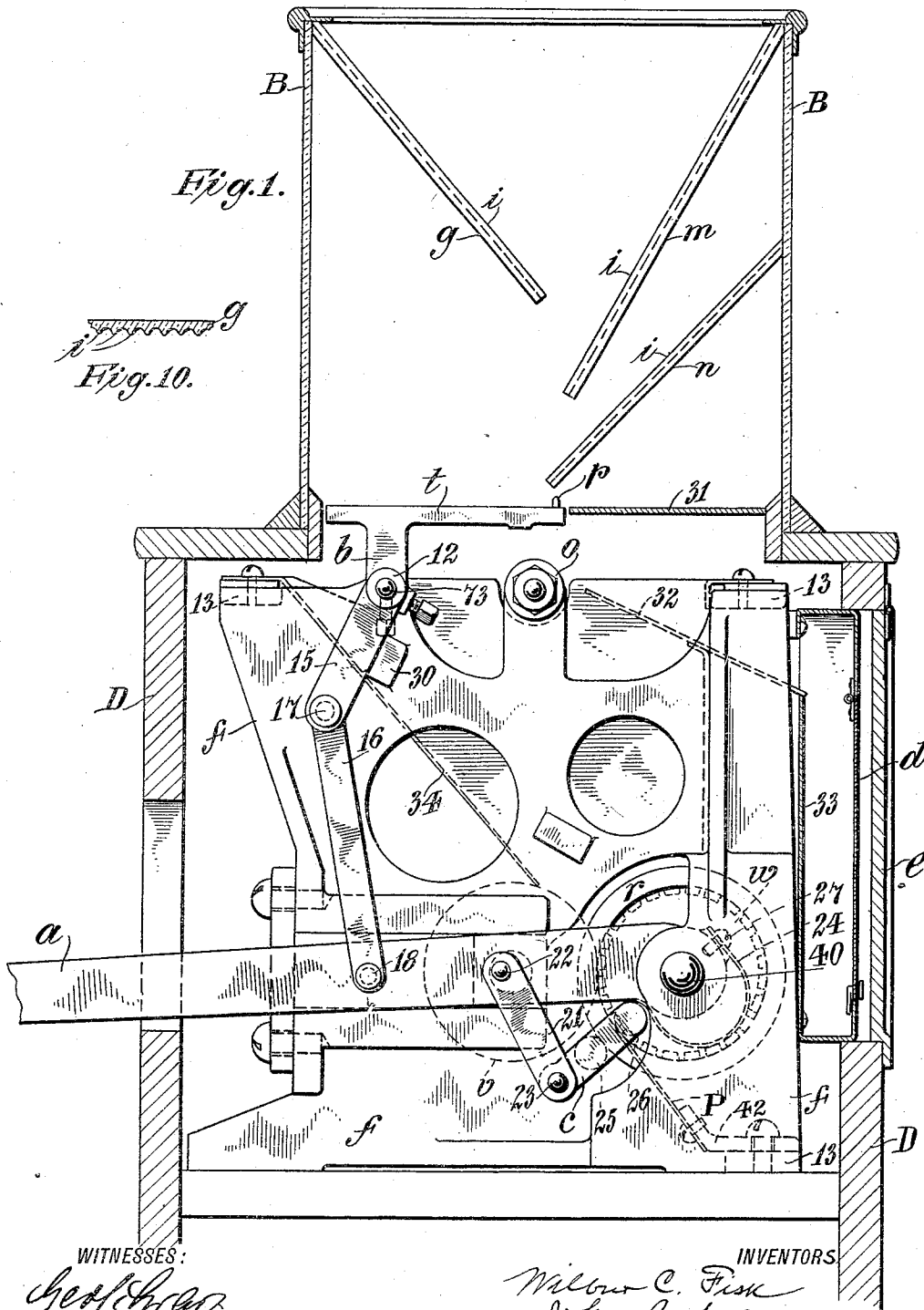


W. C. FISK & J. A. SEELY.
 CANCELING MACHINE FOR TICKETS.
 APPLICATION FILED APR. 3, 1909.

940,452.

