

$$\cos \beta^* = \frac{K_2 - n \frac{T'}{v'}}{\sqrt{K_1^2 + \left(K_2 - n \frac{T'}{v'}\right)^2} + K_3^2}$$

8 PT.

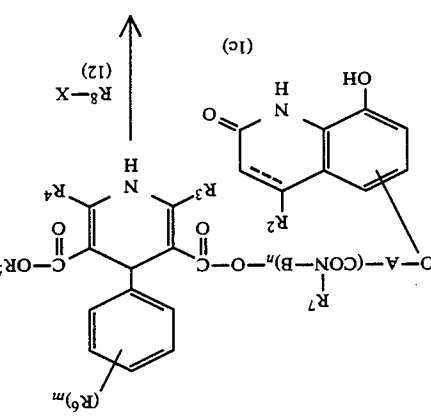
6 PT.

4 PT.

Carboxytril derivative or a pharmaceutically acceptable acid addition salt thereof, having excellent platelet aggregation inhibitory effect, calcium antagonism, hypotensive effect and phosphodiesterase inhibitory effect are useful as prophylactic or treating agents for thrombosis, circulation improving agents for coronary blood flow such as coronary vasodilators, hypotensive agents and phosphodiesterase inhibitors. Furthermore, the carboxytril derivatives are weak in heart rate increasing activity and also in cardiac muscle contraction increasing activity, and the carboxytril derivatives are useful

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$$v' \text{ ref}(t) = K \cdot r \cdot \delta \left(1 - \frac{2L}{2L - 2d_s} \right) + K(1 - r^2)e^{-2\alpha d_s}$$

$$(K_1x + K_2y + K_3z + T) + n(K''_1x + K''_2y + K''_3z + T'') = 0$$

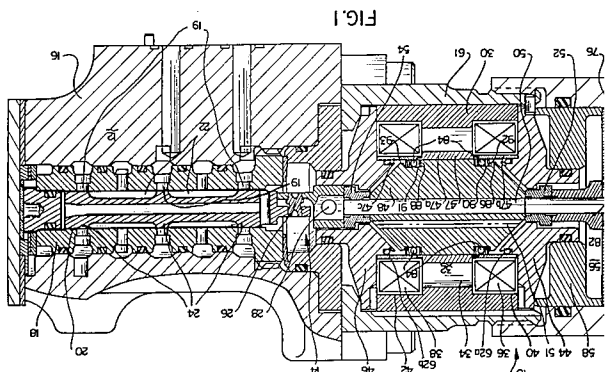
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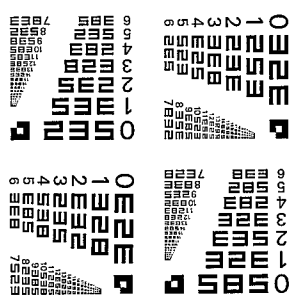
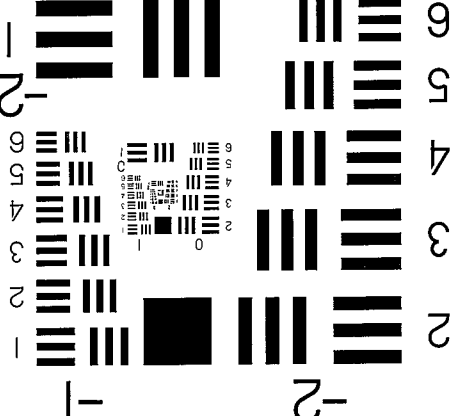
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Aperture ratio:	1:1.10
Magnification of projection:	-1.799x
If angle of view:	28.56°
d ₁ = 11.0	n ₁ = 1.49380
d ₂ = 68	n ₂ = 1.62286
d ₃ = 20.0	n ₃ = 1.59501
d ₄ = 2.87	n ₄ = 1.49380
d ₅ = 5.0	n ₅ = 1.45000
d ₆ = 58.8	n ₆ = 1.51872
d ₇ = 5	
d ₈ = 5	
d ₉ = 8	
G	

