H. W. SCHILLING.

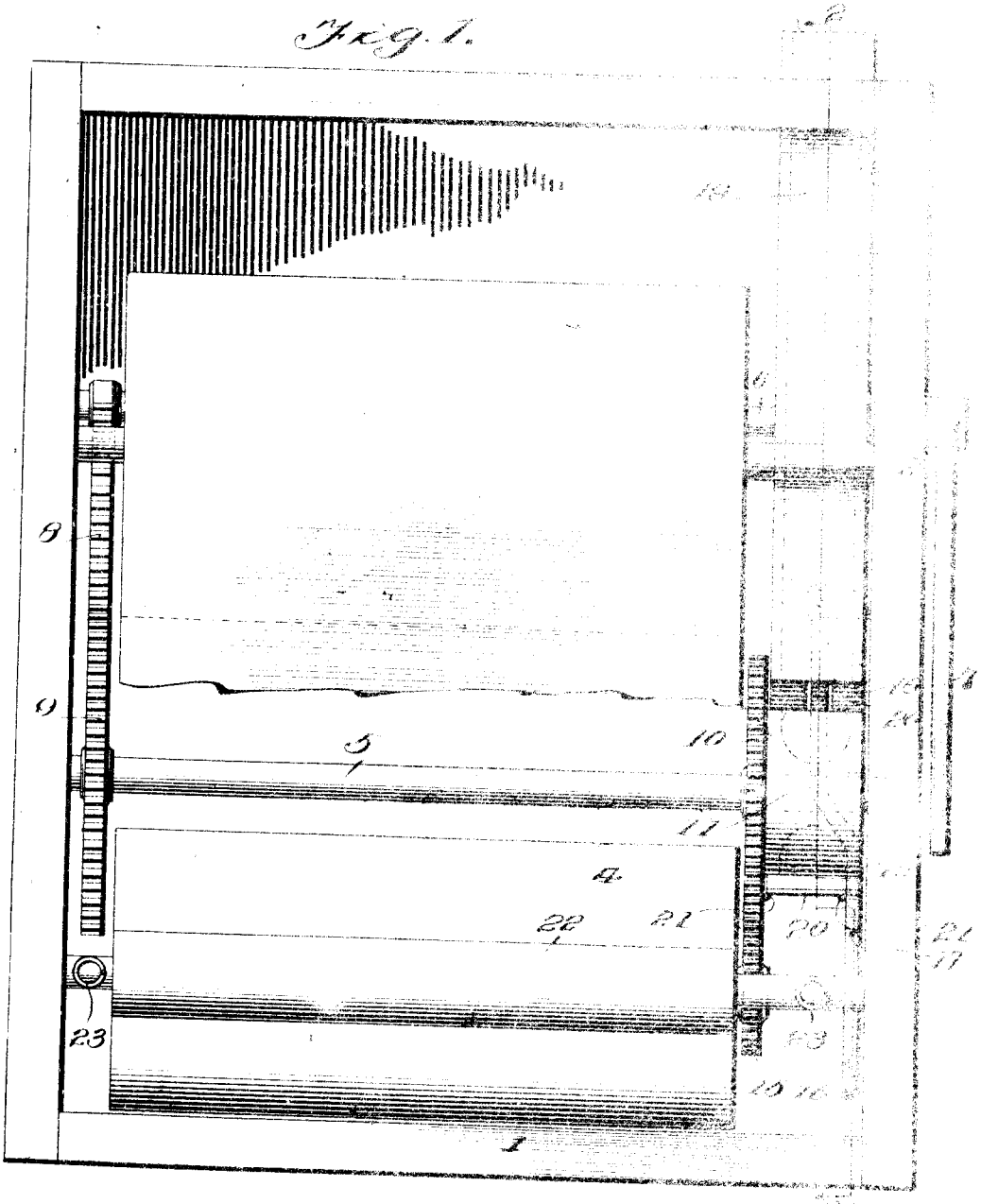
VENDING MACHINE.

APPLICATION FILED [illegible]

1,067,942.

