

No. 754,422.

PATENTED MAR. 15, 1904.

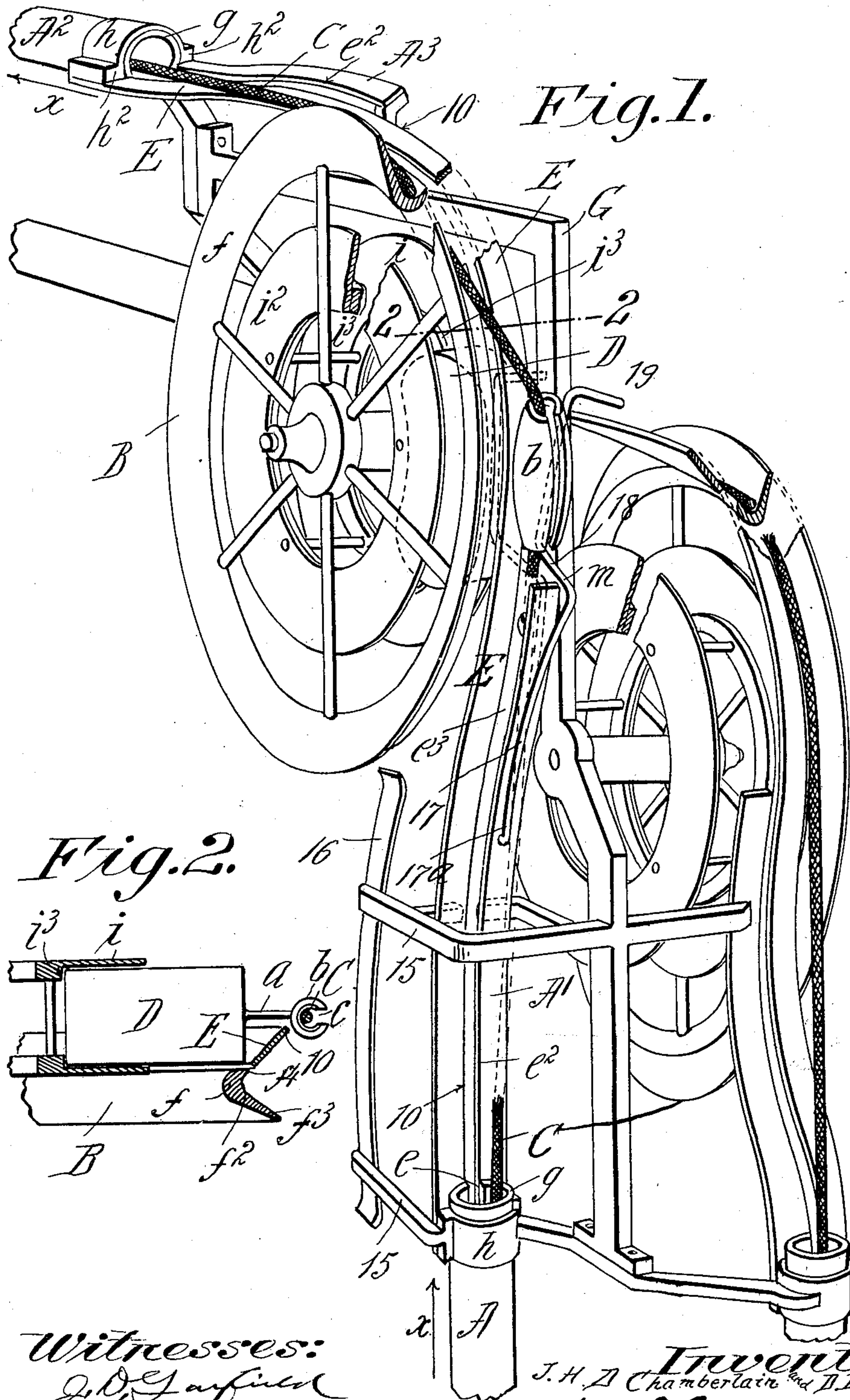
J. H. D. CHAMBERLAIN & D. E. CHISM.

CASH CARRIER APPARATUS.

APPLICATION FILED OCT. 3, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



Witnesses:

