START OF P.T.O. BOX # 63/64

LAST DOCUMENT #

THIS PAGE DO NOT INDEX!!

THIS PAGE DO NOT SCAN!!

Batch Control

Do Not Remove From This Spot!!

David R. Barnett

July 22, 1952 F. G. MEYER 2,604,190

RETAIL STORE AND CHECKSTAND APPARATUS

Filed May 17, 1949 2 SHEETS—SHEET 2

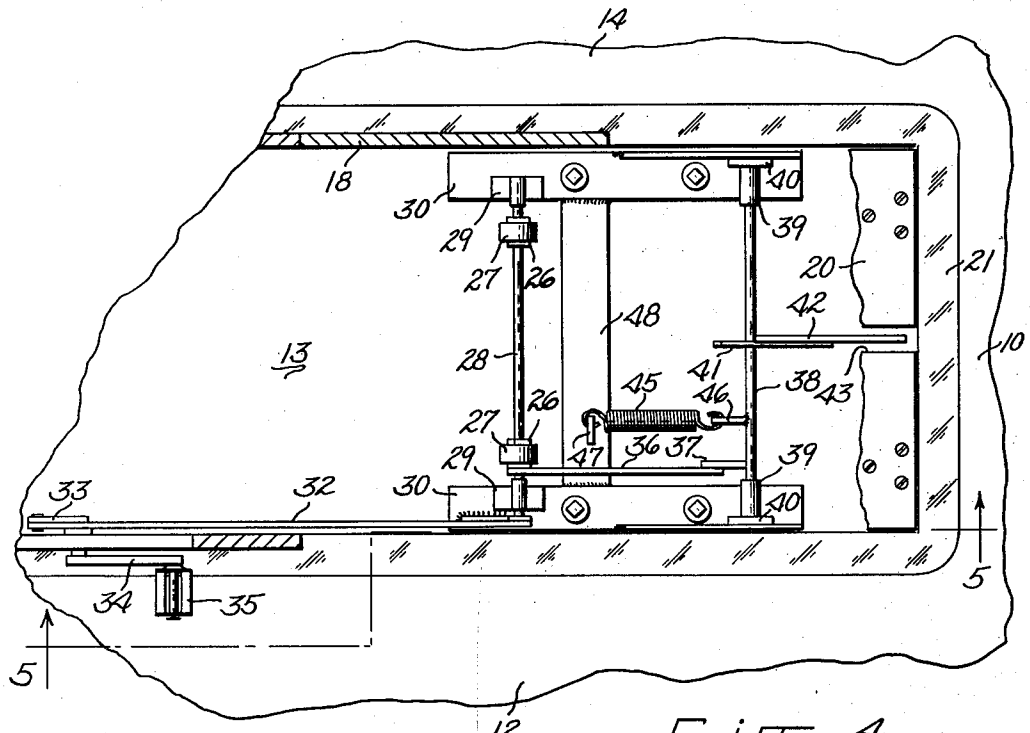


Fig. 4.

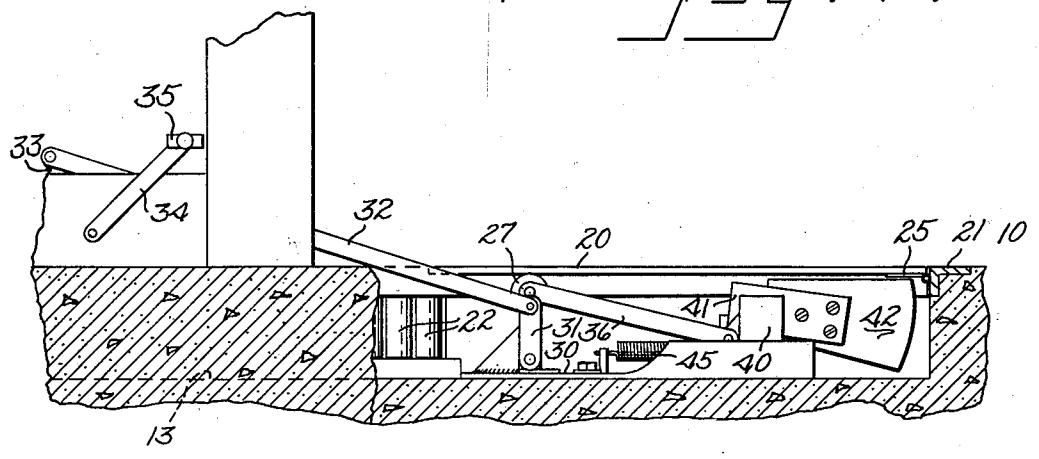


Fig. 5.

