

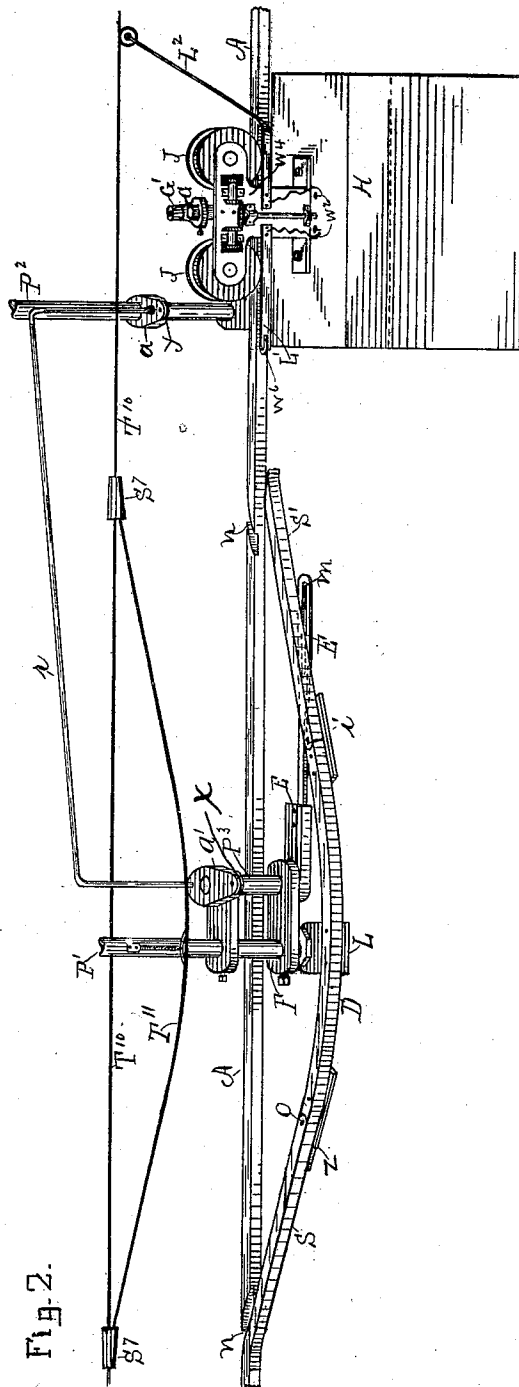
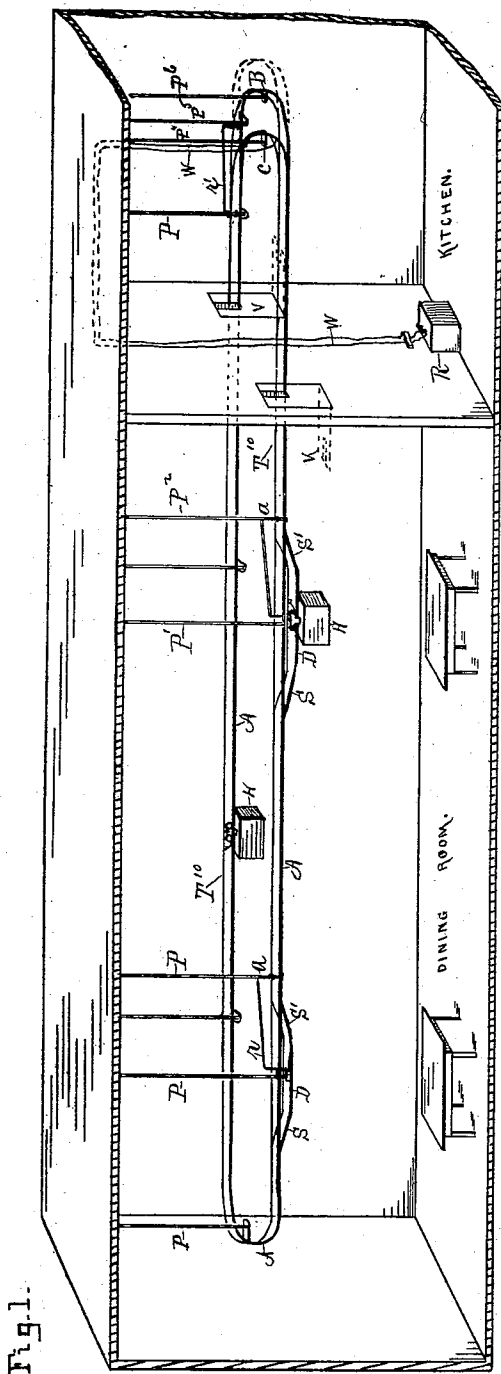
(No Model.)

