

No. 663,810.

Patented Dec. 11, 1900.

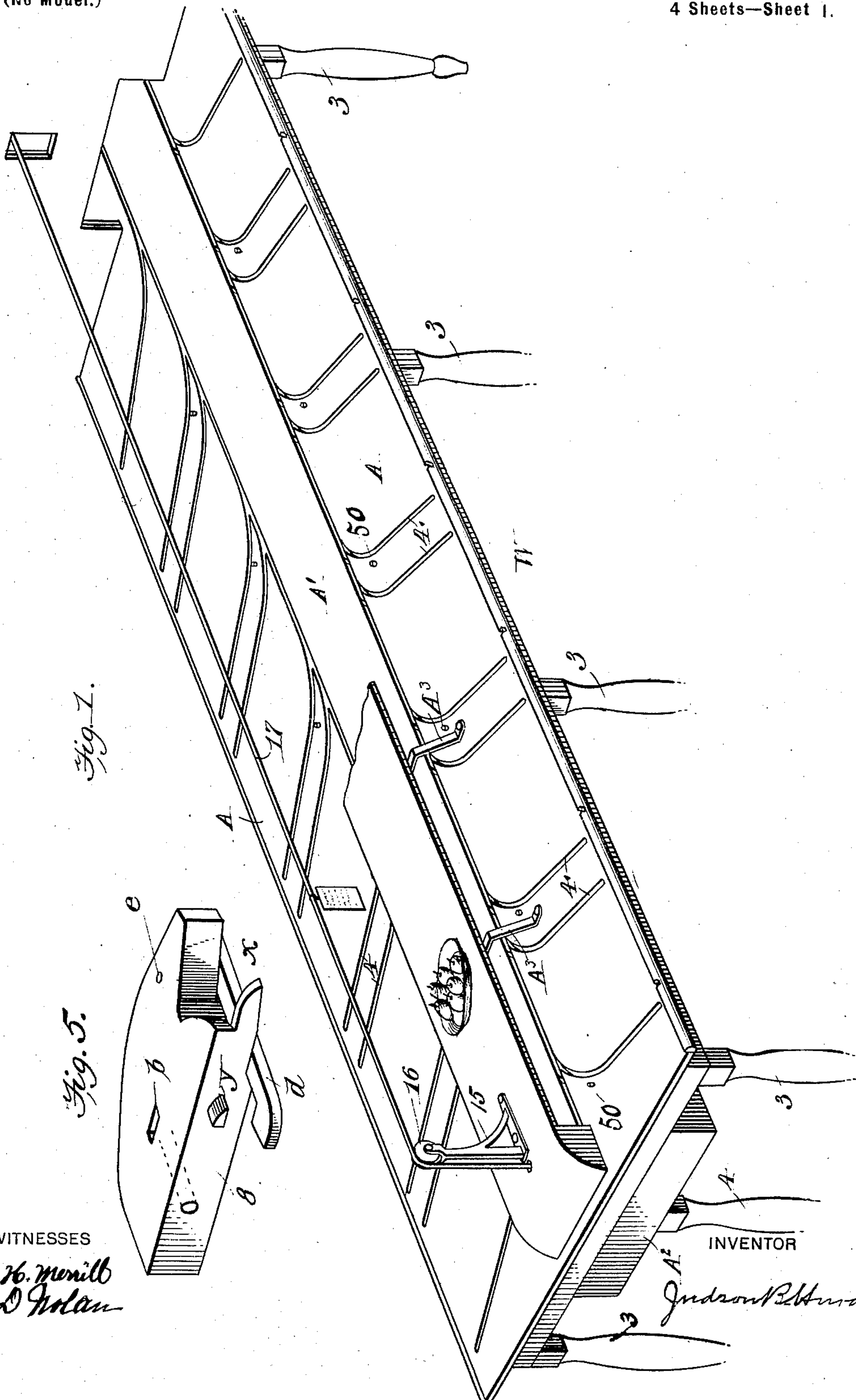
J. B. HURD.

DINING ROOM SERVICE APPARATUS.

(Application filed Oct. 13, 1898. Renewed Oct. 23, 1899.)

(No Model.)

