Nov. 14, 1967 A. F. WOODROW 3,352,202

ORDER DISPLAY SYSTEM

Filed Oct. 22, 1965

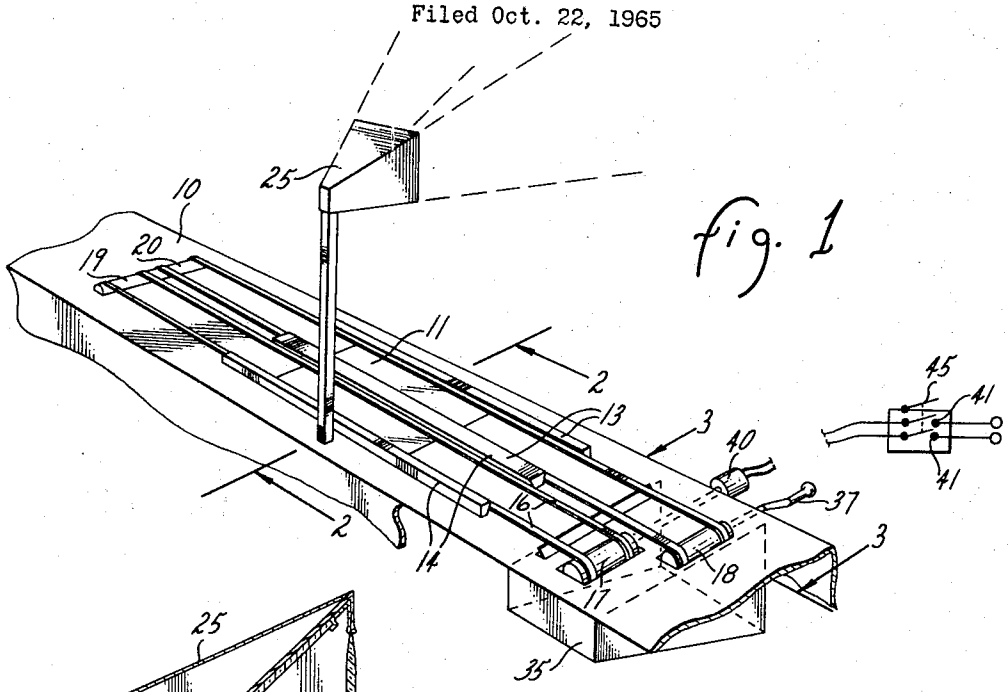


fig. 1

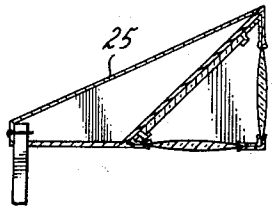
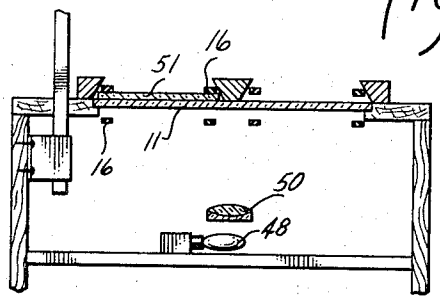


fig. 2



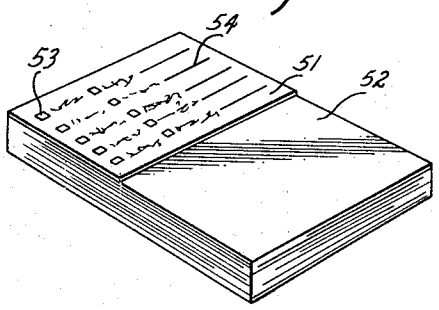


fig. 4

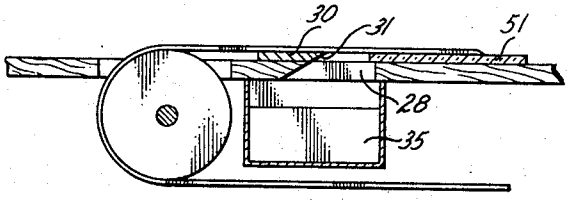


fig. 3

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United States Patent Office 3,352,202
Patented Nov. 14, 1967

3,352,202

ORDER DISPLAY SYSTEM

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Filed Oct. 22, 1965, Ser. No. 502,682
2 Claims. (Cl. 88—24)

The present invention pertains to display systems, and more specifically, to order display systems suitable for displaying customer orders in establishments such as restaurants and the like.