2 Sheets—Sheet 1.

W. A. BUTTERFIELD.
RESTAURANT SERVICE.

No. 509,191.

Patented Nov. 21, 1893.



Witnesses:

Ray Hutchins.
Herbert Corwell.

Inventor:

Walter A. Butterfield By
Thos. H. Hutchins his atty

UNITED STATES PATENT OFFICE.

WALTER A. BUTTERFIELD, OF MARSEILLES, ILLINOIS.

RESTAURANT SERVICE.

SPECIFICATION forming part of Letters Patent No. 509,191, dated November 21, 1893.

Application filed February 27, 1893. Serial No. 463,797. (No model.)

To all whom it may concern:

Be it known that I, WALTER A. BUTTERFIELD, a citizen of the United States of America, residing at Marseilles, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in a Restaurant Service, of which the following is a specification, reference being had therein to the accompanying drawings and the letters of reference thereon, forming a part of this specification in which—

Figure 1 is a perspective view showing the restaurant service applied to the dining room and kitchen of a restaurant. Fig. 2 is a perspective view of one of the switches, and of a section of the main track, and of a trolley wire and switch, and one of the electrically propelled carriers. Fig. 3 is a plan view of the main track and its switches. Fig. 4 is a detail showing the manner of connecting the main track with its supporting rods. Fig. 5 is a perspective view of one of the switch rails of the switches showing its end that comes in contact with the main track provided with an insulator. Fig. 6 is a perspective view showing the hinged joint of one of the switches, and a spring for holding the switch rail in contact with the main track. Fig. 7 is a side view of a post attached to the upper part of the carriage frame, and having an adjustable arm for engaging the switch mechanism. Fig. 8 is a side view of the arm for being engaged by the arm on the carriage for operating the switch, and Fig. 9 is a detail view showing an arm connected to one of the switch rails for turning the switch rail. Fig. 10 is a view of the lower end of one of the supporting rods showing it as being provided with arms for supporting both the track and a trolley wire, and showing wires for connecting them with a battery, and Fig. 11 is a bottom plan of one of the plates for connecting the trolley wire with its switch.

This invention relates to certain improvements in a service apparatus for restaurants, which improvements are fully set forth and explained in the following specification and claims.

Referring to the drawings: A represents an electrically charged continuous oblong track suspended from the ceiling of a room

by means of rods P, P', P² in such manner that said rods are insulated from the track. Said track A is shown as passing from the dining room through a partition into a kitchen through doors V which are opened by the carriage as it moves against the door, and caused to close by means of springs, to prevent smells from passing from the kitchen to the dining room.

R represents an electric battery which may be of any kind or design, and which is connected both with the track A, and a trolley wire T¹⁰ by means of the wires W, W.

B is a switch track arranged at the end of the main track A in the kitchen and is supported by the rods P⁶, P⁴, P⁵ suspended from the ceiling. Said switch track B is provided on its ends with the switch rails S⁴ and S³ respectively, the ends of which are intended to be provided on their parts that come in contact with the main track with an insulator such as shown at S⁵ in Fig. 5 so as to insulate switch track B from the main track A. Said switch rail S⁴ is intended to be spring pressed against the main rail by means of a spring on its under side such as is shown at Z in Fig. 6, while switch rail S³ is intended to be opened and closed by means of the electrically propelled carriage as hereinafter more fully set forth.