4 Sheets—Sheet 1.



WITNESSES

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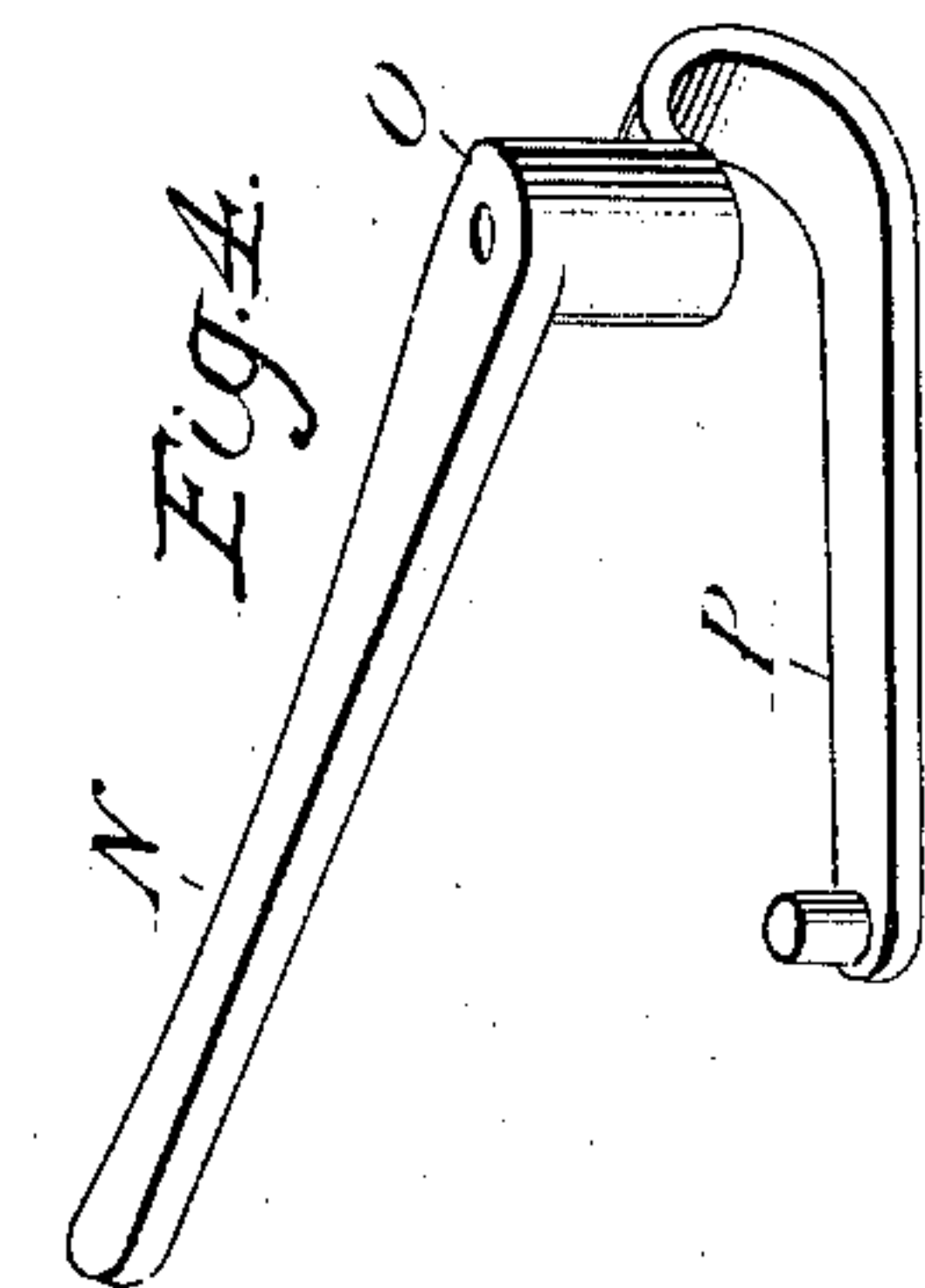
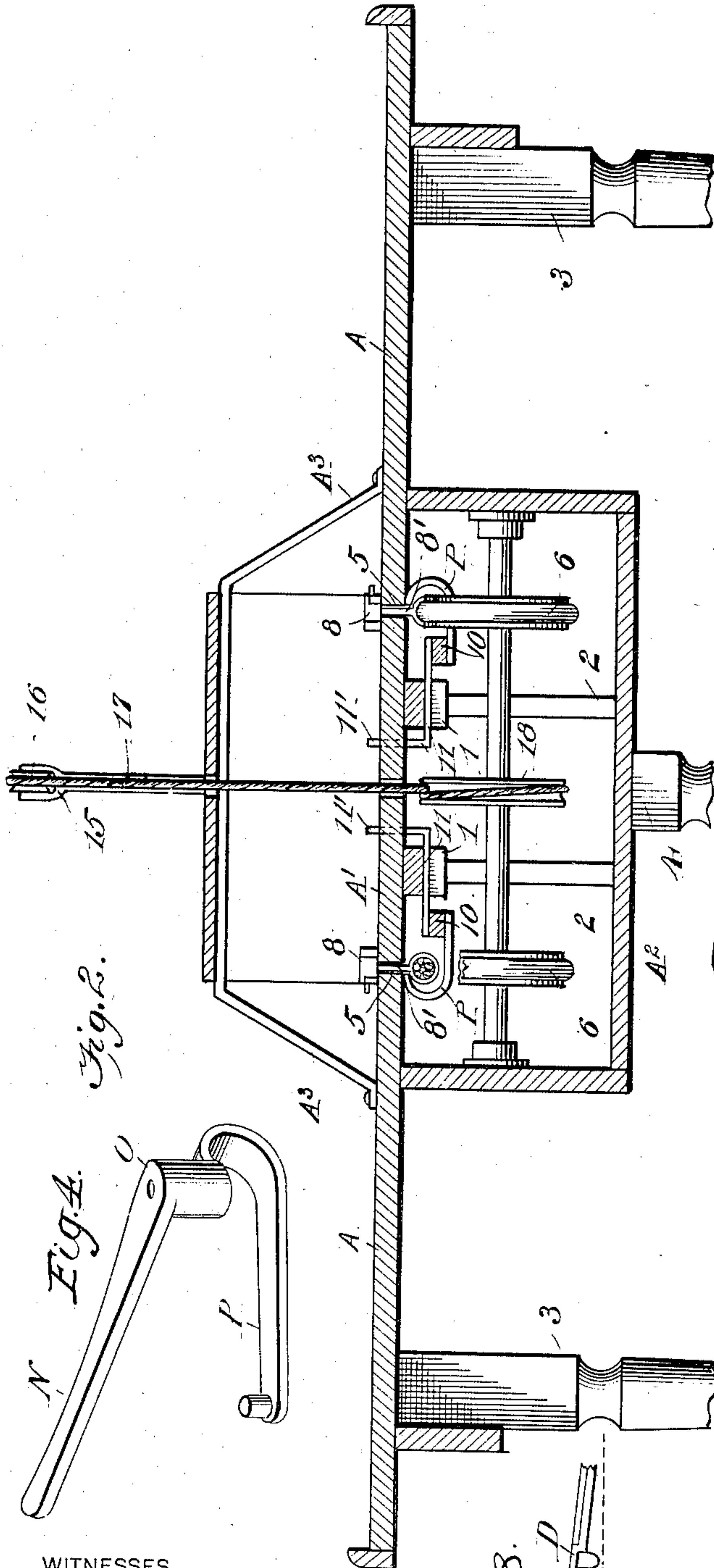
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4 Sheets—Sheet 2.



WITNESSES

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Fig. 8.

