

(No Model.)

C. H. THOMPSON.
COIN CHUTE FOR VENDING MACHINES.

No. 446,303.

Patented Feb. 10, 1891.

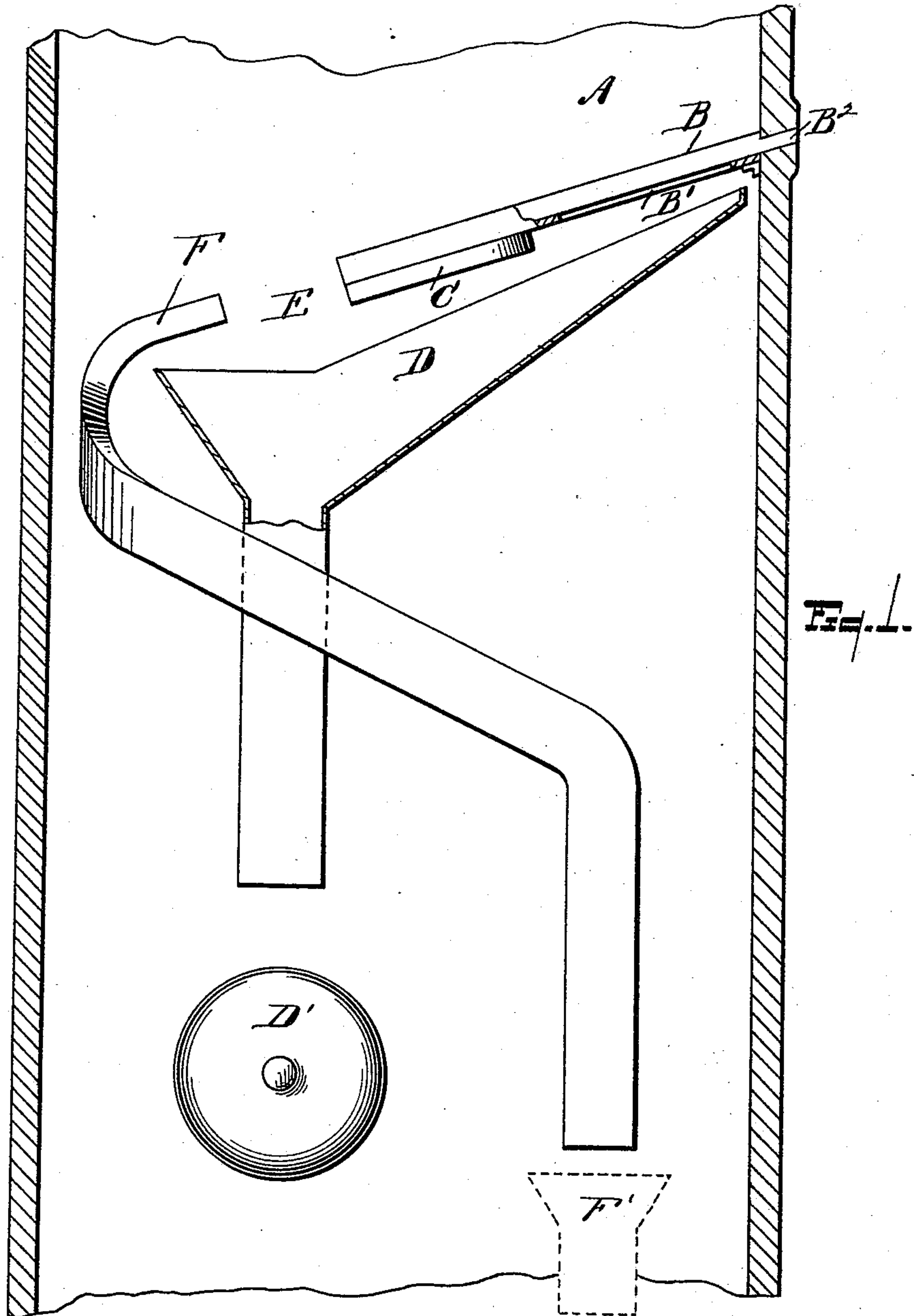
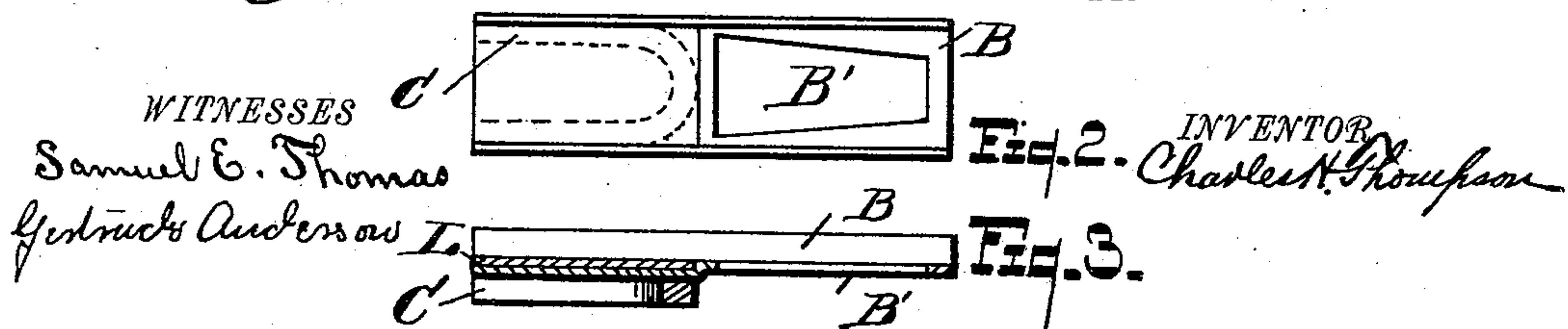


Fig. 1.