Patented Nov. 16, 1909.

4 SHEETS—SHEET 1.



WITNESSES:

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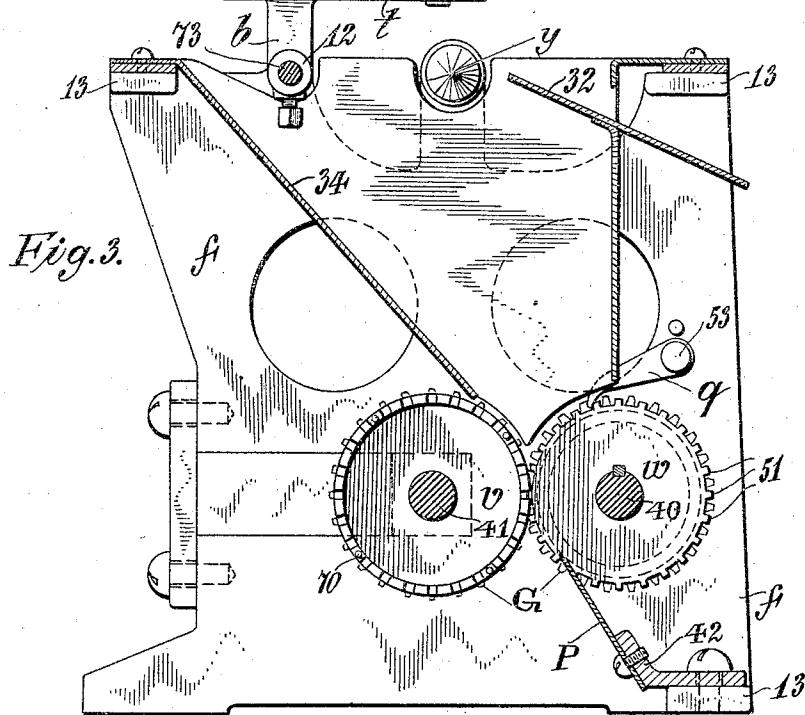
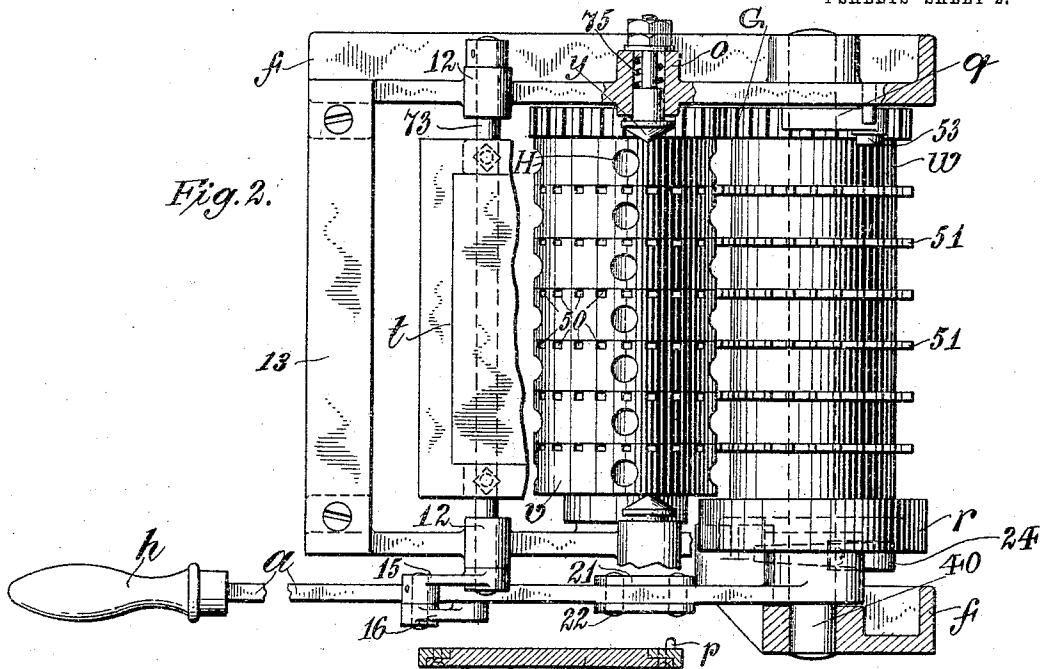
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