Patented July 22, 1913

Fig. 1.



Witnesses

[illegible]

[illegible]

By [illegible]

Attorneys

H. W. SCHILLING.

VENDING MACHINE.

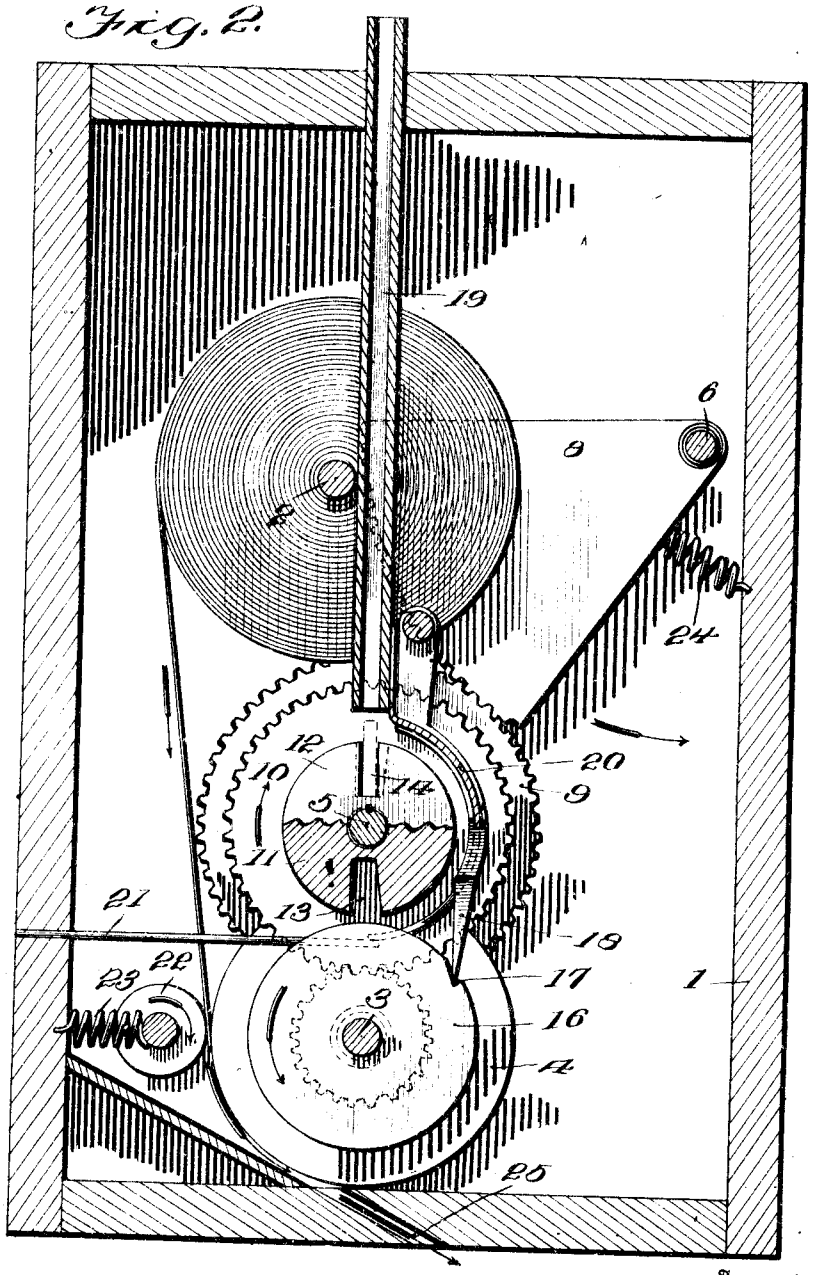
APPLICATION FILED JUNE 7, 1912.

1,067,942.

Patented July 22, 1913.

3 SHEETS—SHEET 2.

Fig. 2.



Inventor

H. W. Schilling.

Witnesses

Richard Epes

R. H. Bishop

By

Attorneys.