In high volume restaurants where a large number of guest checks or orders must be filled in a relatively short period of time, substantial confusion usually results at the peak of the customer demand. Most of this confusion results from misinterpretation of order, transposition of orders, and confusion regarding the source of the order and the waiter or waitress to whom it is assigned. In an attempt to solve this dilemma, such systems as the rotating drum have been developed. In the rotating drum system, a rotating drum is suspended from the ceiling and is provided with a plurality of clips around the periphery thereof. The waiter or waitress places the customer order in the next vacant clip and the chef or cook rotates the drum to an appropriate position to view the next order supposedly chronologically placed by the waiter or waitress. The multiple handling of the checks as well as the non-sequential or chronological placement of checks results in substantial confusion and considerable inefficiency when the establishment is operating at full capacity.

It is therefore an object of the present invention to provide an order display system for systematically and efficiently displaying customer orders to a chef or cook.

It is also an object of the present invention to provide an order display system utilizing a projection system that enables the chef to accurately read the order without contacting the order document.

It is still another object of the present invention to provide a means for displaying order checks to the chef in an orderly and sequential manner and to permit the chef to advance the order in a sequential manner without contacting the check.

These and other objects of the present invention will become apparent to those skilled in the art as the description thereof proceeds.

Briefly, in accordance with one embodiment of the present invention, an overhead projection system is provided and is mounted flush with a counter surface that may conveniently be positioned between the kitchen and dining area. The overhead projection system includes a Fresnel lens which projects upon the wall in a convenient position for the chef the contents of special guest checks provided for the present system. A document or order-advancing system is provided that enables the documents to be fed past the Fresnel lens surface and be collected for future reference or as permanent records.

The present invention may more readily be described by reference to the accompanying drawings in which:

FIGURE 1 is a perspective view of an order display system constructed in accordance with the teachings of the present invention.

FIGURE 2 is a cross-sectional view of FIGURE 1 taken along line 2—2.

FIGURE 3 is a cross-sectional view of a portion of FIGURE 1 taken along line 3—3.

FIGURE 4 is a perspective view of a suitable guest check arrangement for use in the system of the present invention.

Referring to FIGURE 1, a counter **10** is conveniently positioned between the kitchen and the dining area in the establishment using the order display system of the present invention. The counter **10** is usually present in most instances and is the "transfer area" where food is delivered from the kitchen to the waiter or waitress and guest checks or documents are received by the kitchen for customer orders. In the system of the present invention, a Fresnel lens **11** is mounted in a plane substantially parallel to the counter surface **10**. The Fresnel lens in the embodiment chosen for illustration is shown as being flush with the surface of the counter. However, in certain circumstances it may be more advisable to utilize a slightly raised or depressed Fresnel lens surface relative to the counter surface. A plurality of tracks **13** and **14** are mounted on the counter surface **10**. The Fresnel lens in the embodiment track is adapted to receive a series of discrete transparent documents (to be described later) having order information thereon and to maintain the contact of these documents with the surface of the Fresnel lens **11**. A document-advancing means is provided and, in the embodiment chosen for illustration, comprises a pair of gripper belts **16** for each of the tracks **13** and **14**. The gripper belts pass over roller **17** and **18** at one end of the counter and over rollers **19** and **20** at the opposite end. The gripper belts **16** are endless belts that, after passing over the appropriate rollers, travel over the surface of the counter **10** and Fresnel lens **11**. An overhead projecting means **25** is positioned above the Fresnel lens and the counter surface for projecting an image of the documents in contact with the Fresnel lens as the documents pass over the Fresnel lens.

Referring to FIGURES 2 and 3, it may be seen that the gripper belts and the documents are urged into intimate contact with each other by the tracks **13** and **14**, the latter being "dove-tailed" to provide downwardly flaring surfaces for contacting the gripper belts and documents. A slot **28** is provided in the counter surface and a deflector **30** is positioned adjacent thereto. As the document is transported through the expediency of the frictional engagement of the gripper belts past the Fresnel lens **11**, the document slides over the counter surface and engages the sloping surface **31** of the deflector **30**. The document is thus deflected downwardly through the slot **28** and into a sloping receptacle **35** which acts as a shute and transports the document to a container (not shown) conveniently positioned beneath the counter.