INVENTOR.
Fred G. Meyer
BY
Buckhorn and Cheatham
Attorneys

Patented July 22, 1952 2,604,190

UNITED STATES PATENT OFFICE

2,604,190

RETAIL STORE AND CHECKSTAND APPARATUS

Fred G. Meyer, Portland, Oreg.

Application May 17, 1949, Serial No. 93,703

5 Claims. (Cl. 186—1)

1

The present invention comprises an improvement in retail stores of the self-service type wherein customers use basket taxis to carry their purchases to a checker's stand. The principal object of the present invention is to increase the efficiency of operating personnel and to increase the number of customers which may be handled at one checker's stand in a given period of time. The invention was inspired by observing that the volume of business done in a retail store of this type depended to a large extent upon the speed of movement of the customers past the checker's stand during rush hours. Efficient and highly trained personnel are able to handle a certain number of customers per hour with given equipment, but this number may be materially increased if the arrangement of the checker's stand and related equipment is improved in accordance with my invention.

In retail stores of this character it is common to employ basket taxis comprising carriages surmounted by a basket in which a number of articles of merchandise may be placed. In order to increase the number of basket taxis which may be placed about the store there have been developed nesting basket taxis comprising a carriage having four wheels, the front pair of wheels being connected by a transverse frame or axle, but the space between the rear pair of wheels being open so that the carriage of a succeeding taxi may nest within the carriage of a previous taxi; likewise, the basket is provided with a hinged rear wall and the basket itself tapers forwardly so that it may nest into the basket of another taxi. With such devices a large number of taxis may be made available so that a large number of customers may each have a basket, which greatly increases the turnover of merchandise. However, it is not sufficient merely to make it easy for customers to carry their goods to the checking stand if they are required to wait long periods of time for the checker to itemize the bill, add the total and make change, sack the merchandise and dispose of the taxi. Even if the checkstand operator has an assistant to place the merchandise in bags, it has been my observation that more customers may arrive at a given checkstand than the two operators can handle smoothly if they have to manipulate the empty taxis away from the checkstand. The present invention is designed to increase the efficiency of the checkstand operator, or of the checker and sacker, by providing means for automatically disposing of the empty taxis as soon as the last article has been removed therefrom. The present invention comprises means for parking a plurality of nested taxis beneath the checker's table, from which position they may be removed from time to time by a taxi operator or one of the checkers or helpers when he has free time.

2

With the foregoing objects and advantages in mind, the invention will be more thoroughly understood by reference to the accompanying drawings wherein a preferred form of the invention is illustrated. It will be appreciated that details in construction and arrangement of the invention may vary within the concept of my invention. Like numerals refer to like parts throughout the following drawings wherein:

Fig. 1 is a plan view of a portion of a retail store arranged in accordance with the present invention;

Fig. 2 is a vertical section taken substantially along line 2—2 of Fig. 1;

Fig. 3 is a vertical section taken substantially along line 3—3 of Fig. 1 and illustrating a phase of operation of the present invention;

Fig. 4 is a partial horizontal section, on an enlarged scale, taken substantially along line 4—4 of Fig. 2; and

Fig. 5 is a vertical section taken along line 5—5 of Fig. 4.