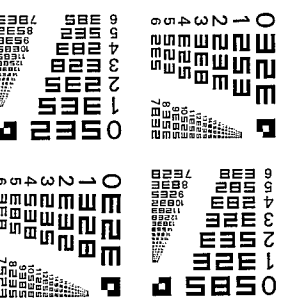
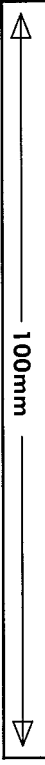
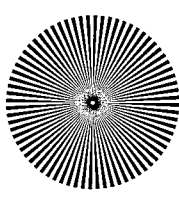


U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

IMAGE SYSTEM TEST TARGET



r ₁ (L ₁)	r ₆ (L ₃)	r ₇ (L ₄)
K = 1.0	K = 1.0	K = 0.0
C ₂ = 0.0	C ₂ = 0.0	C ₂ = 0.0
C ₄ = -0.15691 × 10 ⁻⁶	C ₄ = +0.95381 × 10 ⁻⁷	C ₄ = -0.22891 × 10 ⁻⁵
C ₆ = -0.40068 × 10 ⁻¹⁰	C ₆ = -0.73871 × 10 ⁻¹⁰	C ₆ = +0.12283 × 10 ⁻⁹
C ₈ = +0.21016 × 10 ⁻¹³	C ₈ = +0.12280 × 10 ⁻¹³	C ₈ = +0.84230 × 10 ⁻¹³
C ₁₀ = -0.37685 × 10 ⁻¹⁷	C ₁₀ = -0.33177 × 10 ⁻¹⁷	C ₁₀ = -0.20592 × 10 ⁻¹⁶
f ₁ = 314.6		
f ₂ = 88.0		
f ₃ = -481.2		
f ₄ = -99.6		



No. 723,345.

PATENTED MAR. 24, 1903.

W. WEBBER.
VENDING MACHINE.

APPLICATION FILED APR. 4, 1900.

NO MODEL.

2 SHEETS—SHEET 2.

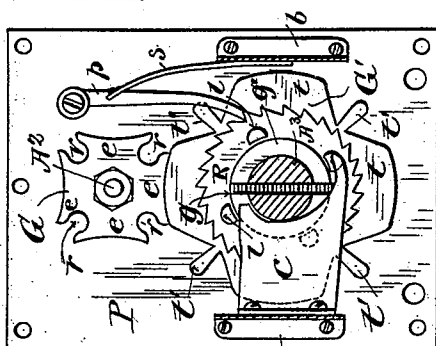


Fig. 7.

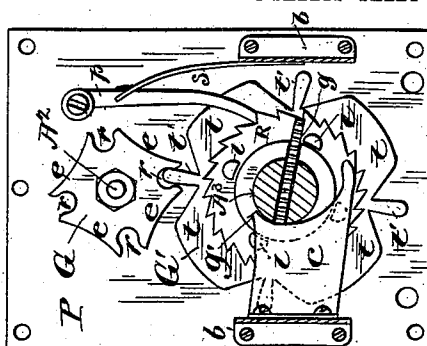


Fig. 8.

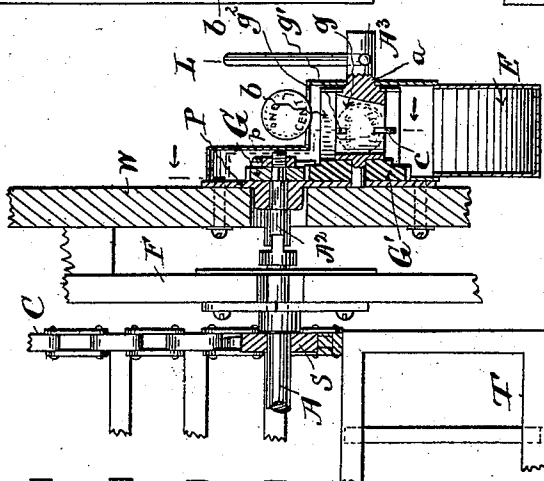


Fig. 6.