H. W. SCHILLING.

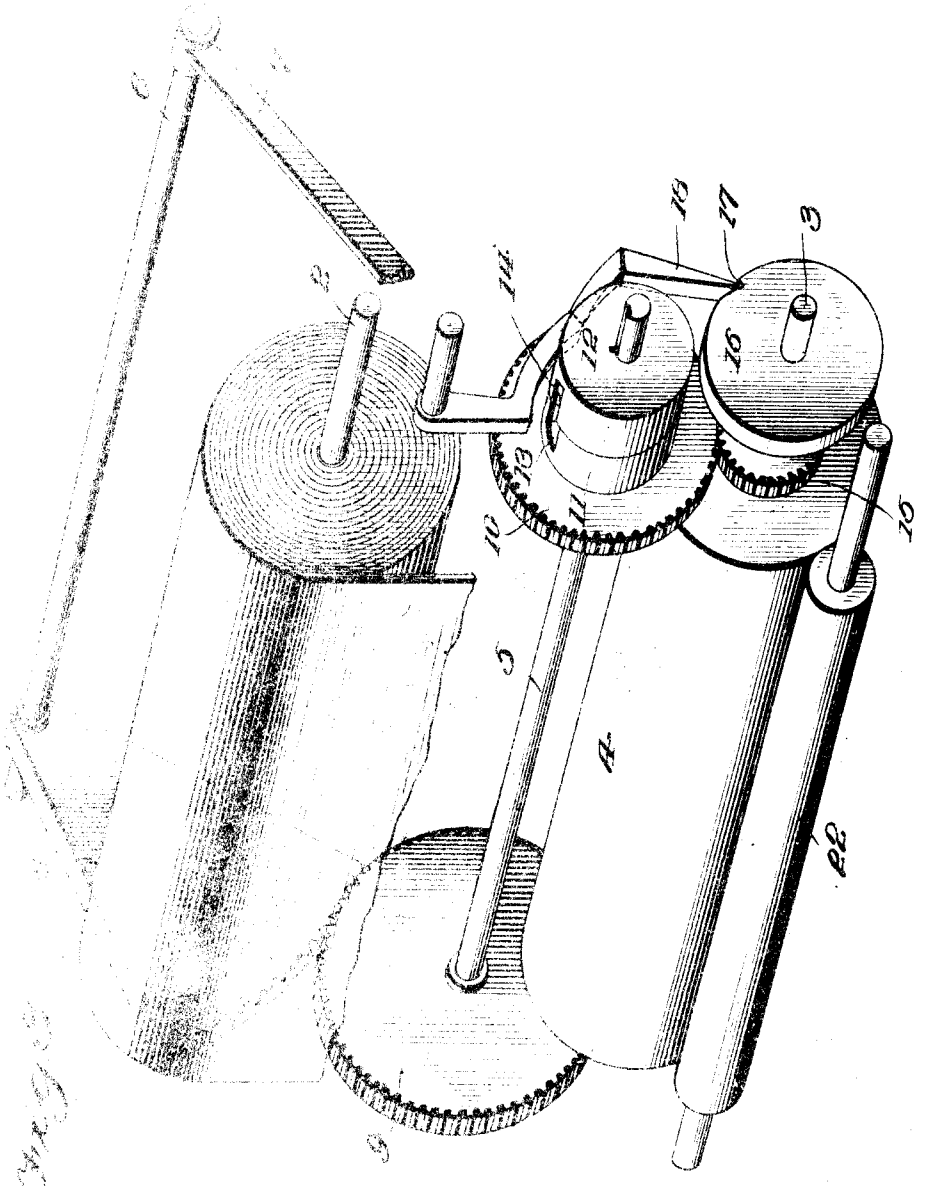
VENDING MACHINE.

APPLICATION FILED JUNE 7, 1912.

1,067,342.

Patented July 22, 1913

3 SHEETS-SHEET 3.



Inventor

H. W. Schilling.

By Thacher & Thacher Attorneys.

UNITED STATES PATENT OFFICE.