J. D. Garfield
A. V. Leahy.

J. H. D. Chamberlain and D. E. Chism,
Inventors,
by W. S. Bellom Attorney.

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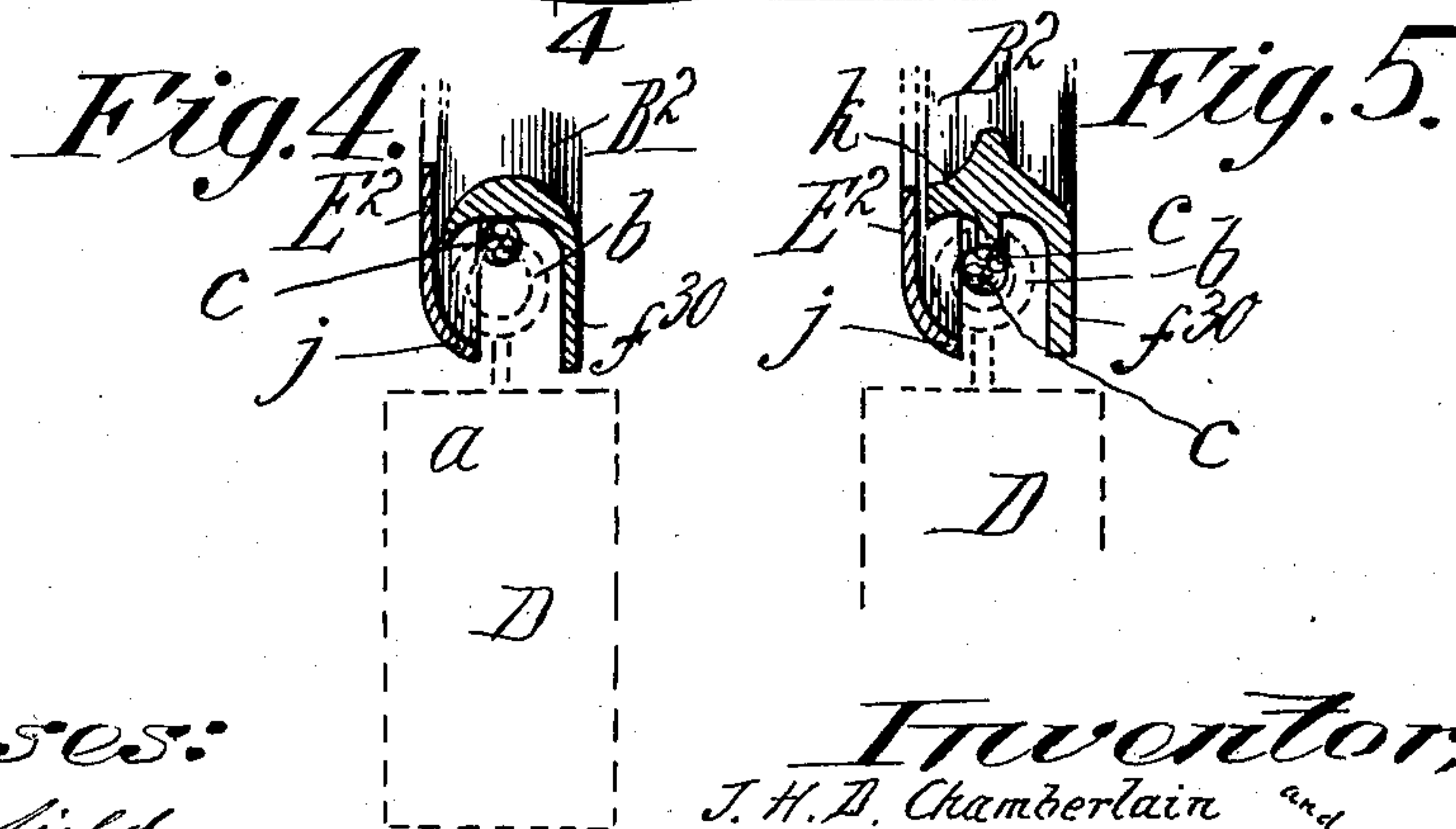
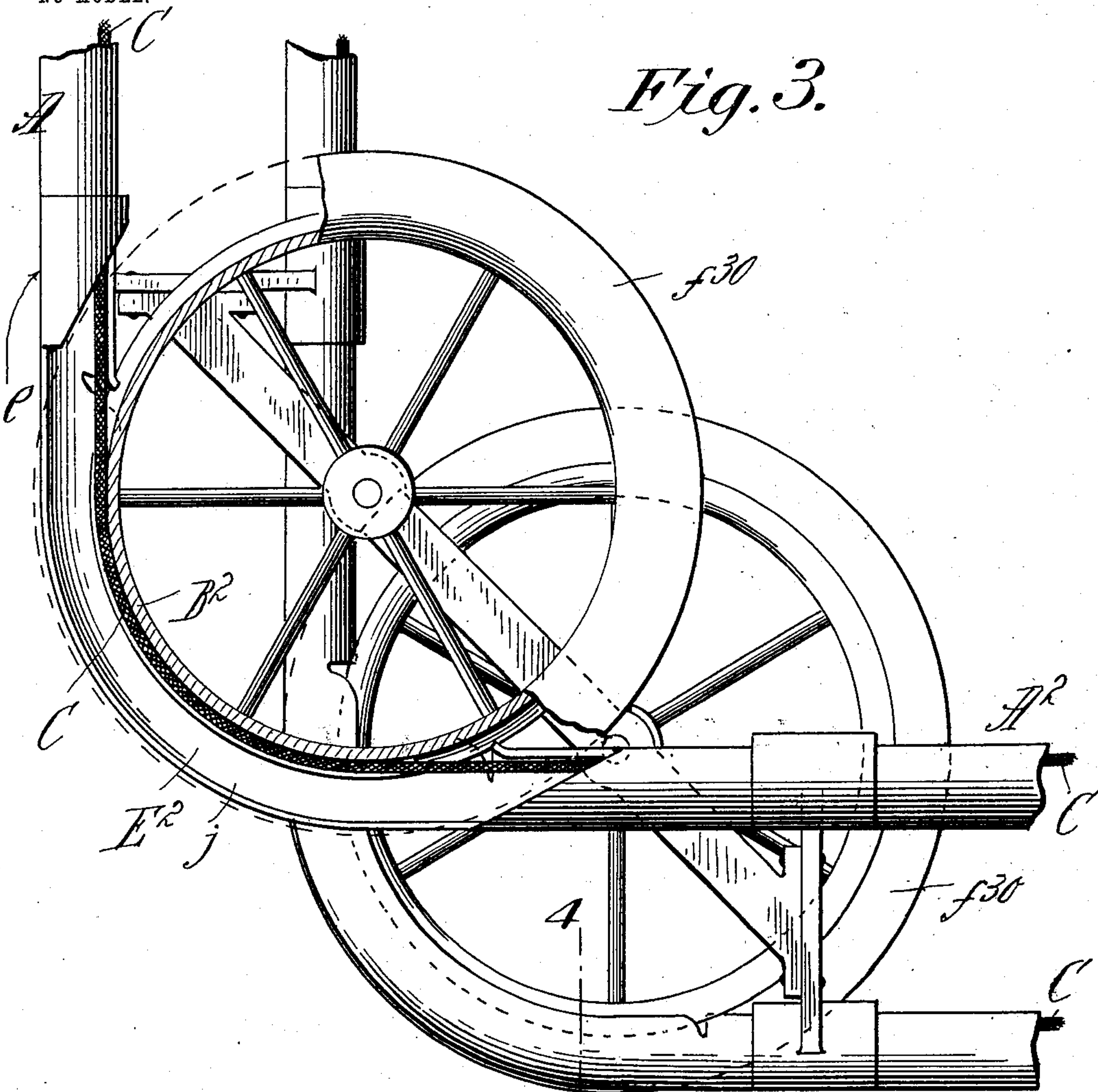
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2 SHEETS—SHEET 2.