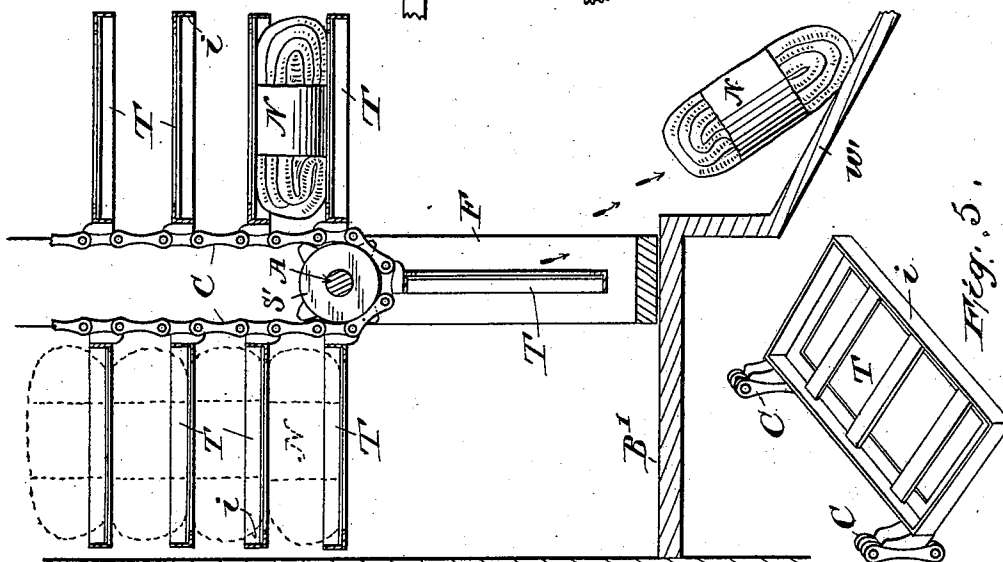


Fig. 5.

WITNESSES

Chas. Benjamin
Arden S. Fitch.

Fig. 4.

INVENTOR

Wesley Webber
by *A. S. Terwilliger*
ATTY

UNITED STATES PATENT OFFICE.

WESLEY WEBBER, OF NEW YORK, N. Y.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 723,345, dated March 24, 1903.

Application filed April 4, 1900. Serial No. 11,418. (No model.)

To all whom it may concern:

Be it known that I, WESLEY WEBBER, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented a certain new and useful Vending-Machine, of which the following is a specification, reference being had to the accompanying drawings, forming part of the same, in which—

10 Figure 1 is a perspective view of a closed machine embodying my invention. Fig. 2 is a perspective view of the said machine opened. Fig. 3 is a front elevation of the machine with the door open, said door being shown in perspective. Fig. 4 is a sectional view of a part of the case, showing also in elevation parts of the endless chain, the buckets or shelves, the sprocket-wheel, and articles to be delivered. Fig. 5 is a detail view of one of the buckets or shelves. Fig. 6 is a sectional view of the operating mechanism. Fig. 7 is a sectional view of said operating mechanism in normal position, its case having been removed and the supporting-bridge shown in section. Fig. 25 8 is a similar view of the operating mechanism as it appears when it has been partially operated to deliver an article.

My invention relates to coin-operated devices; and it consists in the devices and combinations of devices hereinafter specified and claimed.

My object has been to produce a device in which the mechanism, though simple, was capable of being made in sufficiently-heavy pieces to be strong and not to be easily disarranged, to be at the same time economical in construction, durable, positive in operation, easy of charging, and compact, and these ends have, I believe, been attained by me in the device I have invented.

The case is preferably an upright four-sided closet or box with an inclined delivery way or chute at the lower part formed of an inwardly-inclined wall *w* in the face part or door 45 *D* of the case and an outwardly-inclined wall *w'*, projecting outwardly and downwardly from the interior of the case and secured to one or more of its walls in such position that, with wall *w*, it will form a chute for the articles to be delivered. I usually have the base *B* at right angles to the upright portions or walls *W W'* 50 *W*² of the case and utilize the space between