HENRY W. SCHILLING, OF NOBLE, ILLINOIS.

VENDING-MACHINE.

1,067,942. Specification of Letters Patent. Patented July 22, 1913.

Application filed June 7, 1912. Serial No. 702,315.

To all whom it may concern:

Be it known that I, HENRY W. SCHILLING, citizen of the United States, residing at Noble, in the county of Richland and State of Illinois, 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 special reference to machines for delivering sheets of paper from a web or roll, the object of the invention being to provide a machine of simple construction by which, upon the insertion of a coin or check, a predetermined length of the paper may be fed from the inclosing casing, and which will be inoperative unless such check or coin be inserted.

The invention is illustrated in the accompanying drawings, and consists in certain novel features of construction and arrangement of parts which will be hereinafter first fully described and then more particularly pointed out in the appended claims.

In the drawings: Figure 1 is a front elevation of my improved vending machine, the front plate of the casing being removed; Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1; Fig. 3 is a perspective view of the principal operating members of the mechanism in assembled relation.

The casing, 1, may be of any convenient style or material, and in the end walls of the same I journal an upper shaft 2 upon which the web of paper is to be placed, a lower shaft 3 which carries the feeding roller 4, and an intermediate shaft 5 constituting a part of the operating mechanism. A rock shaft 6 is also journaled in the end walls of the casing at a point in rear of the web-carrying shaft 2, and one end of this rock shaft 6 projects beyond the adjacent end wall of the casing and is equipped with a handle or operating lever 7, as shown. The opposite end of the rock shaft 6 has fixed thereto a segmental gear 8 which meshes with a gear wheel 9 on the adjacent end of the shaft 5 which is disposed between the web-carrying or supply shaft 2 and the feed roller, as clearly shown. On the end of the shaft 5, remote from the gear wheel 9, is loosely mounted a gear wheel 10 having rigid therewith a hub or disk 11, as shown, while immediately adjacent the said hub or disk 11 a similar disk 12 is keyed upon the shaft 5, the said disks 11 and 12 being of the same diameter and being provided with radial coin-receiving slots 13 and 14, respectively, as shown most clearly in Fig. 3, the slot or recess 13 in the disk 11 being slightly greater than the slot or recess 14 in the disk 12.

The gear wheel 10 meshes with a pinion 15 fixed on the shaft 3 carrying the feed roller, and a stop disk 16 is also secured on the said shaft 3 and is provided with a single recess or shoulder 17 adapted to be engaged by a dog 18 pivotally mounted within the casing and passing around the disks 11 and 12 in rear of the same, as shown in Figs. 2 and 3.

The coin chute 19 passes through the top of the casing and terminates adjacent the disks 11 and 12, which are so arranged that when the apparatus is at rest the recesses or slots in the said disks will lie immediately below the end of the chute to receive the coin deposited therein. The recesses should be of such depth as to permit the coin to project somewhat beyond the edges of the disk, so that when motion is imparted thereto the projecting edge of the coin will strike the dog 18 and swing the same out of engagement with the stop disk 16 so as to permit the feeding mechanism to move.

A guard 20 is secured to the lower end of the coin chute and extends rearwardly around the said disks 11 and 12 concentric therewith, and has its lower end supported by spaced wires or rods 21 which constitute a support therefor, the said supporting rods being spaced apart a sufficient distance to permit the coin to drop between the same. The coin guard 20 is longitudinally slotted to permit the edge of the dog 18 to project through the guard in position to be engaged by the projecting edge of the coin or check, and the dog will thus be held in its inoperative position until the stop or shoulder on the stop disk has moved beyond the range of the dog, so that the dog cannot again enter into engagement with the said stop until the desired length of the web has been fed through the casing.

By properly proportioning the gear wheel 10 and the pinion 15, the feed roller may be given one or more revolutions while the coin disks are making one-half a revolution, it being understood that the coin will drop from the disks when the same has made one-half a revolution. The necessary tension upon the paper is maintained through the medium of a presser roller 22 which is slidably mounted in the end walls of the casing

immediately adjacent the feed roller and is held against the feed roller by springs 23, as will be readily understood. A spring 24 is provided between the back wall of the casing and the segmental gear 8, so that, when the operating force is removed from the handle 7, the parts will be returned to the initial position.

