaft 23 is the center, and therefore when the separator 27 moves forward to push an article off the rests 17, the cut off 28 moves beneath the overlying articles and upholds the same until the separator returns from the position illustrated in Fig. 2 to the position illustrated in Fig. 1, whereupon another article is allowed to fall in front of the separator downward upon the rest 17. The operating lever 20 and the arms 25 and 27 are restored to their normal positions indicated in Fig. 1 by a return spring 30 which is shown as engaging the lever 20.

At the front of the machine is a coin slot 31 adapted to permit a coin of the proper denomination to be inserted into a runway 32 extending downward into the front portion of the casing, the said coin being adapted to impart movement to a coin-operated lever 33 which is fulcrumed intermediate its ends at the point 34 on a partition wall 35. At one end the lever 33 is provided with a coin pocket 36 of a size commensurate with the coin to be used and said pocket is provided in its lower side with a slot 37 to permit a smaller coin to pass on through the bottom of the pocket without affecting the lever 33. At its inner end the lever has pivotally connected thereto a link 38, the opposite end of which is pivotally connected to a trip 39. This trip is pivotally mounted at one end 40 within the casing and is provided at its opposite end with a laterally bent portion or trip finger 41 which when the parts are in their initial or normal positions lies in front of the lever arm 25 as shown in Fig. 1, and prevents the operating lever from being

depressed. In other words, the trip 39 forms a lock for the lever by standing in the way of the arm 25. The weight of the trip 39 and link 38 is also used to balance the lever 33 and in addition thereto an adjustable weight 42 is mounted on said lever and adapted to be shifted lengthwise thereof so as to balance the lever in a manner which will prevent a coin of lighter weight from rocking said lever when deposited in the coin pocket carried by said lever. The operating lever 20 also carries an arcuate coin guard 43 which normally occupies the relation to the coin pocket shown in Fig. 1. The outer end of the coin pocket is open so that the coin will roll out of the same when inclined downward to the position illustrated in Fig. 2. The guard 43 is provided for the purpose of temporarily closing the open end of the pocket when the parts are in their normal position as indicated in Fig. 1, the object being to prevent the escape of the coin from the pocket before the operating lever 20 is depressed for the purpose set forth. By reference to Fig. 1, it will be seen that when a coin is deposited in the machine, it falls into the pocket 36 and if it is the proper coin, it carries said pocket downward to the dotted line position shown in the same figure, the coin being prevented from rolling out of the pocket by the guard 43 carried by the operating lever. In this downward movement of the coin pocket the lever 33 is docked, thereby raising the trip 39 out of the path of the trip 25. This unlocks or frees the operating lever and the separator 27, whereupon the operator depresses the operating lever 20 which rocks the separator arm forward and moves the lowermost cigar or other article off the rest 17 whereupon said article falls by gravity into the chute 28 and passes to the outer or lower end thereof, where the front edge of the chute is upturned in the form of a gutter as shown at 44, and provided with a finger notch 45 to facilitate the removal of the article therefrom.

It will be noted that the coin guard 43 is offset at a distance from the lever 20 by means of a laterally projecting arm 46 in order to bring said guard in front of the open end of the coin pocket 36; also that the coin operating lever 33 is offset intermediate its ends as shown at 47 in order to bring the coin pocket 37 under the runway 33 and position the inner end of said lever to receive the link 38 which extends to the trip 39.

Having thus fully described the invention, what is claimed as new is:—

In vending apparatus, a magazine, a rest for supporting a stack of articles of merchandise so that the bottom article will be clear of the discharge end of the magazine, an oscillatory bail-shaped separator and cut-off movable across the discharge end of the

magazine and composed of a metal strip
round in cross section and bent to comprise
a shaft and parallel ejecting arms for the
articles spaced at a distance apart less than
5 the length of the articles and having their
outer ends bent back to form curved sup-
ports that underlie the opposite ends of the
articles, the extremities of said supports be-
ing connected together for simultaneous
10 movement by a combined brace and cross bar

forming an integral continuation of said
supports, and an operating lever arm form-
ing an angular extension of one end of the
shaft of the separator and cut-off.

In testimony whereof I affix my signature 15
in presence of two witnesses.

ALVIN S. KILLINGER.

Witnesses:

RALPH B. DAVIS,
SAM CLOUGH.