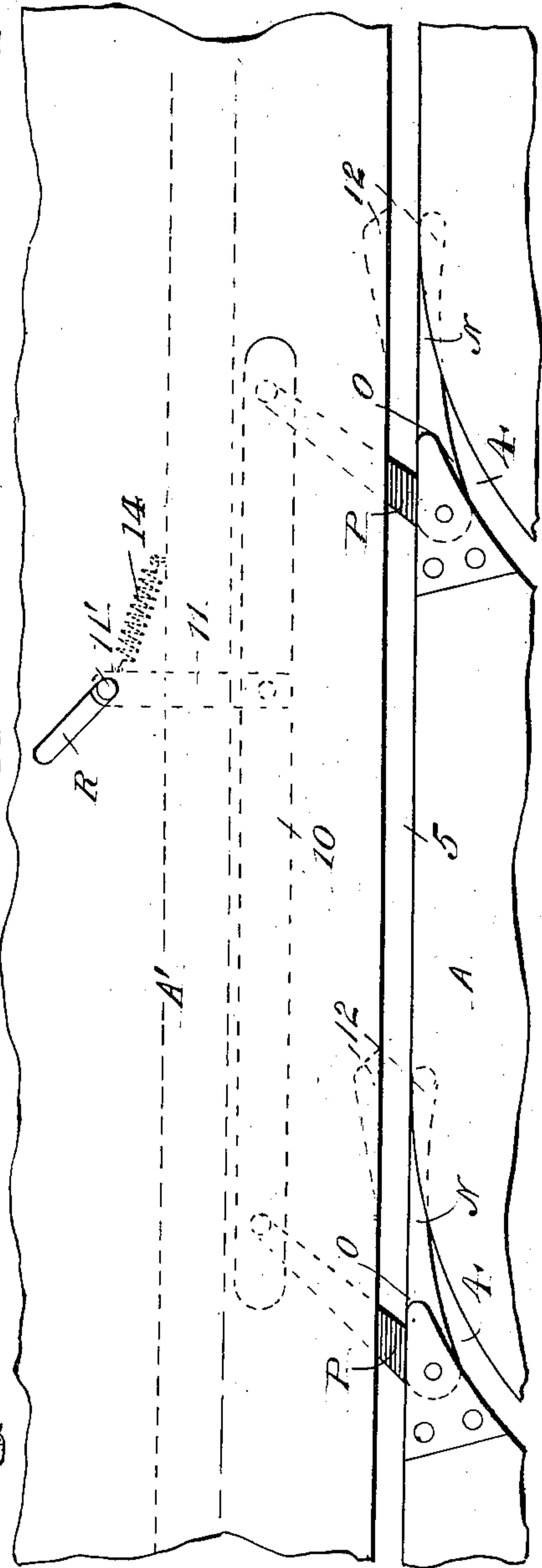
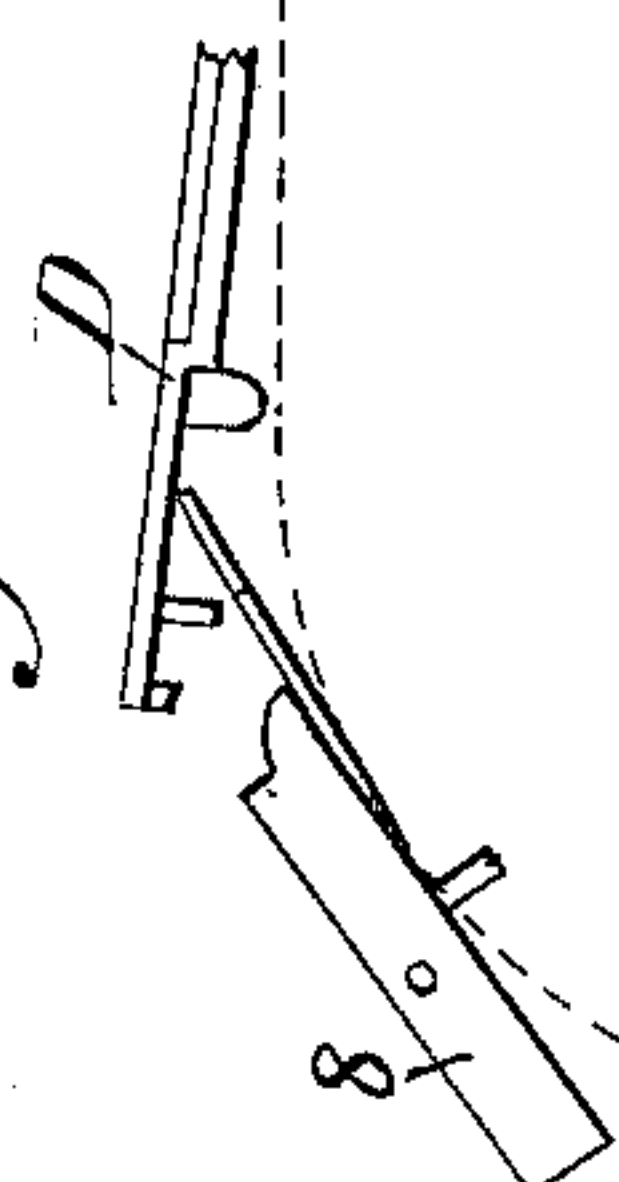


Fig. 3.