The invention is illustrated as arranged in a retail store comprising a general floor area 10, preferably on a common level so that taxis may be operated between the aisles of merchandise. The checkstands are preferably arranged in a row adjacent the exit from the store, each of the areas surrounding a checkstand being defined by a pair of partitions 11. Between each pair of partitions 11 the space is divided into three areas; first, the checkstand operator's aisle 12, then a taxi parking area 13, and then a customer's aisle 14. The aisles 12 and 14 are preferably on a level with the general floor but the taxi parking area 13 is preferably at a lower level than that of the general store. In the present illustration the taxi parking area is provided by a shallow pit having a ramp 15 at the exit end so that nested taxis may be removed from the pit easily. It is to be appreciated that in some stores it might be more convenient to have the taxi parking area terminate in an area of the same level as the bottom of the pit so that it would be easier to remove the taxis therefrom. In accordance with my invention the aisle 12 is preferably blocked at the end toward the merchandise shelves by a shelf or table 16 upon which a cash register (not shown) may be mounted. Likewise, the major portion of the area of the pit 13 is surmounted

by a checkstand table 17, the back portion of which is defined by a low wall 18 which is solid so as to prevent customers from reaching beneath the table and disturbing the nested taxis thereunder. The leading edge of wall 18 preferably projects beyond the front edge of the table 17, as seen in Fig. 2, so as to define the entrance to the basket taxi parking pit 13. A customer wheeling a taxi from the general store area is directed to roll his taxi onto a platform 20 at the entering end of pit 13 and then step into the aisle 14 opposite the table 17 while his merchandise is being checked and bagged, at which position he may pay his bill and receive his change.

The platform 20 is preferably pivotally mounted at its front edge upon a portion of an angle bar 21 defining the upper edge of the pit 13. The forward edge of the platform 20 is near a vertical plane passing through the forward edge of the table 17, and platform 20 is of such size that a basket taxi may be parked thereon as seen in Fig. 2. The platform is preferably arranged level with the general floor area and the height of table 17 is preferably such that the leading edge of the basket portion of a taxi engages the table when the taxi is rolled onto the platform. When a taxi is in this position the checkstand operator may remove articles from the basket with his left hand while operating the cash register with his right hand. The articles may be placed upon the table 17 and sacked by the cashier if he is alone, or may be sacked by a helper if there are two operators present.

In order that the cashier or his helper may instantly remove a taxi from the platform 20 when emptied, means are provided for depressing or tilting the platform forwardly into the pit. It will be obvious that as the free end of the platform is lowered the upper edge of the basket will drop beneath the table 17, whereupon the taxi may roll forwardly into the pit of its own accord. The pit is of such length that a number of taxis may be nested beneath the table. In order to reduce frictional resistance to forward movement of the taxi, the side walls of the pit are preferably lined by a plurality of vertical rollers 22 adapted to engage the carriage sides. The taxis so parked beneath the table may not be disturbed by the customers, but the side of the table facing the aisle 12 is preferably open so that a plurality of taxis nested in the pit may be removed at one time.

A preferred form of mechanism for operating the platform 20 and details of a preferred form of platform are set forth in Figs. 4 and 5. In these views it may be seen that the platform 20 is connected to the angle bar 21 through the medium of hinges 25. The platform is controlled by a linkage including a pair of upright arms 26 terminating in rollers 27 which engage the lower surface of the free end of the platform. The arms 26 are mounted upon a cross rod 28 pivotally retained in bearings 29 mounted upon a pair of short footing members 30. The rod 28 is rocked by a first portion of the control linkage including a crank 31, a link 32 extending beneath the end of the table, a link 33, and an operating lever 34 terminating preferably in a foot pedal 53 accessible to either the cashier or his helper. The linkage includes a second portion which extends beyond the rod 28, comprising a link 36 connected to one of the upright arms 26 and to a crank 37 extending from a second cross rod 38 mounted in bearings 39 fastened to uprights 40 which are fixed to the footing members 30. An arm 41 rigidly connected to the rod 38 supports a barricade or blocking member 42 which normally rests beneath the level of platform 20 but which may be projected upwardly through a slot 43 in the platform to the position illustrated in Fig. 3. The linkage is retained in its normal position, illustrated in Figs. 2 and 5, by a spring 45 tensioned between a short arm 46 rigidly mounted on rod 38 and an ear 47 mounted on a brace 48 extending between the members 30. When the pedal 35 is depressed the rollers 27 are swung rearwardly, thus permitting the platform to tip forwardly into the pit. At the same time link 36 moves rearwardly to project the barricade 42 upwardly through the slot 43 to the position illustrated in Fig. 3. This action stretches spring 45 so that upon release of pressure the mechanism is returned to its normal position.