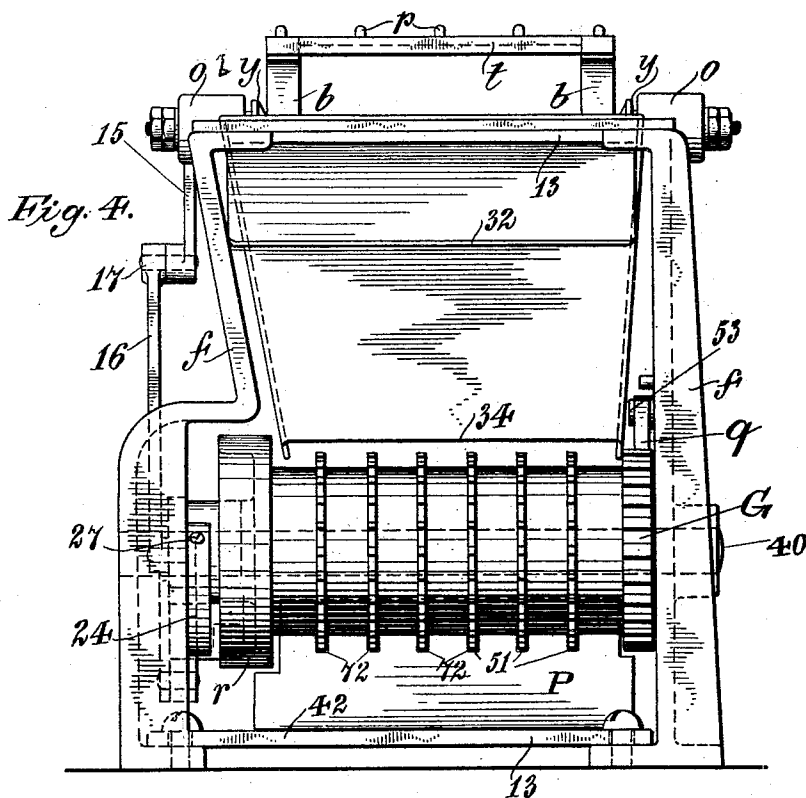


Fig. 6.

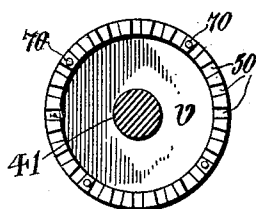
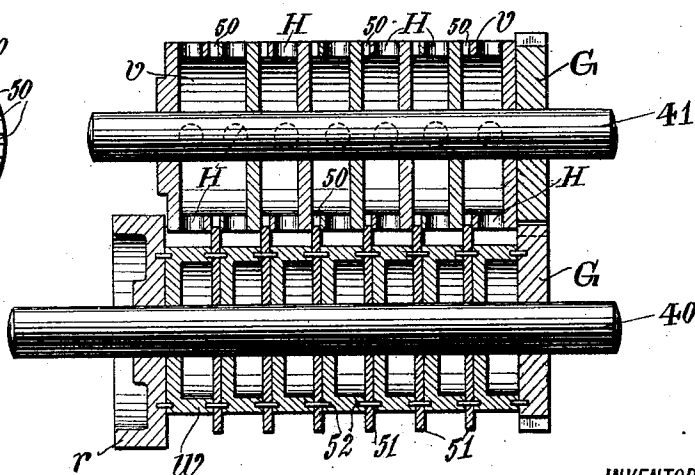


Fig. 5.