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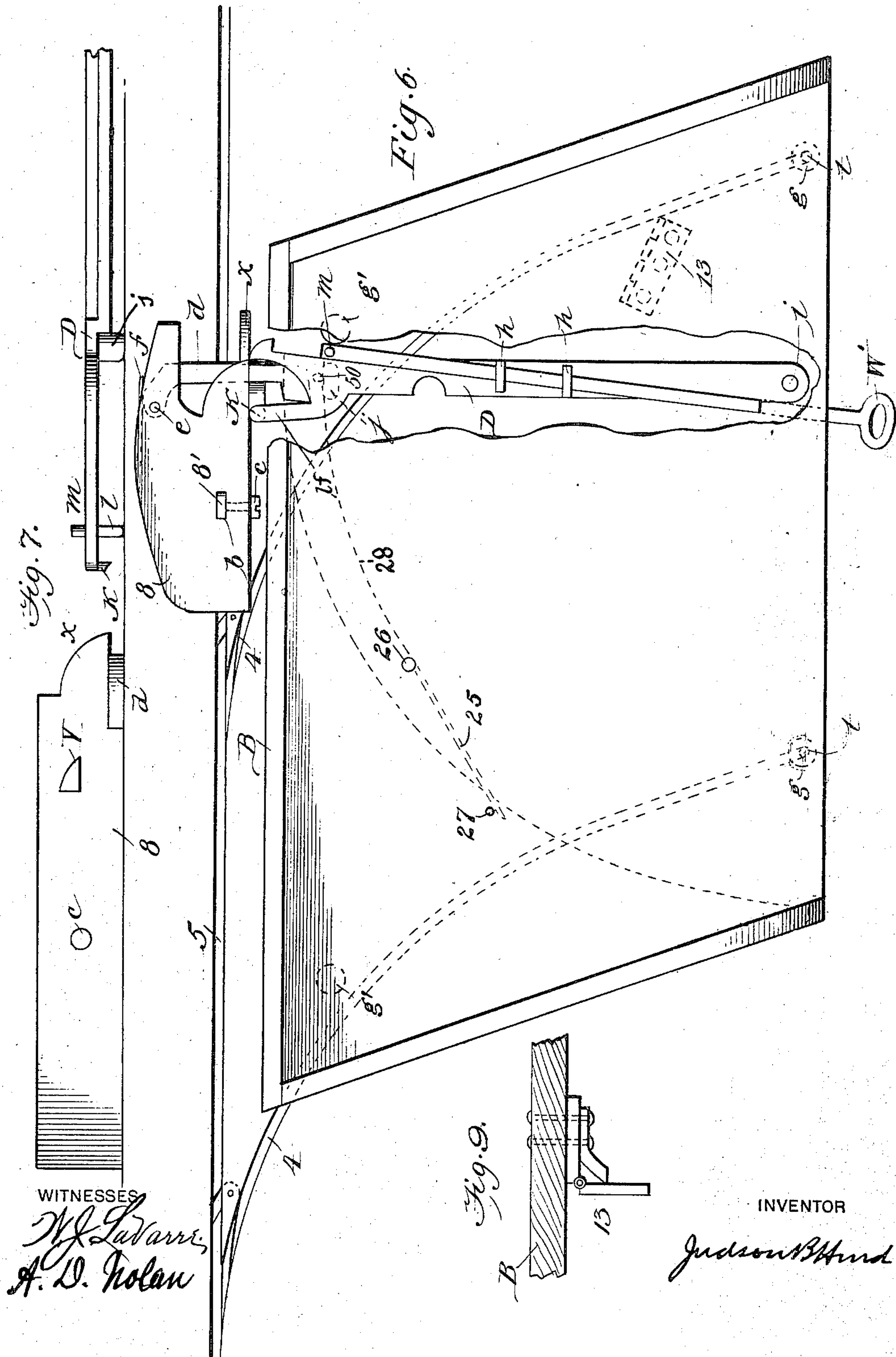
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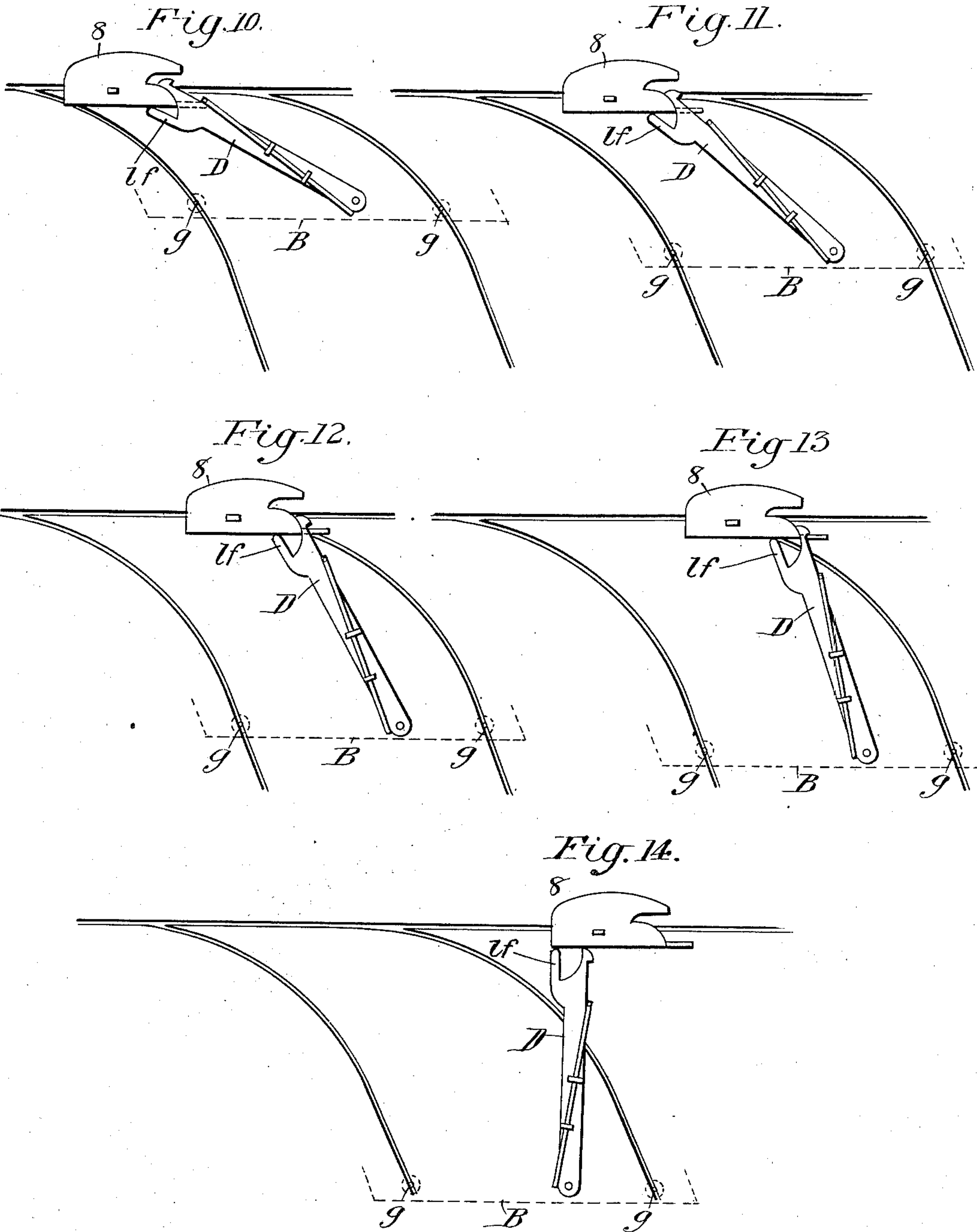
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(No Model.)

4 Sheets—Sheet 4.



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DINING-ROOM SERVICE APPARATUS.

SPECIFICATION forming part of Letters Patent No. 663,810, dated December 11, 1900.

Application filed October 13, 1898. Renewed October 23, 1899. Serial No. 734,454. (No model.)

To all whom it may concern:

Be it known that I, JUDSON B. HURD, a citizen of the United States, residing at Brookland, in the District of Columbia, have invented certain new and useful Improvements in Carrier Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to a carrier apparatus in which meal trays or carriers are moved along a main track or way by an endless cable or other means and are switched off on side tracks and left at eating-places or way-stations and are afterward taken up again and carried back along the main track to the cook-room; and the object of my invention is to provide means whereby the carrier will be left exactly in position at the station and will be stopped and started with a gentleness of motion that is necessary to insure the safe delivery of dishes and drinks and frail articles without jarring, shaking, or otherwise disturbing them.

Referring to the drawings, Figure 1 is a perspective view of a table used in my improved apparatus, the housing over the middle portion being broken away to show more clearly the main tracks and how the side tracks branch off from the same. Fig. 2 is a transverse section on the line of the drive-wheel shafts. Fig. 3 is a detail plan view of the switch mechanism. Fig. 4 is a perspective view of one of the switch-forks. Fig. 5 is a perspective view of the pusher-block inverted. Fig. 6 is a plan view of one of the carriers in position at one of the stations. The bottom of the carrier is cut away to show the position of the pusher-bar, and a pusher-block is also shown in this figure as it appears just as the pusher-bar and pusher-block are disengaged from each other. Fig. 7 is a side view of the pusher-bar and pusher-block. Fig. 8 is a side view of the bar and block as they appear when the block has taken the carrier to the kitchen and is passing down over the end of the table. It shows how the end of the hook lifts the end of the pusher-bar

and disengages itself. Fig. 9 is a side view of the tappet 13 on the bottom of the carrier. Figs. 10, 11, 12, 13, and 14 show the bar and block in different positions as the carrier is moved out upon the double side track at a station.