D is a switch track located at the side of the main track above or near a table in the dining room and is supported from the ceiling by means of the depending rod P' and arm L. Said switch track is provided on one end with a switch rail S pivotally connected thereto at O, and held in contact with the main track by means of a spring Z on its under side bearing against a pin Z² of the switch rail as shown particularly in Fig. 6. The opposite end of said switch track has pivotally connected to it at i the switch rail S' which is opened and closed by means of slotted arm E bearing against the pin g on the under side of said switch rail as shown in Fig. 9. Both of said switch rails are insulated from the main track A by means of insulators on their contact ends as shown at S⁵ in Fig. 5.

P³ is a shaft journaled in the arms F secured to post P'. Said shaft has secured on its upper end the arm a' having a friction roller X

arranged on its outer end, and also has secured on its lower end the arm E having the slot *m* for receiving the pin *g* of switch rail S'.

a is a swinging arm journaled on rod P² between the two collars W' which hold said arm in its proper place. Said arm *a* is also provided with a friction roller *y* at its outer end. Said arms *a* and *a'* are connected by means of the rod *r* in such manner that it will permit their outer ends to turn to and from each other.

H is a carriage for carrying material that may be placed therein, from the kitchen to the dining room and is supported by means of the two grooved wheels J on the track A. Said carriage is connected with its said wheels through the medium of the standard W⁴, to which standard said wheels are journaled. Said wheels are intended to be driven from an electric motor contained in the carriage, not necessary to be shown, through the medium of the shafts and gears as shown in Fig. 2.

The motor within the carriage is intended to be connected with both the track A and the trolley wire T¹⁰ through the medium of the wires W and the arms L' and L² for the purpose of completing the electric circuit when the carriage is on the main track, and arm L² is in contact with the trolley wire T¹⁰.

The trolley wire T¹⁰ is provided with insulated switches T¹¹ as shown in Figs. 2 and 3, corresponding with the track switches, so that the trolley arm L² of the carriage may pass on said switch when the carriage passes on the track switch, so that the carriage will be entirely insulated from both track and trolley wire when standing on the switch.

G is a standard arm secured to the top of the carriage, and is for the purpose of engaging the arms *a*, *a'*, *a*³ and *a*⁴ respectively in their order as the carriage moves forward through the medium of the adjustable arm G', which is made adjustable for the purpose of adapting it to engage the arms of any particular switch.

The rods P are insulated from the main track as shown in Fig. 4. The collars K and T are intended to be made of rubber and placed on said rod as shown in said figure.

h, *h*, are metal washers in contact with the collars K respectively, and Z', are nuts screwed on rod P against said washers respectively to bring the collars tight against arm A' supporting track A. The collar T prevents rod P from coming in contact with arm A'. The aperture through arm A' through which rod P passes is large enough to receive the collar T so that said collar may prevent contact of said rod with said arm and preserve the insulation of the track from said rod.

In operation it is intended that the carriage H shall first stand on the switch track B which is insulated from the main track as stated so as to prevent the carriage from moving while on said switch. A waiter at or near a table in the dining room sends an order to