WITNESSES;

designed
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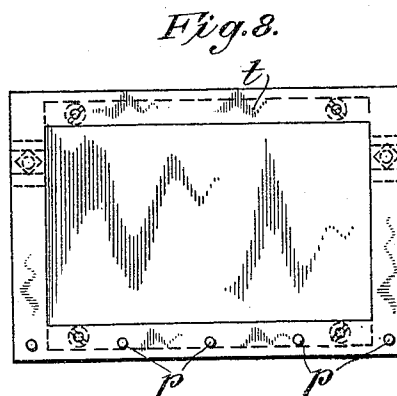
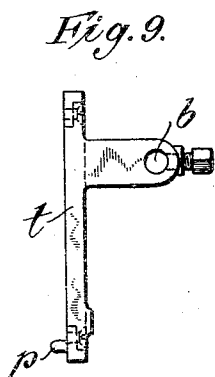
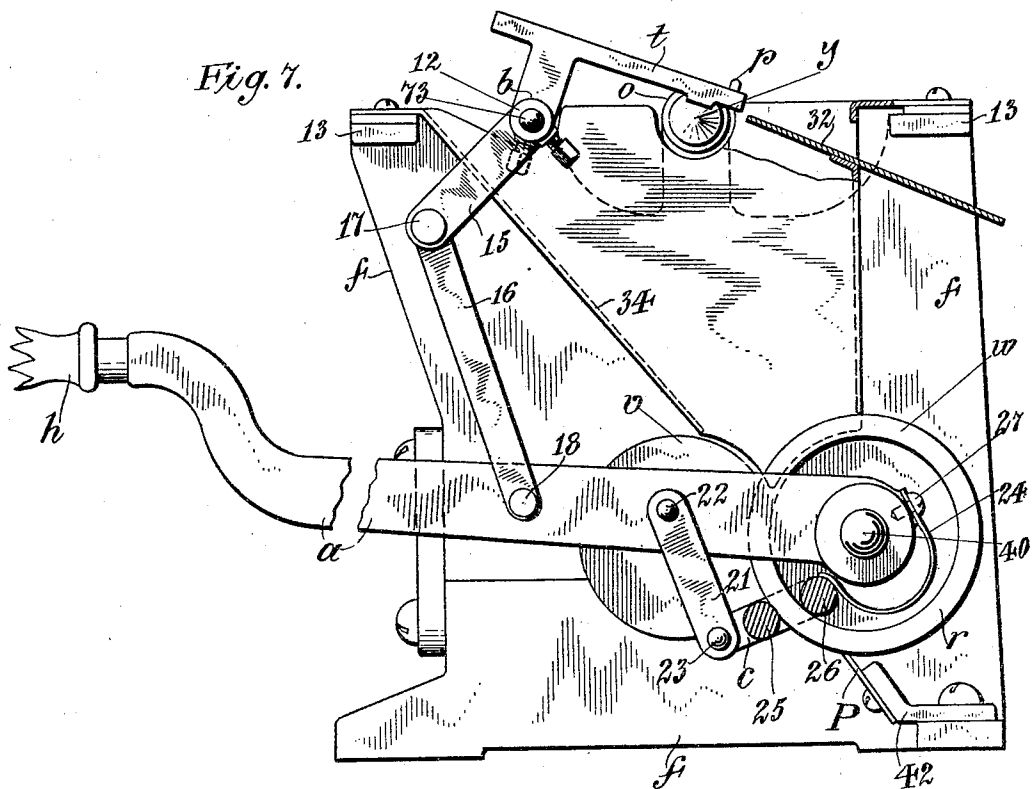
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UNITED STATES PATENT OFFICE.

WILBUR C. FISK AND JOHN A. SEELY, OF NEW YORK, N. Y.

CANCELING-MACHINE FOR TICKETS.

940,452.

Specification of Letters Patent.

Patented Nov. 16, 1909.

Application filed April 3, 1909. Serial No. 487,757.