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A. V. Leahy.

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UNITED STATES PATENT OFFICE.

JAMES H. D. CHAMBERLAIN, OF SPRINGFIELD, MASSACHUSETTS, AND
DAVID E. CHISM, OF STAFFORD SPRINGS, CONNECTICUT, ASSIGNORS
TO INDEPENDENT STORE SERVICE COMPANY, OF SPRINGFIELD, MAS-
SACHUSETTS.

CASH-CARRIER APPARATUS.

SPECIFICATION forming part of Letters Patent No. 754,422, dated March 15, 1904.

Application filed October 3, 1903. Serial No. 175,617. (No model.)

To all whom it may concern:

Be it known that we, JAMES H. D. CHAMBERLAIN, a resident of Springfield, in the county of Hampden and State of Massachusetts, and
5 DAVID E. CHISM, a resident of Stafford Springs, in the county of Tolland and State of Connecticut, citizens of the United States of America, have invented certain new and useful Improvements in Cash-Carrier Apparatus, of
10 which the following is a full, clear, and exact description.

This invention relates to improvements in cash-carrier apparatus of the class comprising an endless carrier-cord understood as running
15 from and returning to a suitably-driven propulsion-wheel, trackways through or along which the outgoing and returning courses of the carrier cord or cable run, and suitably-mounted sheaves or wheels for the proper support and guidance of the cord at corners, in conjunction with a cash box or receptacle engaged
20 by buttons or shoulders on the cord to be carried along thereby and to be switched from the track and stations to which a given cash-box corresponds, such class of cash-carrier apparatus being exemplified in the Letters Patent of the United States of Chamberlain, Chism, and Cooper, dated November 5, 1901,
25 No. 685,740.

The present improvements more particularly pertain to what are termed the upper and lower "plumb" or vertical corner constructions to be provided in the system—that is, the arrangements for the propulsion and
35 guidance of the cord and box where a horizontal portion of the trackway has its direction changed at right angles or vertically, or vice versa.

The object of the invention is to provide new
40 and improved constructions and arrangements of right-angularly-disposed portions of the trackway and the guide-wheel located within the angle of the adjacent track portions and conjunctive appliances whereby the cord may
45 be caused to carry the box with certainty around the corner without the departure of the cord away from its considerable extent of

running bearing on the wheel and whereby the wheel, by reason of certain provisions thereto, insures that the box will be properly
50 constrained and guided in its course around the corner as propelled by the cord.

Another object is to provide generally improved and practical, simple, and inexpensively-constructed and easily-duplicated upper
55 and lower plumb-corner constructions for a cash-carrier system having the endless carrier-cord and the trackways thereof preferably throughout the greater portions of their length of tubular form, although such tubular forma-
60 tion is discontinuous at the plumb corners.

The improvements are fully illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the upper plumb-corner construction for outgoing and
65 returning trackways and courses of the carrier-cord. Fig. 2 is a partial horizontal sectional view as taken on the line 2 2, Fig. 1, showing the position of the box relatively to the wheel, carrier-cord, and peculiarly formed
70 and arranged track at the corner. Fig. 3 is a side elevation with parts broken out and in section of the lower plumb-corner construction for outgoing and returning trackways and the courses of the carrier-cord thereat. Fig.
75 4 is a partial cross-sectional view as taken on the line 4 4, Fig. 3, the relative location of the box to such parts being indicated by dotted lines. Fig. 5 is a similar partial sectional
80 view to Fig. 4, but showing an additional feature of construction.

Similar characters of reference indicate corresponding parts in all of the views.

It will be here stated in respect of the term "plumb" corner as herein employed and as
85 known to the trade that corner constructions in which the arrangements of the trackway-sections and the wheels in the angles in vertical planes are designated as "plumb" corners and as distinguished from arrangements which
90 may be comprised in the same apparatus at different places wherein the trackways round the wheels in the corner-angles, which wheels are in horizontal planes and the trackway-sec-

tions being continuous in horizontal lines either coincident or adjacent to the planes of rotation of the wheels.