In the accompanying drawings, the platforms A A, the central portion A', the lower housing A², the longitudinal rests 1 1 and upright supports 2 2, outside legs 3 3, and legs 4' under the lower housing constitute the framework of the machine.

The platforms A A are divided by the standards A³ into stations or eating-places for the guests. Leading into each of these stations are two curved side tracks 4 4, that branch off from the main track 5, which extends along one on each side of the central portion of the table.

Beneath the central portion of the table are two actuating-cables 6, one under each of the main tracks and traveling in a line with it. The cable passes around a drive-wheel which is operated by a suitable motor whereby the requisite movement is imparted.

It will be observed that the drawings in reality represent two independent apparatus supported by the one table—that is to say, one cable and one main track with its side tracks and carriers constitute a complete apparatus. The double apparatus here proposed to be operated in connection with one table is to save space in a dining-room where it is desirable to seat guests on both sides of the table.

A carrier is made for each station and numbered to correspond with the number of the station to which it belongs, right-hand carriers being made for the apparatus on one side of the table and left-hand carriers for the apparatus on the opposite side.

The side tracks 4 are formed by cutting grooves or channels in the surface of the table-top, and the main tracks are cut entirely through the table-top in order that the pusher-block 8, which rests upon the top surface of the table over the track, may be securely fastened to the cable and be forced along as the cable moves. A connecting-piece 8' of suitable material is clamped to the cable and reaching up through the slot of the main track 5 enters a hole b in the center of the block 8

and is secured in place by a set-screw *c*, as shown in Figs. 2 and 5. A portion of the pusher-block 8 at the forward end is in the form of a quarter-circle and adapted to fit into the forked end of the pusher-bar D, the two adapted to form a connection which allows the bar D to swing on its pivoted end when the carrier has entered the side tracks at a station, as shown in the drawings. The front end of the block 8 is cut away on the under side to make place for the trailer-hook *d*, which is pivotally attached to the block by the bolt *e* and is held normally in the position here shown by the spring *f*. Several of these blocks are fitted to the cable at suitable intervals of distance from each other. The cable with these blocks fixed to it forms a propelling medium by means of which the carriers are propelled along the tracks.

The meal tray or carrier B is provided with two runners *g g* near its front edge and two other runners or supports *g' g'* near its back edge. These runners are blocks with their under surfaces rounded, and each of the front runners *g g* is provided with a guide-pin *t*, that projects downward from the under side, the pins being adapted to move in the grooves or slots that form the tracks 4 and 5 and to guide the carrier and keep it in position.

The pusher-bar D, which is in the nature of a coupling-link between the propelling medium and the carrier, is pivotally attached to the carrier B by means of a bolt *i*. The pusher-bar D is composed of the main portion which is pivoted to the carrier and has its outer free end forked and the sliding portion that is adapted to slide under the two loops *h h*. The main portion is provided with the rest-block *j* and the small latch-pin K on the under side and the loops *h* on the upper side. The sliding portion has at the outer end a lower projection or finger *l* and an upper projection *m*.

The switch mechanism is composed of a switch-fork at the entrance of each side track and the bar 10 and rod 11 with contact-points 11', that reach above the surface of the table-top. The switch-forks are composed of the switch-point N, the body portion O, through which a bolt extends to form a perpendicular hinge, and the lower arm P.

At each eating-station a switch-fork is hinged to the table-top at the entrance to each of the two side tracks, the switch-points N being adapted when standing in one position to close the entrance to the side tracks and when standing in another position to open them.

On each side of the groove that forms the main track there is cut a socket or recess 12 in the edge of the table-top, which recess is adapted to receive the free end of the switch-point in order to leave a smooth vertical surface along the groove that forms the track, whether the switch is open or closed, and avoid any jar as the guide-pins pass along.

The bar 10 is pivotally connected to the lower arms of the two switch-forks at a sta-

tion, and to this bar is pivotally attached one end of the rod 11, the other end turning up and extending through the slot R and reaching above the table-top forms a contact-point 11'. A spiral spring 14 is adapted to hold the contact-point 11' to the near end of the slot R and the switch-points in the position shown in Fig. 3, with main track open and side track closed. This point 11' is designed to come in contact with a tappet 13, that extends downward from the under part of the carrier B. The tappet being set at an angle with the course of the carrier, it is adapted, as the carrier moves forward, to force the contact-point 11' out to the other end of the slot R and open both of the switches at that station simultaneously.

All the rods 11 in an apparatus are made of different lengths in order that each carrier may be adapted to throw but one pair of switches and can enter one particular station and no other. The carrier designed to enter a particular station has the tappet fixed on the under side at a distance from the front runners to correspond to the length of the rod 11 at that station.

The standard 15 on the end of the table in the dining-room supports the pulley 16. A similar standard and pulley are on the other end of the table, and an endless cord 17 passes over these pulleys and also over the pulley 18, which is on the same shaft with the drive-wheel. At each station is a pocket in which is kept a supply of menu-cards which bear a number corresponding with the number of the station. These cards are provided with a metallic hook at the top adapted to fit over the cord 17, as shown in Fig. 1 of the drawings. A guest takes his seat at one of the stations, takes a menu-card from the pocket, and makes a check opposite the several articles he wishes to order. He then hangs the card on the cord 17, which being in motion carries it to the cook-room. The carrier that belongs to the station corresponding with the number on the card is filled with the articles ordered and placed on the table, with the guide-pins in the groove 5. The carrier once started along the main track will throw the switches and enter the side track at the station where it belongs by means of the switch device I have already described. As the carrier moves out on the side track and the block 8 continues to press against the outer end of the pusher-bar D, the pusher-bar is caused to swing on its pivoted end until it stands nearly at right angles with the edge of the table. When it reaches this position, it comes in contact with the runner *g'*. Then as the block 8 continues on its course it becomes disengaged from the pusher-bar, leaving the carrier exactly in position and out of the way of other carriers as they pass along the main track.