WITNESSES

Samuel E. Thomas
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Fig. 2.

Fig. 3.

UNITED STATES PATENT OFFICE.

CHARLES H. THOMPSON, OF DETROIT, MICHIGAN, ASSIGNOR TO THE AUTOMATIC CIGAR SELLER COMPANY, OF SAME PLACE.

COIN-CHUTE FOR VENDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 446,303, dated February 10, 1891.

Application filed February 25, 1890. Serial No. 341,718. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. THOMPSON, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful
5 Improvement in Coin-Chutes for Automatic Vending-Machines, of which the following is a specification.

My invention consists in an improvement in coin-chutes for automatic vending-machines,
10 hereinafter fully described and claimed.

Figure 1 is an elevation with the walls of the box in section; Fig. 2, a top plan view of the upper end of the coin-chute, and Fig. 3 a longitudinal section through Fig. 2.

15 The great difficulty which exists in automatic vending-machines is the fact that a slug of base metal of the proper size and weight will operate the machine just as well as the coin for which it is intended. In vending-machines this means the sale of goods for
20 worthless slugs. My invention is designed to obviate this difficulty by discriminating between coin and slugs, throwing out the slugs without operating the vending apparatus.

25 A represents the box. B² represents a slot through which the coin is to be inserted, and B represents the upper end of the coin-chute communicating with the slot B². The coin-chute is broken at E, thus forming a trap, and is continued at F, in any desired form, down to the receptacle F', which is the point where the coin actuates the connecting or un-
30 locking mechanism of the apparatus.

35 In the upper end of the chute B is formed a slot B', which is preferably made to increase in width as it extends downward, until its lower end is so wide that the chute will just retain a coin of the proper diameter. Thus
40 when a coin or slug of less diameter than the proper coin is introduced into the chute it will fall through slot B' without passing to the mechanism of the apparatus. The downwardly-diverging slot causes the front end of a coin to tilt downward, instead of dropping
45 it through horizontally, so that it cannot by attaining considerable velocity jump the slot.

I preferably attach both parts of the coin-chute B and F to the box, so that they may
50 be adjusted vertically, though either or both

may be rigidly attached, or only one of them may be adjustably attached. The upper end of the part F is so adjusted vertically with reference to the lower end of the part B that the coin for which the machine is intended
55 in passing down through part B will acquire sufficient momentum to jump over the trap E into the part F.

I prevent slugs from jumping over the trap E and entering the part F in the following
60 manner: C represents a magnet, which may be either an electro-magnet or a permanent magnet, secured to the under side of the part B of the coin-chute with its poles in close proximity to the upper side of trap E, as shown
65 in the drawings. For the purpose of prolonging the life of the magnet (if a permanent one) a keeper can be placed across the poles of the magnet and still leave the magnet of sufficient strength for my purposes. D repre-
70 sents a funnel placed under the coin-chute to receive anything which falls through the slot B' or through the trap E, and is so arranged as to drop all such articles into a waste-receptacle. D' represents a bell fastened
75 to the side of the box under the opening in funnel D, against which a slug passing through said funnel strikes, thus indicating that the operator is attempting to defraud the machine. The operation of this part of
80 the device is follows: When an iron slug is passed into the slot B², if it be of less diameter than the proper coin, it falls through the slot B' into funnel D and is conducted down against the bell D'. If, however, it be of the
85 proper diameter, it passes down along chute B, close within the magnetic field of the magnet C, by which it is attracted downward, so that it will not clear the trap E, but falls into the funnel D and passes downward to the
90 bell.

The great majority of slugs used to defraud machines of this character consist of lead disks, which are not affected by the magnet. For the purpose of arresting these, I form the
95 upper surface of the chute B below the slot B' of a material which will retard the passage of a soft-metal or lead slug. I find that the best material for this purpose is lead, and so I form the surface of chute B of lead, as
100

indicated at L, Fig. 3. This so checks the momentum of a lead slug that instead of clearing the trap E and passing into the continuation F of the chute it falls into the funnel D and rings the bell D'.

While lead is the best material, both as regards cost and efficiency, with which I am acquainted, there are other metals which may be substituted for it and to a certain extent perform the same office and should be considered as mechanical equivalents.

The surface of chute B may be made of roughened metal, like a file, which will check the momentum of the descending disk, and will check a soft-metal disk more than a hard coin; but this is liable to the objections of increased expense, that it in time wears smooth, and that it sometimes mars the coins. Sand-paper may also be used for the retarding-surface of chute B, but loses its efficiency in time by the particles of sand becoming detached from the paper. The retarding-surface of chute B may be made of ground glass or of wood with the grain either parallel or at right angles; but I find that the best retarding-surface is soft metal like lead.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A coin-chute for a vending apparatus, having a stationary retarding-surface and a trap below said retarding-surface, substantially as shown and described.

2. A coin-chute having therein a downwardly-diverging slot, substantially as shown and described.

3. A coin-chute having a lead surface and a trap below the lead surface, substantially as and for the purposes set forth.

4. A coin-chute having a soft-metal sliding surface and a trap below the same, substantially as and for the purposes set forth.

5. The combination, with a coin-chute having therein a trap and a stationary retarding-surface above said trap, of a magnet beneath said retarding-surface, substantially as described.

6. In combination with a coin-chute having therein a trap, a funnel below the trap, and a bell below the discharge-opening of the funnel, substantially as shown and described.

7. In combination with a coin-chute B, having therein a slot B' and the retarding-surface L, the trap E, chute F, funnel D, and bell D', substantially as shown and described.

8. A coin-chute made in two stationary parts with an intervening space, the upper part having its bearing-surface formed of a substance which retards in varying degrees the movement of different metals thereon.

CHARLES H. THOMPSON.

Witnesses:

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