To all whom it may concern:

Be it known that we, WILBUR C. FISK and JOHN A. SEELY, citizens of the United States, and both residents of New York city, in the county of New York, State of New York, have made certain new and useful Improvements in Canceling-Machines for Tickets, of which the following is a specification.

This invention relates to machines for canceling tickets such as are in common use on the elevated and sub-surface railways. These machines are sometimes called "chopping boxes" because the attendant or operator makes a chopping movement with an actuating lever which furnishes motive power for the operation of the machine.

The object of the invention is to guard against dishonesty and error and to improve the construction of such machines.

The improvements consist, first: in providing means for cutting and destroying the tickets in such a manner that re-use is impossible; second: in providing for separating the tickets from tokens, coins, keys and small articles inadvertently dropped upon the table, and passing such tokens into a separate receptacle; third: providing a chute or passage through which the tickets are initially passed which, when wet or moist will not hold and delay the passage of the tickets onto the table; fourth: providing improved details of construction calculated to render the machine more durable and certain in action.

The accompanying drawings illustrate the invention.

Figure 1 is a side elevation, partly in section, of the complete machine; Fig. 2 is a top view of the canceling or punching cylinders and the operating mechanism; Fig. 3 is a side elevation partly in section showing the cylinders, the table and the means for separating token from tickets; Fig. 4 is a front elevation of same; Fig. 5 is a longitudinal section through the punching cylinders; Fig. 6 is a transverse section through the perforated cylinder; Fig. 7 shows the driving mechanism, the clutch, and the connection between the cylinders and the table; Fig. 8 is a top plan view of the table; Fig. 9 is an end view of the table; and Fig. 10 is a detail view of the ribbed or corrugated glass employed in the chute through which the tickets are initially passed.

In the cast metal frame *f*, composed of two side pieces united by cross pieces 13, the cylinders *v* and *w* are supported upon shafts 41 and 40 to permit free rotation. The shafts 40 and 41 are geared together by the toothed wheels *G* held against reverse rotation by the pawl *q* pivoted at 53. The cylinder *v* has a series of rows of perforations 50, and at intervals larger perforations *H* are provided shown in four rows parallel with the axis. This cylinder is made up of a series of disks having rims, the perforations 50 are notched in the edge of the rim and the perforations *H* are cut through the rim. A series of these rimmed disks are placed on the shaft 41 and keyed or clamped together to form the cylinder *v*. The cylinder *w* has cutting projections 51 arranged in rows to engage and enter the perforations on the cylinder *v*, the edges of these projections and perforations are sharp, to form a cutting edge, so that when a pasteboard ticket passes the meeting line of the cylinders holes will be punched through the ticket and the punched out sections, entering the cylinder *v*, may pass out through the rows of holes *H*. The cylinder *w*, is composed of rimmed disks like those described, but between each pair of such disks there is a toothed disk secured against rotation by pins 52 projecting upon opposite sides of the disk and entering perforations in both adjacent rimmed disks, the series being clamped or keyed together and to the shaft 40. On the shaft 40 is a rimmed disk *r* fixed in position, and to this a clutch consisting of a link *c* having clutch pins 25 and 26 is applied; the spring 24 secured at 27 imparts a tendency to the clutch pins to maintain the position shown in Fig. 7. An arm or lever *a*, having a handle *h*, is fixed on the outer end of the shaft 40; a link 21 connected to arm *a* at 22 is connected to the link *c* at 23. By means of the clutch shown and described the cylinders may be rotated and the steps of rotation may be as extensive as the limits of travel of the arm *a* or any shorter distance at the pleasure of the operator.

To clean the surface of the cylinder *w* there is a notched plate *P* fixed on a bracket 42, the notches 72, Fig. 4, and the edge of the plate closely fit the rows of projections and the surface of the cylinder, and maintain the cutting pins clear and clean and free from punchings or foreign material.