The operation of the linkage causes the platform to tip downwardly, thus inclining the basket taxi and causing it to roll forward beneath the table 17. At the same time the barricade or blocking member 42 is swung upwardly to such height as to engage the axle or front cross piece of the basket taxi carriage, thus preventing a succeeding taxi from being pushed onto the platform until the platform has returned to its normal position. It will be appreciated that the form, shape and size of the platform and of the barricade may vary to permit the use of various forms of basket taxis.

Having illustrated and described a preferred embodiment of the invention, it should be apparent to those skilled in the art that the invention permits of modification in arrangement and details. I claim as my invention all such modifications as come within the true spirit and scope of the appended claims.

I claim:

1. In a retail store, a table, means defining a pit beneath said table of such width as to be capable of receiving basket taxis therein, said pit extending beyond said table in the direction from which taxis arrive, a movable platform mounted in the extending end of said pit, the height of said table above said platform being such that basket taxis moved onto said platform are arrested by engagement with said table, and platform controlling means for depressing said platform whereby basket taxis may be propelled forwardly into said pit.

2. In a retail store, a checkstand table, means defining a pit beneath said checkstand table, said pit extending beyond said checkstand table in the direction from which taxis arrive, a movable platform mounted in the extending portion of said pit, said platform being arranged at floor level so that basket taxis may be manipulated thereonto and the height of said checkstand table above said platform being such that basket taxis moved onto said platform may be arrested by engagement with the end of said checkstand table, and platform controlling means including a level accessible to the checkstand operator for depressing said platform whereby basket taxis may be propelled forwardly into said pit beneath said checkstand.

3. In a retail store, a checkstand table, means defining a pit beneath said checkstand table, said pit extending beyond said checkstand table in the direction from which taxis arrive, a pivotally mounted platform in the extending portion of said pit, said platform being arranged at floor level so that basket taxis may be manipulated

thereonto and the height of said checkstand table above said platform being such that basket taxis moved onto said platform are normally arrested by engagement of an upper portion thereof with with the end of said checkstand table, and platform tilting means under control of the checkstand operator whereby said platform may be tilted into said pit to cause a taxi thereon to roll into said pit.

4. In a retail store, a checkstand table, means defining an elongated, shallow pit beneath said table of such width as to be capable of receiving basket taxis therein, said pit extending beyond said table in the direction from which taxis arrive, a platform pivotally mounted at the extending end of said pit, said platform being normally level with the floor surface so that basket taxis may be manipulated thereonto and being so pivoted as to be capable of tilting into said pit to provide a ramp leading thereinto, platform tilting means for tilting said platform whereby a basket taxi thereon may be caused to roll forwardly into said pit, and taxi blocking means interconnected with said tilting means to be projected above said platform when said platform is tilted in order to block movement of a succeeding taxi onto said platform until said platform returns to its normal position.

5. In a retail store, a table, means defining a pit extending beneath said table, said table and said pit defining a space through which basket taxis may be propelled, a platform pivotally mounted in one end of said pit, said table being

so arranged with respect to said platform that a basket taxi may be propelled onto said platform and said table including a portion engaging said basket taxi to prevent the taxi from being propelled off the end of said platform into said pit when the platform is level, a manually operable linkage associated with said platform for tilting the platform into said pit whereby a taxi thereon may be disengaged from said table and caused to roll into said pit, a barricade movably associated with said platform, and barricade operating means connected to said linkage for moving said barricade into position to prevent a succeeding taxi from being rolled onto said platform until said platform is returned to a level position.

FRED G. MEYER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,021,876	Lister	Apr. 2, 1912
1,325,167	Olson	Dec. 16, 1919
2,292,821	Caulkins	Aug. 11, 1942
2,317,438	Bradley	Apr. 27, 1943

FOREIGN PATENTS

Number	Country	Date
70,944	Sweden	Jan. 28, 1929