The operation is thought to be clear from the foregoing description. The web of paper is placed upon the shaft 2 which is removably fitted in the casing to facilitate the insertion of a fresh web or roll, and the end of the web is fitted between the feed roller and the presser roller and manually fed to the bottom of the casing and into an outlet 25 formed therein, as will be readily understood. The casing is then closed, and, when it is desired to withdraw a part of the web, the coin or check is deposited in the coin recesses or slots in the coin disks 11 and 12. The handle 7 is then depressed to the limit of its movement, which may be determined by the back edge of the segmental gear coming in contact with the back wall of the casing, and the movement of the handle will be transmitted directly through the rock shaft 6 and the segmental gear to the gear 9 which will thereupon rotate the shaft 5 and the coin disk 12. The disk 12 being fixed to the shaft 5, will carry the coin at once against the dog 18 so as to swing the same out of engagement with the stop disk 16 and immediately afterward, so as to be practically simultaneous with the movement of the dog, the coin engages the wall of the slot 13 in the disk 11, so that the said disk and the gear 10 will be rotated. The gear wheel 10, of course, transmits its motion directly to the pinion 15, so that the feed roller will be actuated and the material fed from the web through the casing. The movement of the lever 7 will be sufficient to cause a half revolution of the coin disks and when this half revolution has been completed the coin will drop from the disks so that the movement of the loosely mounted disk 11 and the gear wheel 10 will cease, while the fixed disk 12 will be returned to its initial position under the influence of the spring 24 acting upon the segmental gear 8, as will be readily understood. When the coin drops from the coin disks, the dog 18 is, of course, released and will at once gravitate to the position where its lower end rests upon the edge of the stop disk, so that as the said disk continues to rotate the shoulder or notch in the edge of the disk will be engaged by the end of the pawl, and consequently motion of the disk and of the feed roller will be arrested. Should the handle be vibrated before a coin or check is inserted, the disk 12 will be rotated through the gear wheel 9 and the segmental gear 8, but, as the disk 11 and the gear wheel 10 are loose upon the shaft 5, no movement will be imparted to those members and consequently the feed roller will remain at rest.

It will be noted that my device is composed of very few parts which are simple in their construction and relative arrangement, so that the machine may be manufactured at a low cost and the up-keep expense will be slight. As the parts are compactly arranged and are simply constructed, the liability of breakage is reduced to a minimum and repairs will seldom be needed. My device is intended more particularly for use in hotels, cafés, and other public places to supply paper or fibrous towels, napkins, closet-seat covers, etc., and will be found highly efficient for the purpose for which it is designed.

What I claim is:—

1. In a vending machine, the combination of a shaft, means for rotating said shaft, a coin disk fast on said shaft, a second coin disk loose on the shaft and co-acting with the first-mentioned coin disk, gearing connected with the loose coin disk, a coin guard disposed concentrically with said disks and serving to retain a coin therein during half a revolution, a feeding device geared to the loose coin disk, a stop disk acting with the feeding device, and a dog projecting into the path of the coin in the coin disks and adapted to engage the stop disk.

2. The combination of a shaft having a gear wheel on one end, a coin disk fast on the other end of said shaft, a rock shaft, a segmental gear carried by said rock shaft and meshing with the gear wheel on the first-mentioned shaft, a coin disk mounted loosely on said first-mentioned shaft, said coin disks being provided with registering recesses, a coin chute arranged to deposit a coin in said recesses, a feeding mechanism geared to the loosely mounted disk, a stop disk acting with the feeding mechanism, and a dog projecting into the path of the coin in the coin disks and adapted to engage the stop disk.

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

HENRY W. SCHILLING. [L. S.]

Witnesses:

GRETCHEN J. SCHILLING,

E. L. PALMER.