wall *w'* and said base for stowage or in the case of a towel-rack for receiving soiled towels and for that purpose provide an opening 55 *O*, through which they may be passed into said stowage-space. A false base *B'* is preferably provided, extending from the upper edge of the wall *w'* to the rear wall of the case, though this is not a necessity. The wall *W* is also preferably hinged to the case. 60 In a frame *F*, secured to the wall *W*, I mount two axles, one, *A'*, at or near the upper end and a second, *A*, at or near the lower end, but with a space between them and said ends 65 slightly greater than the width of the shelves, trays, or buckets I employ to hold the articles to be delivered. Each axle is provided with two sprocket-wheels, one near each end or near the parts that pass through and are journaled in the frame. These sprocket-wheels 70 *S S' S² S³*, I prefer to construct in the form of four-pointed stars, the sprockets or points being evenly disposed about the center, and one of them, say *S*, must be rigidly secured to its axle *A*. Usually all of them are so secured. On these sprocket-wheels two sprocket-chains 75 *C C'* are hung, preferably of a length that will just reach from and around the other and back without sag. On these sprocket-chains 80 I suspend a series of buckets, shelves, or trays *T*, and I so proportion the links and openings that preferably there shall be one shelf secured at each end to a dead link of each sprocket-chain and an open link of each chain 85 between said shelf and the next dead link which supports the next tray, though this, too, is not a necessity. I could have a shelf for each link, in which event I should prefer to have the openings in the links register exactly with trays for ease of operation. 90

The result of the construction shown is that as the axle *A*, carrying sprocket *S* and chain *C*, is turned the spurs will take successively in the open links and each quarter-turn will swing the lower tray through an arc of a quarter-circle and if started properly from a horizontal to a downright vertical position and the upper rear tray from a horizontal to an upright vertical position. The next quarter-turn swings those trays respectively from 100 their vertical to new horizontal positions, the first named being then carried to the rear and the second named to the front, and this will

happen successively with each tray of the series. The trays preferably fit neatly in the case, and while they are ascending and descending as the chains are moved they retain horizontal positions and hold upon them the articles there placed to be delivered by the successive trays as they are swung from a horizontal to a downwardly-vertical position, as mentioned.

The axle A is preferably jointed, as shown plainly in Fig. 6, to a short shaft or axle A², journaled in a plate P, constructed as part of gearing-case, though the wall W might readily be utilized to constitute such part of the gear-case, and rigidly secured to shaft A² is a gear-wheel G, preferably in the form of a Maltese cross with concave ends *e* and recesses *r* at the corners, as shown plainly in Fig. 7. The number of faces and recesses is equal to the number of teeth on the sprocket-wheel S' to insure adequate and synchronous movement, and though I prefer four I do not limit myself to devices having that number. On another short shaft or axle A³, I mount a second gear-wheel G', with four wide teeth *t* evenly spaced and convexly curved to fit the concave faces of wheel G, cutting away the body of the wheel at the sides of the teeth to give clearance, and at each interval between said broad teeth I locate a narrow tooth or projection *t'*, adapted to take in the recesses *r* in wheel G. A ratchet-wheel R is rigidly secured to gear G' and provided with a pawl *p* and spring *s* to prevent retrograde movement.

The axle A³ where it extends outward beyond the face of gear G' is of a diameter preferably great enough to equal the diameter of the single coin or the united diameters of the several coins it is desired shall pay for the delivery of one article. This axle A³ is supported at the outer end in a bridge *b*, rising from plate P, or in the outer part of the gear-case, as may be desired, and a slot *g* of a size and width to receive the coin or coins is cut, preferably longitudinally, in said axle A³.

In the face of ratchet R or wheel G' (here both) four posts, stops, or lugs *l* are mounted, extending outwardly beyond the inner line of slot *g* and usually to or beyond its longitudinal center. They are evenly set close to the face of axle A³ and at points nearly in line with but preferably a little ahead of teeth *t'*. The axle A³ is circumferentially grooved, as at *g'*, and a cam *c*, secured to bridge *b* and lying in said slot *g'*, may also be used, the cam-face inclining in a gentle curve from a point slightly above the center of axle A³, where the cam extends to the bottom of slot *g'*, to a point a little past the bottom of slot *g* when that is vertical, at which point it lies beyond the outer face of the axle A³.

A case *c'*, with a slot *g''* in its face registering with slot *g* in axle A³ and an aperture *a*, adapted to permit the exit of the end of axle A³, is provided, and it may, as here, have an extension E to hold the coins received, pro-

vided with a hinge *h* and a staple and lock to permit authorized and prevent unauthorized access thereto. An operating-lever L is secured to said axle A³ as shown or in any other suitable manner.