It will be observed that the two guide-pins that project down from the runners *g* pass along the same main track, but enter different side tracks, and that the edge of the car-

rier is kept at all times parallel with the edge of the table. This has a decided advantage over an apparatus where the main track is double, and one of the double side tracks forms a much larger curve than the other, for in that case the carrier is given a swinging motion, and the side of the carrier that moves over the greater curve having to go much farther than the opposite side in the same length of time must travel faster and also faster than the block or other medium which travels along the main track and imparts motion to the carrier. In other words, the speed of the carrier is greatly increased as it enters the side tracks. This my apparatus is designed to avoid.

The tappet 13 on the under side of the carrier is in the form of a simple hinge, one wing of which is screwed to the carrier and the other wing hangs vertically, but is so formed that it may be swung in one direction (away from the kitchen) but not the other. This is in order that the tappet may swing back out of the way as it comes in contact with the point 11' when the carrier is on its way back to the kitchen.

I am aware that different dining-room apparatus have been invented and different ways have been devised with the object of getting the meals delivered at an exact place in front of the guest with suitable gentleness where it will be out of the way of other meal-trays passing and will be in a position to be taken up by the machine again, all without requiring the assistance of the guest or other persons; but as some of the meals served will be heavier than others and some of the runners and tracks will be smoother than others friction and momentum cannot be depended upon to stop the carrier at an exact place at the station if they are turned loose at the side tracks to travel by themselves. Some will stop before reaching the end of the track, while others will strike the end of the track with a jar, and it is evident that there could not be a practical and satisfactory apparatus until means were provided for exactly and positively controlling the movement of the meal-tray until it reaches an exact resting-place at the station. It is the principal object of my invention to provide this positive speed-retarding and speed-regulating mechanism. This mechanism insures that the carrier approaches the end of the track by traveling in a constantly-reduced and perfectly-regulated rate of speed until it reaches a certain and exact spot, and when it reaches that spot it is moving so slowly that there is no perceptible jar in stopping. I accomplish this in the present instance by using with double curved tracks and a single main track the pusher-block and pusher-bar described. The end of the pusher-bar which is attached to the carrier is caused to travel at a rate of speed that is retarded and graduated exactly as required, while the other end continues to travel at a uniform rate of speed along with the cable, and means are used for

attaching the bar to the block, so that the carrier at no time can go faster or farther than it is actually propelled.

In each of Figs. 10, 11, 12, 13, and 14 of the drawings a portion of the carrier is shown in dotted lines, and it will be seen that the distance traveled by the carrier in passing from the position shown in Fig. 10 to its position as shown in Fig. 11 is much greater than the distance traveled as shown between Figs. 13 and 14, while the distance traveled by the outer end of the bar D from the position shown in one figure to the position shown in the next figure is in each case the same. In other words, while the block 8 and the outer end of the bar D move at an unchanging rate of speed until they become disengaged from each other the pivoted end of the bar and the carrier move out to the terminus of the side track at a gradually-reduced rate of speed. In all the different positions occupied by the bar the end of the left fork (marked *lf*) is the same distance from the main track, and until it is disengaged from the block it presses against the block at the same spot. This part *lf* travels all the time at the same speed along with the block as long as it is in engagement with it; but the other end of the bar and the carrier travels along this part of its course, as here shown, with a regularly and continually reduced rate of speed, which causes the carrier to stop without a jar. Projecting from the forward end of the pusher-block is a thin bracket-piece X, so constructed and arranged that when the block comes in contact with the pusher-bar to carry the carrier to the dining-room the end of the bar will slide up on the bracket-piece in order that the pusher-bar as it travels along the main way in the dining-room will be on a higher plane than those that are at rest at the different stations along the way and will not collide with the same. On the side of the pusher-block is a small latch-piece Y. This is so formed and situated that when the bar has been lifted up on the bracket the small latch-pin K on the under side of the pusher-bar will slide over the latch-piece Y and dropping down behind the same will form a connection by which the bar will be held to the block, to the end that the bar and the carrier cannot travel faster than it is positively propelled by the block, as has been described. When the carrier has reached its place at the station and the pusher-bar has swung around to stand about at right angles with the main track, the bar and the block will become disengaged and the end of the bar will drop down as it leaves the bracket-piece and will rest with the rest-block *j* on the table-top.

It will be desirable to have one assistant in the dining-room to receive the guest, &c., and when the guest has finished his meal this assistant will see that the dishes are on the carrier and ready to be returned to the cook-room. He will then insert a key (see *W'*, Fig. 6) into the keyhole *W* in the flange that ex-

tends along the front edge of the carrier and he will push the sliding portion of the pusher-bar out toward the main track, bringing the projection *m* in position where the trailer-hook *d* will catch it and carry the carrier back to the cook-room, when the motion of the cable is reversed. The assistant in the cook-room reverses the cable whenever he is ready to receive the carrier from where the guests have finished their meals. As the carrier reaches the cook-room and the pusher-block starts down the curve at the end of the table the trailer-hook lifts the end of the bar and disengages itself, as shown in Fig. 8 of the drawings. On the under side of the carrier is the piece 25 of thin spring-steel or other suitable material, one edge of which is against the bottom of the carrier, and one end is securely fastened to the same by the bolt 26. The other end of the spring is free to spring in one direction, but presses against a pin 27 when pressed in the other direction. This spring-piece is placed diagonally across the path traveled by the outer end of the pusher-bar as it swings around, while the carrier is moving out on the side tracks at the stations, and it is arranged and adapted to come in contact with the upper projection *m* on the sliding portion of the pusher-bar in such a way as to force the sliding portion back in order that the lower projection *l* may be out of the way of the trailer-hook *d* when it passes. When the assistant has pushed the sliding portion out again with his key, as has been described, and the carrier is being taken back to the cook-room, the bar is swung back and the projection *m* in passing along the course indicated by the curved broken line 28 comes against the outer end of piece 25 and springs it out of the way, leaving it to spring back again against the pin 27 after the bar has passed.

50 is a projection on the platform A at each station. When the carrier moves out on the switch-tracks and reaches its stopping-place at the station and the pusher-bar drops down from the bracket-piece, the rest-block drops down behind this projection 50 and forms a lock, whereby the carrier is held in place and the possibility of its being accidentally moved out where it will be in the path of the moving carriers is thus avoided. When the trailer-hook engages with the pusher-bar to take the carrier back to the cook-room, the bar is swung on its pivot enough to disengage it with the projection 50 before the carrier starts from its stopping-place.

In the drawings the side tracks leading into the different stations are double—that is to say, they consist of two members, two grooves to guide the carrier and keep it in position; but I do not want to confine myself to this construction, and in the claims I use the expression “plural side track” to designate a track or way having two or more grooves to guide the carrier.