It will be further pointed out in respect of the present arrangements that an upper plumb-corner construction—as, for instance, exemplified in Fig. 1—differs from a lower plumb-corner construction in that in the latter the cash-box having its body radially outside of and beyond the wheel may be caused to round the corner without having to take into account that the presence of the wheel may constitute an impediment to the freedom of movement of the box, while in the upper plumb corner the body of the box having its disposition along and projected beyond the inside of the trackway—that is, toward the wheel—must have for its accommodation proper regard therefor in the construction and arrangement relatively to the track of the wheel, and hence upper and lower plumb corners, while having characteristics in common also have dissimilarities, as mentioned.

Referring now to Fig. 1 of the drawings, A and A² represent the vertical and horizontal and right-angularly-arranged portions of a trackway of the cash-carrier system adjacent a corner at which the wheel B is located and journaled for rotation on a horizontal axis and of course in a vertical plane, the same being usually exactly or nearly coincident with the plane in which said trackway portions are located, C being the course of the endless carrier-cord, understood as having a running movement imparted thereto in the usual manner in a direction indicated by the arrow α , and D indicates the cash-box, the body of which is of any suitable form, the same having extended from its edge a thin neck a and a head b , elongated and ranging parallel with the length of the box, the same having a longitudinal outer groove or trough c therein and constructed with an abutment or cord-engaging provision either as represented in the aforementioned Letters Patent or in the application for Letters Patent of the United States filed by D. E. Chism March 9, 1903, under Serial No. 146,850.

The main and substantially straight portions of the trackway A A² are made in the form of a tube, with a slot e through its side for the unobstructed passage therethrough of the neck a , which is between the head and body of the cash-box. The wheel B, as represented both in Figs. 1 and 2, comprises a rim f , with peripheral groove f^2 therein, such rim comprising at one side of the groove a comparatively high annular flange f^3 , while at the opposite side such flange is omitted or absent except so far as to provide a comparatively low but outwardly-extended portion f^4 , the tendency of which is to prevent the displacement of the carrier-cord from the base of the groove.

The terminals g of the tubular and longitu-

dinally-slotted track-sections (which are somewhat remote from the said wheel-rim, relatively to which rim such track-sections are substantially tangential) are embraced by sleeve-like brackets h , having lugs h^2 , to which a guard-strip E has at its ends supporting attachments, said guard-strip E connecting with both track-terminals and having a curving progression from the one to the other and conformable to an arc corresponding to the rim of the wheel B, one edge of the said strip being adjacent the edge f^4 of the wheel-rim, while its opposite edge 10 is continuous with the one boundary of the track-tube slot e and is, in fact, a continuation of the runner portion at the side of the trackway-slot which is toward the plane coincident with the wheel, while the other runner portion at the opposite side of the slot is discontinuous around the bend, substantially as shown.

The hub of the wheel B has in a plane transversely offset from the plane of the rim f a concentric flange i , which is opposite the flange i^2 , which latter is in or substantially in the plane of the rim, and the wheel has the peripheral ledges i^3 i^3 near the bases of the flanges i and i^2 , which are deemed as preferable provisions, although not essentials in the making of the corner construction.

As may be readily perceived from the drawings, the edge 10 of the guard-strip E by its proximity to the cash-box when the latter is being carried up and around the corner guides the box and prevents it from being tilted too far to the leftward at the inner side of the wheel, the cord in advance of the engaged cash-box preserving its running contact on the wheel. Such strip E furthermore constitutes a single runner for the cash-box head and may be edgewise contacted against by the side of the cash-box neck, and the flange i of the wheel, within which the body of the box will run, acts as a guard and guide also for the body of the box. Furthermore, by having the arc-shaped guard-strip E inclined in the direction oppositely from the inclination of the flange f^3 of the wheel—that is, inwardly toward the base of the wheel-groove—such so inclined strip exerts the tendency on the running cord, which remaining in engagement with the cash-box head at the right edge of the strip and being consequently deflected laterally from the periphery of the wheel, although, as seen in Fig. 1, being in peripheral contact on the wheel above and in advance of the location of the box-head shown, to guide such running cord toward and into the wheel-groove rather than oppositely and outwardly away therefrom.

Inasmuch as the longitudinally-slotted tubular trackway-sections A and A², arranged in the lines right angular to each other and substantially tangential to the rim of the wheel B, are in many cases in the designing of the corner construction and of the support-

ing-brackets therefor terminated, as shown in the accompanying illustration, at points quite a little way removed from the places where the guard-strip E changes its direction in straight extensions of the tubular trackways to the arc curvature intermediate between and connecting such straight extensions, there are short and approximately straight metallic sections A' and A³ parallel with and separated from the edge of the guard-strip E which is the farther from the rim of the wheel B, the edge e² of each of these strips A' and A³ being continuous with one of the edges of the track-tube which constitutes the boundary of the longitudinal slot therein, and these strips are to all intents and purposes the same as if the trackways were continued in the tubular form further in extents corresponding to the lengths of such strips A' and A³, the said strips being discontinuous, as shown, along the arc adjacent the rim of the wheel, the flange i by engaging the body of the box sidewise of the latter maintaining the box in its plane of proper travel parallel with the plane of rotation of the cord-guiding wheel B and insuring its rounding the curve for its further conveyance and guidance along with the traveling carrier-cord.