The operation of the device is as follows: First the apparatus is charged. This by reason of mounting the frame and the operating mechanism on a door W of the case may be very readily and quickly done. The doors are swung open, when door W, carrying the trays, will swing outside of the case, and papers, towels, books, or other articles can be easily placed in or on each tray, except the one then extending vertically downward. Then the case is closed and locked. At this time, as is manifest, there is no operative connection between the axle A³, which is controlled by lever L, and the operating-gears G' or G. Said gears lock each other, the concave face *e* of gear G engaging the convex face of G', as shown in Fig. 7, and if any one should introduce a hook or hand through the chute and try to turn the chain the effort would be of no avail, because of the positive locking. The said axle A³ is mounted in its bearings to rotate freely and is not rigid with gear G', and therefore any one may freely turn lever L as he will; but unless he pay no result will follow such turning. I consider this an advantage, since if the operative lever be at all times locked against movement those trying to turn it without paying frequently break or bend the parts, so that the whole device becomes inoperative. When, however, one wishes to pay for and obtain the inclosed article—say a towel or newspaper N—he seizes lever L and brings the slot *g* into registry with slot *g''*. Then, and only then, he may insert the coin. It passes through slot *g''* and into slot *g*, but is prevented from falling through that by the end of the cam *c*, which at that time will register with the bottom of groove *g*. Then the purchaser turns the lever L. As he does this the face of cam *c*, bearing against the lower edge of the coin, forces it partially out of slot *g*, and as he turns farther the projecting parts of the coin will engage a lug *l*. Then the axle A³ and the gear G' will be locked together and further movement will cause the convex face of tooth *t* to traverse the concave face of gear G until tooth *t'* approaches and engages the wall of recess *r*, when gear G will also be locked to the combination and turning with them will rotate axle A and sprocket S, which in turn will swing the lower loaded tray T from a horizontal position, as shown in Fig. 4, to the downwardly-vertical position there shown, having meanwhile dropped the newspaper N into the chute, gravity carrying it down that chute and delivering it to the purchaser. When this has occurred, the tooth *t'* has turned the gear one-quarter around and passed out of the recess, the succeeding tooth *t* has engaged the succeeding concave face *e* of gear G, and the delivery apparatus is again

locked, as before. If pressure is now released, the coin falls out of slot *g* and into extension *E* and the parts are as before. If, however, the purchaser should turn farther, the projecting part of the coin will strike against the projecting end of cam *c* and further movement in that direction will be arrested. The reverse movement natural under such circumstances, or even the release of the lever, will permit the coin to drop out, as stated, and the locking it maintained is destroyed, leaving the parts free for a new purchase.

As a notice to purchasers I usually provide an additional stop-pin *f* on the outside of the case, against which lever *L* would strike, thus limiting its movement; but if cam *c* is used such additional stop is unnecessary.

My trays are usually provided with a rim *i*; but this will not interfere at all with the delivery. Since the throw is a quarter-circle, it would not interfere if the rim were both up and down; but, as shown, it is only on one side of the tray, and when that turns over the axle at the top the article falls from the tray that has carried it up to the face of the next going down, and while the rim would still prevent its sliding off from the smooth face of the next descending tray it has only a smooth face to fall from when the quarter-

swing of the tray takes place at the chute, so that even less than a quarter-turn could deliver it.

The special construction of the coin-controlled device which I prefer to use and as shown in Figs. 6, 7, and 8 will be made the subject of another application, and no claim therefor is made herein.

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

A main casing having two walls *W*¹, *W*², a door *D* for closing one side of the casing, a hinged wall *W* for closing another side of said casing, a lock for fastening the door *D* and wall *W* in closed position, a frame *F* fastened to the inner surface of the wall *W*, two shafts journaled in said frame, sprocket-wheels on said shafts, sprocket-chains passing over said sprocket-wheels, a series of trays fastened to said chains the wall *W* being formed with an opening in line with one of said shafts substantially as described.

Signed at New York, in the county of New York and State of New York, this 31st day of March, A. D. 1900.

WESLEY WEBBER.

Witnesses:

R. L. FERSENHIEM,
A. G. N. VERMILYA.