Inasmuch as my apparatus may be used for

other purposes, it is obvious that I do not desire to be limited to the use of it for dining-room service. It will also be observed that by the term “side track” I mean any lateral branch from the main track.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a carrier apparatus, a single track along the main way and a plural side track leading into a station adjacent to said way, in combination with a carrier adapted to be guided by said single track and by said plural side track.

2. In a carrier apparatus, the combination with a main track and a plural side track, of a carrier adapted to said tracks and having two guides, both of said guides running in said main track and one of them running in one member of said plural side track and the other in the other member of said plural side track, substantially as described.

3. In a carrier apparatus the combination with a single main track and a plural side track, of a carrier adapted to said tracks, and means whereby the lines of the carrier that are parallel with the main track when the carrier is on the main track are kept parallel with it as the carrier moves along the plural side track.

4. In a carrier apparatus, the combination with a single track along the main way and plural side tracks at stations, and a series of carriers corresponding with the stations at which they are to enter and each adapted to be guided by said single main track and said plural side tracks, of a plural switch adapted to cause each carrier to enter its station as described and for the purposes specified.

5. In a carrier apparatus, the combination with a main track and a side track and a pusher-block adapted to run on said main track, of a carrier adapted to run on said main and side tracks, and a pusher-bar pivoted to said carrier and adapted to be engaged by said pusher-block to propel said carrier on said main track and to positively propel it when switched off on said side track to its terminus on said side track whereby said carrier is caused to approach said terminus at a gradually-reduced speed for the purposes specified.

6. In a carrier apparatus the combination with a main track and side tracks and a pusher-block adapted to move along said main track, of a carrier adapted to run on said main and side tracks and a pusher-bar pivoted to said carrier and adapted to be engaged by said pusher-block to move the carrier from its place of rest on the side track at a gradually-accelerated speed for the purposes specified.

7. In a carrier apparatus the combination with a main track and a side track and a pusher-block adapted to move along said main track, of a carrier adapted to run on said main and side tracks and a pusher-bar pivoted to

said carrier and adapted to be engaged by said pusher-block to propel said carrier on said main track and to positively propel it when switched off on said side track to its terminus on said side track; said pusher-bar being also adapted to be engaged by said pusher-block to move the carrier from its place of rest on the side track and return it to the main track; the whole being adapted to cause the speed of the carrier as it approaches the place of rest on the side track, and as it leaves the same to be so controlled and graduated as to avoid a sudden jar.

8. In a carrier apparatus, the combination of a main track with a side track and a carrier adapted to run on said main and side tracks, with a propelling medium along the main track, and a pusher-bar forming a positive coupling between said propeller and said carrier, adapted to impart motion to the carrier to positively propel it to its terminus on the side track, and to keep the carrier from moving faster than it is so propelled, whereby the carrier is caused to approach its terminus on the side track at a gradually-reduced speed.

9. In a carrier apparatus, the combination of a main track with a side track and a carrier adapted to run on said main and side tracks with a propelling medium along the main track, and a pusher-bar forming a positive coupling between said propeller and said carrier, adapted to impart motion to the carrier to propel it when on the side track and when on the main track, whereby the carrier is moved from its resting-place on the side track and taken to the main track, at a gradually-accelerated speed.

10. In a carrier apparatus, the combination of a main track and a side track; a carrier adapted to run on said main track and on said side track, and a propelling medium along the main track, with a pusher-bar forming a coupling between said propeller and said carrier; said pusher-bar being adapted also to propel the carrier when the carrier is on the main track and when on the side track, and to keep the carrier from moving faster than it is so propelled; the pusher-bar being of such relative length, and the engaging surfaces of the coupling having the relative configuration substantially as described, whereby the carrier is caused to approach its terminus on said side track at a gradually-reduced speed.

11. In a carrier apparatus, the combination of a single track along the main way and a plural side track at each station, and a propelling medium along the main way, with carriers adapted to move upon the single main track and upon the plural side track, and a pusher-bar having one end pivotally attached to the carrier, and the other end adapted to engage with the propelling medium, and means for deflecting the carrier from the main track to the side track, the engaging connection between the pusher-bar and the propeller,

being adapted to keep the carrier from going faster than it is positively propelled; and also to cause it to approach its terminus on the side track at a gradually-reduced speed.

12. In a carrier apparatus, the combination of a main track and a side track, with a carrier adapted to move along said main track and side track, and means whereby the carrier is positively propelled to the terminus of the side track at a gradually-reduced speed, substantially as shown and described, and for the purposes specified.

13. In a carrier apparatus a single main track with a double side track, in combination with a carrier adapted to be guided by said single main track and by said double side track, and a pusher-bar adapted to propel the carrier to the termination of the side track, while one end of the bar continues to move along the main track.

14. In a carrier apparatus, the combination of a main track and a side track, with a carrier adapted to be guided by said main and side tracks and a pivoted pusher-bar adapted to propel the carrier to the terminus of the side track, while one end of the bar moves along the main track, said bar swinging on its pivot until it stands at right angles with the main track when the carrier reaches said terminus, whereby the carrier is caused to approach said terminus at a gradually-reduced speed.

15. In a carrier apparatus, the combination of a main track and a side track that terminates at a station, and a carrier adapted to move along the main track and to be deflected from the same and to move along the side track to its terminus, with a propeller that moves along the main track and a pusher-bar forming a positive coupling between the propeller and the carrier, adapted to positively propel the carrier until the carrier reaches its terminus on the side track, said pusher-bar being adapted to run parallel with the main track while the carrier is on the main track, and to change its position in reference to the main track when the carrier is running on the side track, and to disengage itself from the propeller when the carrier reaches its terminus on the side track and the pusher-bar reaches the position to form a right angle with the main track; whereby the carrier is positively propelled to its terminus on the side track at a gradually-reduced speed.

16. In a carrier apparatus the combination of a main track and a side track that terminates at a station, and a carrier adapted to move along the main track and to be deflected from the same and to move along the side track to its terminus, with a propeller that moves along the main track, and a pusher-bar forming a positive coupling between the propeller and the carrier adapted to positively propel the carrier until the carrier reaches its terminus on the side track, said pusher-bar being adapted to run parallel with the main track while the carrier is on the main

track, and to change its position in reference to the main track when the carrier is running on the side track until it forms a right angle with the main track and the carrier reaches its terminus on the side track, whereby the carrier is positively propelled to its said terminus at a gradually-reduced speed.