The supporting-bracket G, connection with which the aforementioned sleeve-like and lug-provided brackets h are made, as shown, have supported thereby the bracket-arms 15 15, which carry a spring-strip of flat metal, (indicated at 16,) the object of which is to impinge against the body of the box when it is approaching the wheel B and when it might have more or less swaying movement, to insure that the box-body will not come to abutment against the edge of the wheel, but will clear the same and become nested in the position shown in Fig. 1 to round the curve between the flanges i and i².

In order that the running carrier-cord may be prevented from by any possibility, which, however, is not usually liable to occur, entering in the space e³ between the extension-strip A' and the guide-strip E, especially at times when the cord unaccompanied by the cash-box engaged therewith is running out of the mouth of the track-tube A toward and around the wheel, the spring-finger m is provided on a suitable supporting part of the corner construction, the same having normally the position indicated by the dotted lines in Fig. 1—that is, with its guard portion, against which the reference-letter m is placed—sprung against or closely toward the edge of the strip E. The presence of the traveling head of the cash-box in proximity to the spring device m, the tension of which latter is comparatively inconsiderable, temporarily displaces such device, whereby the latter constitutes no impediment to the progress of the cash-box, and of course on the departure of the head of the box beyond the location of

said spring device the latter automatically resumes its normal position. (Indicated, as above stated, by the dotted lines.) This spring device in a practical and approved form which has been found satisfactorily operative consists, as shown in Fig. 1, of a length 17 of spring-wire soldered, riveted, or otherwise rigidly affixed at its extremity 17^a on the face of the track-tube extension-strip A', the angularly and inwardly bent section 18 adjacent the end of said strip A', the approximately straight portion, and the angularly-turned terminal 19. Other forms of this device having capability for the same cord-guarding effect may be provided in the corresponding situation.

While the left-hand department of Fig. 1 on which the reference characters designating the parts pointed out, described, and explained constitutes the plumb-corner construction for the guidance of the carrier-cord and box having their travel upward and then horizontally for the guidance of the carrier-cord and box having their travel in the reverse direction—that is, horizontally and then downward—a counterpart or duplication of the corner construction is understood as provided and such is illustrated in the right-hand department of the said view Fig. 1, although some of the parts clearly visible in the left-hand portion of the view pertaining to the department of the construction there illustrated and which are understood as likewise pertaining to the right-hand portion of the construction are obscured from view.

Referring to the lower plumb corner construction illustrated in Figs. 3, 4, and 5 of the drawings, it will be perceived that somewhat different and even more simple arrangements will suffice for insuring the convenience of the cord-engaged cash-box having the head and neck, substantially as aforementioned, around the corner, in this case the body of the box having a disposition radially beyond the rim of the wheel B², it here being possible to arrange the trackway-sections A and A², which are right angular to each other, (and which may be continuations of the trackway-sections similarly designated A and A² in Fig. 1 or counterparts thereof,) not only substantially tangential to the wheel B², but in substantially the same medium plane as that of the rim of such wheel.

The tubular trackway having the longitudinal slot e is, as in the construction of the preceding figures, terminated at the approaches of the wheel, one of the runner-ways for both of the track portions A and A² being continued in the grooved strip E², connecting both of the straight tubular trackways at the outer side of the slotway therein, and said strip E² lies closely facewise alongside of the rim of the wheel and has its outer edge portion j inwardly turned, as shown in the cross-sectional views, Figs. 4 and 5, such portion j preserving advantageously the same characteristic of

cross-sectional contour as the said portions of the tubes $A A^2$, with which they connect.

The flange f^{30} of the wheel B^2 , which is at the inner side of such wheel and in Figs. 3, 4, and 5 is represented as extending radially outward in the plane of rotation of the wheel, has an extension outwardly, as aforesaid, about as far as the extension of the outer edge of the incurving portion j of the curved track-connecting strip E^2 . The opposite edge of the rim of the wheel B^2 is substantially flangeless, as shown, so that there is space between the portion F^2 and the opposite wheel-flange f^{30} for the traveling cord C and for the troughed head of the cash-box D , there being, as shown, a comparatively wide annular space or curve outwardly opening for the accommodation of the neck a of the box.

The cash-box, for instance, running horizontally with its head through the track-section A^2 , Fig. 3, toward the left, the body of the box being understood as dependent directly under the trackway-tube, on coming to the corner has its head engaged by the carrier-cord carried around on or adjacent the rim of the wheel B^2 , its neck protruding downwardly through the space between the flange f^{30} and the inturned edge portion j of the curved trackway continuation strip E^2 , such parts f^{30} and j keeping the box from unduly swaying, and the top edge of the box may or may not, according to the tension of the cord and according to the manner in which the box-head is engaged therewith, have running contact around on the edge of the flange f^{30} and on the outer edge of the incurved portion j of the connecting-strip E^2 . The incurved portion j of said strip serving to contract the opening between its inner edge and the opposite flange f^{30} prevents the head of the cash-box from dropping through or being outwardly displaced from within the annular space surrounding the wheel-rim.

By having the wheel-rim provided with a centrally-located annular rib k (represented in cross-section in Fig. 5) provision is thereby made for keeping the carrier-cord crowded into the longitudinal trough c in the cash-box head, even although while the head is being carried around against and along with the rim of the wheel such head serves in some extent to crowd itself outwardly relatively to the portion of the carrier-cord engaged there-within, which cord by its tension adheres closely to the wheel-rim.