When the tickets are deposited they fall upon a pivoted table *t* Figs. 7, 8 and 9, the table has brackets integral therewith perforated at *b* through which passes the shaft 73 journaled in the frame *f*, as at 12. The shaft 73 is connected with the operating arm *a* by a toggle joint lever composed of the links 16 and 15 united by the pivot 17 and connected with the arm *a* at 18. There is a fixed point 30 forming a limit of movement for the downward motion of the link 15; at this point the table is horizontal; table *t* is given an oscillating movement by reciprocating the handle *h*, at an intermediate point in its movement table *t* strikes conical buffers *y* composed of rods with conical heads in bearings *o* spring pressed toward each other by helical springs 75 within the bearings *o*, Fig. 2; contact with the interfering devices *y* imparts a jar or shock to the table in its movement. At intervals along the outer edge of table *t* is a row of fixed pins *p*, these are arranged at such a distance apart, Fig. 8, that 5 and 10 cent coins can slide between them as can small keys or buttons of ordinary size, all of which are sometimes inadvertently or through error dropped into the machine, either with or without accompanying tickets; the tickets cannot pass between the pins. When the table is horizontal it forms a continuation on a line with the shelf 31, Fig. 1, when the table is tilted slightly and in position to engage the interfering devices *o* it is in line with a fixed shelf 32 arranged at the angle then assumed by the table *t* so that coins will be shaken from the table *t* to the shelf 32 by the jar or shock and pass from 32 to receptacle 33, which has a door *d* in line with the door *e* in the inclosing case D so that the coins or tokens can be recovered. Table *t* is turned down farther to drop off the tickets; the movement carrying it into a vertical plane or to a point where the tickets are dislodged. Above the inclosing case D is a case B preferably transparent on one or more sides and supporting a chute composed of three plates *g*, *m*, and *n* as shown in Fig. 1. Dishonest attendants have been known to wet the surface of these inclined plates usually constructed of metal or plain polished glass so that when tickets are dropped they will adhere to the wall of this chute. To guard against this there is provided a chute composed of the same arrangement of glass plates arranged at about the same angle but the glass is corrugated or provided with sharp ribs thus presenting a sharp edge which will immediately free itself if water or moisture is applied to it and which will not provide an adhesive surface for the tickets. In Fig. 10 there is shown a section

of glass *g* with sharp ribs *i*, we prefer to have these ribs *i* present an acute angle.

In operation when tickets are dropped in they fall on *g*, *m*, *n*, *t*, when the attendant vibrates the arm *a*, shelf *t* is tilted, the tickets are jarred by the passage of the shelf *t* past the interfering devices *o* and fall on the incline 34, passing between cylinders *v* and *w* where they are punched and mutilated to an extent making re-use impossible; from which position they fall to the bottom of the case where a suitable receptacle is provided. The punchings from the tickets pass to the interior of the cylinder *v* thence out through the holes H. If coins and tokens are dropped on the shelf *t* they are jarred off onto the inclined shelf 32 while the tickets are retained on the shelf *t* by the presence of the pins *p*, the tickets leave the shelf when the shelf has taken a position nearly vertical, as it is forced to do by the movement of the lever *a* on its complete excursion.

What we claim and desire to secure by Letters Patent is:

1. In a machine of the character described the combination of a pair of parallel, rotating, tubular cylinders, perforations in the wall of one cylinder registering with cutting projections on the surface of the other cylinder, an oscillating table located above said cylinders, a chute or passage above said table having glass walls or contact surfaces composed of parallel acute-angled ribs, means fixed on the surface of said table for separating articles differing in size and gravity, a shelf fixed at an angle, a supplemental receptacle fixed at the outer edge of said shelf, and means for jarring the oscillating table when it reaches a point in its movement in line with said shelf, all so arranged as to first dislodge articles of a predetermined size and gravity and to retain articles of a different size and gravity until said table reaches an approximately vertical plane.

2. In a canceling machine the combination of suitable canceling devices, a chute or passage leading to said devices, a tilting table, a shelf fixed in a radial line with said table when said table is at an acute angle to the horizontal in its rotary movement, means for jarring said table in its tilting movement when said table is in line with said shelf and means for rotating said table and said canceling devices successively.

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