17. In a carrier apparatus the combination of a single main track and a plural side track and a carrier adapted to move along the main track and to be deflected from the same and to move along the side track to its terminus, with a propeller that moves along the main track and a pusher-bar forming a positive coupling between the propeller and the carrier adapted to positively propel the carrier until the carrier reaches its terminus on the side track, said pusher-bar being adapted to run parallel with the main track while the carrier is on the main track and to change its position in reference to the main track when the carrier is running on the side track and to disengage itself from the propeller when the carrier reaches its terminus on the side track and the pusher-bar reaches the position to form a right angle with the main track, whereby the carrier is positively propelled to its terminus on the side track at a gradually-reduced speed.

18. In a carrier apparatus the combination of a single main track and a double side track and a carrier adapted to move along the main track and to be deflected from the same, and to move along the side track to its terminus with a propeller that moves along the main track and a pusher-bar forming a positive coupling between the propeller and the carrier adapted to positively propel the carrier until the carrier reaches its terminus on the side track, said pusher-bar being adapted to run parallel with the main track while the carrier is on the main track and to change its position in reference to the main track when the carrier is running on the side track, until it forms a right angle with the main track and the carrier reaches its terminus on the side track, whereby the carrier is positively propelled to said terminus at a gradually-reduced speed.

19. In a carrier apparatus the combination of a single main track and a double side track and a carrier adapted to move along the main track and to be deflected from the same and to move along the side track to its terminus, with a propeller that moves along the main track, and a pusher-bar forming a positive coupling between the propeller and the carrier adapted to positively propel the carrier until the carrier reaches its terminus on the side track, said pusher-bar being adapted to run parallel with the main track while the carrier is on the main track and to change its position in reference to the main track when the carrier is running on the side track and to disengage itself from the propeller when the

carrier reaches its terminus on the side track and the pusher-bar reaches the position to form a right angle with the main track, whereby the carrier is positively propelled to its terminus on the side track at a gradually-reduced speed.

20. In a carrier apparatus a pusher-block adapted to move along a main track and a carrier adapted to move along the main track and a side track, the carrier having a pusher-bar attached thereto, said pusher-bar and pusher-block being adapted to engage with each other to propel the carrier to a definite terminus on the side track and to disengage from each other when it has reached said terminus.

21. In a carrier apparatus the combination of a main track and a side track, of a carrier adapted to move on said tracks and having a pusher-bar pivotally attached thereto, a pusher-block on the main track having a trailer-hook attached thereto; the pusher-bar having a projection adapted to engage with said trailer-hook to move the carrier from the side track to the main track as and for the purposes specified.

22. In a carrier apparatus the combination of a main track and a side track, of a carrier adapted to move on said tracks and having a bar pivoted thereto, a propeller on the main track with means whereby the propeller engages with the carrier when it is at rest on the side track and moves it from said side track to the main track.

23. In a carrier apparatus the combination of a main track and a side track with a carrier adapted to move along said tracks and means whereby the lines of the carrier that are parallel with the main track when the carrier is on the main track are maintained in parallelism with said main track when the carrier is on the side track.

24. In a carrier apparatus, the combination of a main track and a side track and a carrier adapted to move along the main and the side tracks, with a propeller that moves along the main track and means for connecting the propeller with the carrier whereby the carrier is positively regulated in its movement and caused to approach its terminus on the side track at a gradually-reduced speed.

25. In a carrier apparatus the combination of a main track and a side track and a carrier adapted to move along said main track and to be deflected from it and move along the side track to its terminus, with means for positively regulating the movement of the carrier after its deflection from the main track; whereby it is caused to approach its terminus at a gradually-reduced speed.

26. In a carrier apparatus, the combination of a main track and a series of side tracks leading therefrom to adjacent stations, a carrier running on said main track, means for propelling it, a device for deflecting the carrier into said side tracks, and a device mount-

ed on the carrier and adapted to positively and gradually retard its speed to its terminus on the side track.

27. In a carrier apparatus, the combination of a main track and side tracks leading therefrom to adjacent stations, a carrier adapted to move along the main track, positive means for deflecting it into the side tracks and gradually retarding its speed to a positive point of rest, and devices for returning the carrier to the main track from said point with a gradually-accelerated speed.

28. In a carrier apparatus, the combination of a main way or track, side ways or tracks connected thereto, a carrier and means for moving it along said tracks, and positively-operated mechanical devices for moving the carrier from its point of rest on the side track onto the main track at a gradually-accelerated speed.

29. In a carrier apparatus, the combination of a main track, a side track leading therefrom, a propelling medium running along adjacent to the main track, a carrier running on the main track and side track, a switching device for directing it into the side track, a movable device mounted on the carrier and adapted in conjunction with said propelling medium to positively move the carrier along the side track and gradually reduce its speed to a positive point of rest thereon.

30. In a carrier apparatus, the combination of a main track, a side track leading therefrom, a propelling medium, a carrier running on said tracks, and devices on the carrier engaging the propelling medium and adapted to move said carrier from a point of rest on the side track onto the main track at a gradually-accelerated speed.

31. In an apparatus of the class described, the combination of a main track, a side track, a carrier adapted to said tracks, means for deflecting the carrier into the side track and gradually and positively retarding its speed to its point of rest on its side track, and means whereby the lines of the carrier that are parallel with the main track when the carrier is on the same remain parallel therewith when

the carrier moves into the side track, for the purposes set forth.

32. In a carrier apparatus, the combination, of a main track having a lateral branch track, a carrier adapted to said tracks, means for positively moving the carrier from the lateral branch track into the main track at a gradually-accelerated rate of speed, and means for keeping the lines of the carrier that are parallel with the main track when the carrier is on it parallel with it while the carrier is in motion on the lateral branch track, for the purposes set forth.

33. In a carrier apparatus, the combination of a main track, a propelling medium running along adjacent to said track, a lateral branch track extending away from the main track, a carrier adapted to said tracks, means for directing it from the main track into the branch track, and means engaged by the propelling medium for positively and gradually retarding the speed of the carrier as it moves from the main track into the branch track.

34. In a carrier apparatus, the combination of a main track, a branch track extending away from the main track, a carrier adapted to said tracks, a propelling medium running along adjacent to the main track, and means for positively returning the carrier to the main track from the side track with a gradually-accelerated speed, said means consisting essentially of a coupling-bar pivoted at one end to the carrier and having its free end extending toward and lying at approximately a right angle to the main track when the carrier is on the side track, and means on the propelling medium for engaging the free end of said coupling-bar and swinging it around to a position approximately parallel with the main track during the act of moving the carrier into the main track.

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

JUDSON B. HURD.

Witnesses:

WILLIAM J. LA VARRE,
A. D. NOLAN.