In both the upper and lower plumb corner constructions here presented friction of the traveling box is not only reduced to a minimum when the box rounds the curve by reason of the presence at the curve of but a single runner-guard or guide member E or E^2 , but the box, having by some portion thereof a bearing against the wheel B or B^2 , instead of becoming a factor of friction by its conjunction with the wheel is directly and posi-

tively aided in its passage around the curve by the wheel.

The corner constructions represented, respectively, in Figs. 1 and 3 are intended to be used generally in pairs for the upper and lower corners, and it is to be stated that while their use will be in situations with the wheels arranged for rotation in vertical planes coincident or approximately coincident with the median plane of the tubular or other form of trackway the parts may in some situations for expediency be twisted, distorted, or arranged more or less angularly to vertical planes, and, furthermore, it is to be pointed out that the device of Fig. 1 may have its arrangement as a lower corner and the device of Fig. 3 as an upper corner with entire operativeness, the devices having been hereinbefore referred to as "upper" and "lower" corner constructions with reference to their most general manner of utilization and not to their essential manner thereof.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other and each comprising runner portions separated by a longitudinal slotway therebetween, a wheel having a grooved rim in the angle of said two lengths of trackway provided with a cash-box-engaging member in a plane offset from said rim, and the carrier-cord, arranged for travel along and adjacent said trackways and having running contact on the wheel-rim.

2. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other, and terminating at a distance from the point of intersection and each comprising runner portions separated by a longitudinal slotway, a wheel located in the angle of said two lengths of trackway having a cord-engaging groove in its rim, and having at one side of said groove the flange f^3 and the carrier-cord arranged for travel along and adjacent said trackways, and having a running contact engagement in said grooved wheel-rim.

3. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other, and terminating at a distance from the point of intersection and each comprising runner portions separated by a longitudinal slotway, a wheel located in the angle of said lengths of trackway, a guard and guide-strip E , in continuation of a runner portion of each trackway, at the side toward the plane of rotation of the wheel having a curved course around and alongside the rim of the wheel, the opposite runner portions of the said two trackways being terminated and discontinuous around the curve conformable to the rim of said wheel.

4. In a cash-carrier apparatus, in combina-

tion, two lengths of trackway arranged angularly to each other, and terminating at a distance from the point of intersection and each comprising runner portions separated by a longitudinal slotway, a wheel located in the angle of said lengths of trackway and a guard and guide-strip E, in continuation of a runner portion of each trackway, at the side toward the plane of rotation of the wheel having a curved course around and alongside the rim of the wheel, the opposite runner portions of the said two trackways being terminated and discontinuous around the curve conformable to the rim of said wheel, and the carrier-cord arranged for travel along and adjacent said trackways and having a running engagement on the rim of said wheel.

5. In a cash-carrier apparatus, in combination, a wheel mounted for rotation in a vertical plane, two lengths of tubular trackway, angular to each other, approximately tangential to the rim of the wheel, said lengths of tubular trackway terminating at a distance from the point of intersection of their longitudinal lines and each having a longitudinal slot with separated runner-ways at either side thereof, the strip E in continuation of the runner portion of both trackways which are at the side toward the wheel having a curved course around and sidewise adjacent, but offset from, the rim of the wheel, the opposite or outer runner portions of the said two tubular trackways being terminated and discontinuous around the curve conformable to the rim of the wheel and the carrier-cord arranged and operating in conjunction with the trackways and said wheel.

6. In a cash-carrier apparatus, in combination, a wheel mounted for rotation in a vertical plane, two lengths of tubular trackway, angular to each other, approximately tangential to the rim of the wheel, and arranged in a plane coincident with the plane of rotation of the wheel, said lengths of tubular trackway terminating at a distance from the point of intersection of their longitudinal lines having a longitudinal slot with separated runner-ways at either side thereof, the strip E in continuation of the runner portion of both trackways which are at the side toward the wheel having a curved course around and sidewise adjacent, but offset from, the rim of the wheel, the opposite or outer runner portions of the said two tubular trackways being terminated and discontinuous around the curve conformable to the rim of the wheel and the carrier-cord arranged and operating in conjunction with the trackways and said wheel.

7. In a cash-carrier apparatus, in combination, a wheel mounted for rotation in a vertical plane, two lengths of trackway, angular to each other, approximately tangential to the rim of the wheel, and arranged in a plane coincident with the plane of rotation of the wheel, terminating at a distance from the

point of intersection of their longitudinal lines, and each length of trackway having a longitudinal slot between the separated runner-ways at either side thereof, the strip E in continuation of those runner portions of both trackways which are at the side toward the wheel, having a curved course around and alongside the rim of the wheel, the runner portions of the said two trackways farther from the plane of the wheel being terminated and discontinuous around the curve conformable to the rim of the wheel, and the carrier-cord arranged and operating in conjunction with the trackways and said wheel.