The document-advancing means comprising the gripper belts **16** may be advanced by the chef without contacting the belts or the documents being transported thereby through the expediency of a hand crank **37** connected to the roller **18**; alternatively, and preferably, the grippers belts are advanced through the expediency of a small electric motor **40** connected to the advancing rollers such as roller **17** and actuated by closing contacts **41** positioned remotely from the motor **40**. The contacts **41** may conveniently be closed by a foot-operated pedal **45** appropriately placed in the work area to enable the chef to advance the documents without moving from the food preparation area.

Returning to FIGURE 2, a light source **48** is provided and supplies light through an appropriate lens system schematically shown at **50** to the Fresnel lens to illuminate the transparent documents thereon. Appropriate documents for use in connection with the order display system of the present invention may be seen by reference to FIGURE 4. In FIGURE 4, a typical pad of guest checks is shown. The guest check pad is modified to the extent that a transparent small guest check **51** is alternated with normal size regular paper guest checks **52**. The paper guest check **52** is intended for use by the waitress to provide the billing information to the customer; the transparent portion of the guest check **51** is intended for use in the order display system of the present invention, the portion **51** may include pre-printed information such as standard items, each having a block **53** posi-

tioned adjacent thereto. Such standard items may simply be checked by the waitress or waiter without the necessity of writing special orders or special instructions to the chef. However, space is provided at **54** for special orders or special instructions to the chef, the orders simply being written by the waitress in a manner previously provided with ordinary paper checks. The two part guest check system of FIGURE 4 merely represents one embodiment for providing a transparent check for use in the system of the present invention; alternatively, the paper portion of the guest check **52** may be placed on top of the transparent guest check and special carbon paper may be used in between to enable the instructions written on the paper portion of the guest check to also be transferred to the otherwise transparent sheet underneath the paper portion.

The embodiment chosen for illustration has utilized an automatic document-advancing mechanism; however, it will be obvious to those skilled in the art that the gripper belts may be dispensed with and the tracks used as the sole means for guiding the documents past the Fresnel lens. Without the gripper belts, the system of the present invention will nevertheless provide substantial advantages over systems of the prior art and will assure proper chronological presentation of guest checks or orders with a minimum of confusion and handling.

It will be obvious to those skilled in the art that enumerous variations may be made in the arrangement of guest checks to provide the transparent document for the order display system of the present invention. It will also be obvious to those skilled in the art that many modifications may be made in the system of the present invention without departing from the spirit and scope thereof; it is therefore intended that the present invention be limited only by the scope of the claims appended hereto.

I claim:

1. An order display system comprising: a counter surface; a Fresnel lens mounted parallel to said counter surface; a light source positioned beneath said counter surface for supplying light to said Fresnel lens; means defining a plurality of elongated tracks extending along said counter surface, said tracks passing over said Fresnel lens, each track adapted to receive a series of discrete transparent documents having order information thereon and to maintain contact between each document and said Fresnel lens; an overhead projecting means positioned above said Fresnel lens and said counter surface for projecting an image of said documents as they pass over said Fresnel lens; document-advancing means for each

of said tracks comprising means for gripping each document and transporting said document over and past said Fresnel lens; said means for gripping each document comprising a pair of belts spaced to frictionally engage opposite edge portions of each document, said belts sliding said documents over the counter surface, over the Fresnel lens, and again over the counter surface past the Fresnel lens.

2. An order display system comprising: a counter surface; a Fresnel lens mounted parallel to said counter surface; a light source positioned beneath said counter surface for supplying light to said Fresnel lens; means defining a plurality of elongated tracks extending along said counter surface, said tracks passing over said Fresnel lens, each track adapted to receive a series of discrete transparent documents having order information thereon and to maintain contact between each document and said Fresnel lens; an overhead projecting means positioned above said Fresnel lens and said counter surface for projecting an image of said documents as they pass over said Fresnel lens; document-advancing means for each of said tracks comprising means for gripping each document and transporting said document over and past said Fresnel lens; and said means for gripping each document comprising a pair of belts spaced to frictionally engage opposite edge portions of each document, said belts sliding said documents over the counter surface, over the Fresnel lens, and again over the counter surface past the Fresnel lens; said counter surface including a slot therein and a deflector adjacent said slot to deflect documents into said slot as they are transported over said counter surface away from said Fresnel lens.

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