the kitchen through a speaking tube or in any other manner desired, for whatever a customer may order, which material is placed in the carriage that stands on switch track B, and the carriage is then moved forward until it is on the main track, when it will be electrically propelled to the switch track over the table in the dining room from which the order came, when the carriage will be switched off from the main track on to the switch D where it will stop because of said switch being insulated from the main track. The carriage is caused to be switched by reason of its friction roller on arm G coming in contact with the friction roller *y* on arm *a* so as to turn said arm *a*, and with it turn arm *a'* through the medium of rod *r*; this will cause shaft P³ through the medium of its arm E to turn switch rail S' against rail A to close the switch so that the carriage will be switched off on the switch rail D, and stop to deliver its contents, after which it is moved on by the waiter until it is on the main track again, and as it passes arm *a'* on shaft P³ its arm G, will engage arm *a'* and thereby open the switch rail S' so as not to be in the way of another carriage *en route* for a different switch. After the carriage has passed off from switch rail D on to the main track again it will be electrically propelled around back to switch B, and in order to pass upon switch rail B engages arm *a*³ shown in Fig. 3 which will through the medium of rod *r'*, arm *a*⁴ and arm N connected with switch rail S³ close said switch rail to the main track A in the same manner and by the same mechanism as shown in Fig. 2, so that the carriage will pass on to the said switch rail B and stop to be again loaded and started forward as before stated. The switch operating device connected with switch rail B is not shown larger in Figs. 1 and 3, as it is the same construction shown plainly in detail in Fig. 2.

It is intended that there will be a carriage for each table in the dining room, and a switch track D for each table, and that each carriage and its table shall be designated by a number, and that there shall be as many switch tracks B as there are carriages as indicated by broken lines in Fig. 1, and having a number corresponding with it a carriage, so that when an order comes from a table of a certain number, the order can be placed in a carriage of a corresponding number, and that a carriage of a given number may operate the proper switch to stop opposite the table of the number corresponding to the carriage. Each carriage is intended to be provided with an arm G of a different length and set in a different position so as to engage arms *a* of different lengths on the rods P², and as the switch rail S' is always left open by the carriage as it leaves the switch rail D, carriages destined for different tables may pass on the main track past a carriage as it stands on its switch rail D, without interference, as its arm G will only engage the

proper arm *a* to turn it off on its proper switch so that any number of carriages may be used to convey orders to any number of tables, each stopping at its own table, thus saving the necessity of a waiter to carry orders from the kitchen to the dining room tables. Each carriage operates its own switches independently from the other carriage, and when a carriage has moved along on one of the switch tracks *D* far enough, its arm *G*, *G'* will engage arm *a'* and open the switch rail *S'* so it will be free from the main rail *A*, so another carriage going on to another switch may pass along by on the main track without interference with the carriage that may be on switch rail *D*. A carriage passing along on main rail *A* will by means of the flange of its wheels press the spring switch rail *S* backward from the main rail so the wheels will not be thrown off the track, and when the carriage passes on and off the switch track *D* the flanges of its wheels may cross the main track *A* in the diagonal channels *n* so it will not be thrown off the track.

Having thus described my invention, what I claim to be new, and desire to secure by Letters Patent, is as follows, to wit:

1. In a restaurant service the combination

of the continuous track *A*, the trolley wire *T*¹⁰, *T*¹¹, battery *R* and wires *W* for connecting said track and trolley wire, with the battery switch track *D*, switch rails *S* and *S'*, supporting rods *P*, *P'*, *P*², shaft *P*³ having arms *a'* and *E*, arm *a*, rod *r* for connecting arms *a* and *a'*, carriage *H* having arms *G* *G'* for engaging arms *a* *a'*, and having the arms *L'* and *L*² connected with each other through the medium of wires *W* with a motor in the carriage, and arms *L'* and *L*² for connecting said carriage and its motor with both said track and trolley wire substantially as and for the purpose set forth.

2. In a restaurant service the combination of the circuitous track *A*, switch track *D* having the switch rails *S* and *S'* pivoted thereto, shaft *P*³ having arm *a'* secured to its upper end and arm *E* secured to its lower end, supporting rods *P'* *P*², rod *r* for connecting arms *a* and *a'* and the carriage *H* having the adjustable arm *G* *G'* for engaging arms *a* to operate switch rail *S'*, all arranged to operate substantially as and for the purpose set forth.

WALTER A. BUTTERFIELD.

Witnesses:

F. E. PORTER,

ERNEST GOODELL.