8. In a cash-carrier apparatus, in combination, a grooved-rimmed wheel mounted for rotation in a vertical plane, two lengths of trackway, angular to each other, approximately tangential to the rim of the wheel, and arranged in a plane sidewise offset from the plane of rotation of the wheel, terminating at a distance from the point of intersection of their longitudinal lines, and each length of trackway having a longitudinal slot between the separated runner-ways at either side thereof, the strip E in continuation of the runner portion of both trackways which are at the side toward the wheel, having a curved course around and alongside the rim of the wheel, and also having an inclination as shown toward the wheel-rim groove, the runner portions of the said two trackways farther from the plane of the wheel being terminated and discontinuous around the curve conformable to the rim of the wheel, and the carrier-cord arranged and operating in conjunction with the trackways and said wheel.

9. In a cash-carrier apparatus, a wheel having a grooved rim with a comparatively high outside flange and a comparatively low inside flange, mounted for rotation in a vertical plane, in combination with two lengths of tubular longitudinally-slotted trackway angular to each other, approximately tangential to the rim of the wheel, and terminated at a distance from the point of intersection of their longitudinal lines, a strip connecting and constituting a continuation of those runner portions of both of said trackways, which are at the side toward the wheel, said strip having a curved course conformable to the adjacent portion of the wheel-rim, and located alongside of the latter, the carrier-cord arranged and operating in conjunction with the trackways and said wheel, the cash-box having the extended neck, and enlarged head to be engaged by the carrier-cord, and means carried by said wheel for engaging the body of the cash-box and maintaining it in its proper position in being carried around the curve alongside the wheel.

10. In a cash-carrier apparatus, a wheel having a grooved rim with a comparatively high outside flange and a comparatively low inside flange, mounted for rotation in a vertical plane,

in combination with two lengths of longitudinally-slotted trackway angular to each other, approximately tangential to the rim of the wheel, and terminated at a distance from the point of intersection of their longitudinal lines, a strip connecting and constituting a continuation of those runner portions of both of said trackways, which are at the side toward the wheel, said strip having a curved course conformable to the adjacent portion of the wheel-rim, and located alongside of the latter, the trackway continuations A' and A³ outside of, and separated from, the strip E, and discontinuous around the wheel-rim curve, the carrier-cord arranged and operating in conjunction with the trackways and said wheel, the cash-box having the extended neck and enlarged head to be engaged by the carrier-cord and the flange *i*² carried by the wheel in a plane offset from that of its rim, for engaging the body of the cash-box and maintaining it in its proper disposition in being carried around the curve alongside the wheel.

11. In a cash-carrier apparatus, a wheel having a grooved rim with a comparatively high outside flange and a comparatively low inside flange, mounted for rotation in a vertical plane, in combination with two lengths of tubular longitudinally-slotted trackway angular to each other, approximately tangential to the rim of the wheel, and terminated at a distance from the point of intersection of their longitudinal lines, a strip connecting and constituting a continuation of those runner portions of both of said trackways, which are at the side toward the wheel, said strip having a curved course conformable to the adjacent portion of the wheel-rim, and located alongside of the latter, the trackway continuations A' and A³ outside of, and separated from, the strip E, and discontinuous around the wheel-rim curve, the carrier-cord arranged and operating in conjunction with the trackways and said wheel, the cash-box having the extended neck and enlarged head to be engaged by the carrier-cord, means carried by the wheel for engaging the body of the cash-box, and a spring device, normally closing the space between the trackway continuation A' and the sidewise adjacent strip E, susceptible of displacement by the head of the cord-engaged cash-box.

12. In a cash-carrier apparatus, a wheel having a grooved rim mounted for rotation in a vertical plane, in combination with two lengths of tubular longitudinally-slotted trackway angular to each other, approximately tangential to the rim of the wheel, and terminated at a distance from the point of intersection of their longitudinal lines, a strip connecting and constituting a continuation of those runner portions of both of said trackways, which are at the side toward the wheel, said strip having a curved course conformable to the adjacent

portion of the wheel-rim, and located alongside of the latter, the trackway continuations A' and A³ outside of, and separated from, the strip E, and discontinuous around the wheel-rim curve, the carrier-cord arranged and operating in conjunction with the trackways and said wheel, the cash-box having the extended neck and enlarged head to be engaged by the carrier-cord, the flange *i* carried by the wheel in a plane offset from that of its rim, for engaging the body of the cash-box and maintaining it in its proper disposition in being carried around the curve alongside the wheel, and the yielding spring-strip 16 arranged adjacent the plane of rotation of the wheel and operable to guide the cash-box body between the side of the wheel and its said offset flange *i*.

13. In a cash-carrier apparatus, a wheel having a grooved rim with a comparatively high outside flange and a comparatively low inside flange, mounted for rotation in a vertical plane, in combination with two lengths of tubular longitudinally-slotted trackway angular to each other, approximately tangential to the rim of the wheel, and terminated at a distance from the point of intersection of their longitudinal lines, a strip connecting and constituting a continuation of those runner portions of both of said trackways, which are at the side toward the wheel, said strip having a curved course conformable to the adjacent portion of the wheel-rim, located alongside of the latter, and inclined sidewise toward the wheel-rim groove, the trackway continuations A' and A³ outside of, and separated from, the strip E, and discontinuous around the wheel-rim curve, the carrier-cord arranged and operating in conjunction with the trackways and said wheel, the cash-box having the extended neck and enlarged head to be engaged by the carrier-cord, the flange *i* carried by the wheel in a plane offset from that of its rim, for engaging the body of the cash-box and maintaining it in its proper disposition in being carried around the curve alongside the wheel, means for normally closing the space between the trackway continuation and the sidewise adjacent strip E, which is readily displaceable by the passing cash-box head, and a yielding member arranged adjacent the plane of rotation of the wheel and operable to guide the cash-box body between the side of the wheel and its said flange *i*.

14. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other and each comprising runner portions separated by a longitudinal slotway therebetween, a wheel having a grooved rim in the angle of said two lengths of trackway provided with a cash-box-engaging member in a plane offset from said rim, the carrier-cord, arranged for travel along and adjacent said trackways and having running contact on the wheel-rim, and the strip E extending in a curved course adjacent the side of the

wheel-rim and connecting those runner portions of the two trackways which are at the side toward said wheel.

15. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other and each comprising runner portions separated by a longitudinal slotway therebetween, a wheel having a grooved rim in the angle of said two lengths of trackway provided with a cash-box-engaging flange in a plane offset from said rim, having an inwardly-located annular ledge E^3 and the carrier-cord, arranged for travel along and adjacent said trackways and having running contact on the wheel-rim.

16. In a cash-carrier apparatus, in combination, two lengths of trackway arranged angularly to each other and each comprising runner portions separated by a longitudinal slotway therebetween, a wheel having a grooved rim in the angle of said two lengths of trackway provided with a cash-box-engaging member in a plane offset from said rim, the carrier-cord arranged for travel along and adjacent said trackways and having running contact on the wheel-rim, the curved strip E connecting the runner portions of the two trackways at the side toward the wheel, and located adjacent the side of the wheel-rim, and the yielding member 16 located adjacent the wheel and substantially in the plane of rotation thereof, for the purpose set forth.

17. In a "lower-plumb-corner" construction for a cash-carrier apparatus, the combination with a wheel rotatable in a substantially vertical plane having at one side of its rim an outwardly-extending flange, of lengths of trackway having opposite runner portions separated by a longitudinal slotway, and extended angularly to each other and approximately tangential to the rim of said wheel, said runner portions at the side of said wheel-flange being discontinuous around the bend corresponding to the adjacent portion of the wheel-rim, while the runner portions at the opposite side have a continuing curved section E^2 arranged sidewise adjacent the wheel-rim, and in opposition to said rim-flange, and the carrier-cord operative in conjunction with said trackways and said wheel.

18. In a "lower-plumb-corner" construction for a cash-carrier apparatus, the combination with a rotatable wheel having one side of its rim a radially outwardly extending flange, of tubular trackway-sections having a longitudinal slot and runner portions at both sides of the slot, arranged approximately tangential to the wheel-rim, angularly to each other, and terminating in positions approached to said rim, a strip which is curved in its length, conformable to the curvature of the wheel-rim, and is in continuation of the runner portions of the two angularly-arranged trackways at

one side thereof and has its disposition along the opposite side of the wheel, in the location of said wheel-rim flange, and the carrier-cord operative in conjunction with said trackways and said wheel.

19. In a "lower-plumb-corner" construction for a cash-carrier apparatus, the combination with a rotatable wheel having one side of its rim a radially outwardly extending flange, of tubular trackway-sections having a longitudinal slot and runner portions at both sides of the slot, arranged approximately tangential to the wheel-rim, angularly to each other, and terminating in positions approached to said rim, a strip which is curved in its length, conformable to the curvature of the wheel-rim, and is in continuation of the runner portions of the two angularly-arranged trackways at one side thereof, has its disposition along the opposite side of the wheel, from the location of said wheel-rim flange, and has its outer edge portion inwardly deflected toward said flange, and the carrier-cord operative in conjunction with said trackways and said wheel.

20. In a "lower-plumb-corner" construction for a cash-carrier apparatus, the combination with a rotatable wheel having one side of its rim a radially outwardly extending flange, at one side, and provided with the annular rib E , of tubular trackway-sections having a longitudinal slot, and runner portions at both sides of the slot, arranged approximately tangential to the wheel-rim, angularly to each other, and terminating in positions approached to said rim, a strip which is curved in its length, conformable to the curvature of the wheel-rim, and is in continuation of the runner portions of the two angularly-arranged trackways at one side thereof has its disposition along the opposite side of the wheel from the location of said wheel-rim flange, and has its outer edge portion deflected toward said flange, the carrier-cord operative in conjunction with said trackways and said wheel, and the cash-box having the extension-neck and troughed head.

21. In a "lower-plumb-corner" construction for a cash-carrier apparatus, the combination with a wheel rotatable in a substantially vertical plane having at one side of its rim an outwardly-extending flange, of lengths of trackway having opposite runner portions separated by a longitudinal slotway, and extended angularly to each other and approximately tangential to the rim of said wheel, said runner portions at the side of said wheel-flange being discontinuous around the bend corresponding to the adjacent portion of the wheel-rim, while the runner portions at the opposite side have a continuing curved section E^2 arranged sidewise adjacent the wheel-rim, and in opposition to said rim-flange, the outer edge of the said section E^2 being inwardly deflected contract-

ing the annular opening between it and the wheel-rim flange and said section and said flange having their outer edges at similar radially-outward dispositions for serving as bearings equally for the cash-box edge, as described, and the carrier-cord operative in conjunction with said trackways and said wheel.

Signed by us at Springfield, Massachusetts, in presence of two subscribing witnesses.

JAMES H. D. CHAMBERLAIN.
DAVID E. CHISM.

Witnesses:

WM. S. BELLOWS,
A. V. LEAHY.