Medical examining laboratories, particularly an annulus defining a plurality of private medical examining rooms surrounding an inner core and a plurality of medical instruments mounted upon a carousel rotating within said core, so as to deliver said instruments within said individual medical examining rooms.

5 Claims, 13 Drawing Figures
FIG. 4

FIG. 5

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CROSS-REFERENCES TO RELATED APPLICATIONS


BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION:

Medical examinations, particularly those where the patient is contained within a single examining room and is serviced by a single medical technician. The medical testing equipment is brought to the examination room without moving the patient. A great deal of recent attention has been given to the concept of such medical examinations, eliminating patient travel from testing station to testing station with attendant disadvantages.

DESCRIPTION OF THE PRIOR ART

In the above mentioned U.S. Pat. No. 3,470,871 12 wedge-shaped examination rooms were presented within a stationary annulus, each room containing relatively inexpensive medical equipment for testing of the stationary patient. The more expensive medical testing equipment, for example, spirometer, and the like, was supported in the core of the annulus and was made accessible to the individual examination rooms by means of an annular track mounted upon the ceiling of the rooms and extending over individual trap doors.

According to the present application, the expensive medical equipment is mounted upon a carrousel which rotates within the core, so as to present the medical testing equipment in registry with the examination rooms, such that six medical tests, using the core equipment, might be conducted simultaneously.

SUMMARY OF THE INVENTION

According to the present invention, a series of truncated medical examination rooms are defined within a medical examination annulus. Within the core of the annulus, there is rotatably mounted a carrousel having segments supporting medical examination equipment such as spirometer, blood pressure and pulse, electrocardiogram, and the like. The individual medical examination rooms are accessible from an outer door leading to an outer corridor and include an inner portal registering with several test equipment segments mounted in the carrousel. As will be apparent, six patients may be tested simultaneously with the several medical test devices, as leads are taken from the carrousel and through the inner portals. A single attendant remains with each patient in the examination room. The carrousel may be sequenced to present the instruments in the modules for any preset time span. The patients are then released for medical history, examination, audio exam, urinalysis, and the like.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top plan of a multiphasic screening laboratory, according to the present invention;

FIG. 2 is a top plan of a modified form of invention wherein the medical rooms rotate around the core;

FIG. 3 is a fragmentary cross-section showing the registry of a carrousel equipment segment within the wall of an individual examination room;

FIG. 4 is a top plan of the rotating carrousel, supporting medical testing equipment in its six rectangular segments;

FIG. 5 is a fragmentary perspective, showing one of the devices for supporting and aligning the carrousel circular track;

FIG. 6 is a fragmentary perspective of the motor drive for the carrousel circular track;

FIG. 7 is a fragmentary perspective, showing the registry of a carrousel equipment segment within the inner portal of a medical examination room;

FIG. 8 is a schematic view of a further modification wherein the central core and examining rooms are stationary, the rooms being accessible through the central core, and the instrumentation is rotatable in an annulus rotating around the examination rooms;

FIG. 9 is a further modification embodying a stationary core and stationary medical examination rooms, the equipment rotating upon a circular track supported beneath the rooms and accessible through a trap door to the floor of each room;

FIG. 10 is a fragmentary elevation, showing one of the vertical column supports for the carrousel;

FIG. 11 is a top plan showing the support of the circular track;

FIG. 12 is a fragmentary perspective, showing the rotation of the inner core, so as to place the instrumentation in registry within the examination room; and

FIG. 13 is a fragmentary top plan, showing a modification wherein the drive mechanism is mounted upon a hinged bracket so as to regulate pressure of the friction drive wheel against said circular track.

DESCRIPTION OF THE PREFERRED EMBODIMENTS:

In FIGS. 1, 4, and 7, the medical examining annulus is shown as embodying a plurality of medical examination rooms encircling core 40 in which a carrousel frame 36 is mounted such that the individual hexagon faces 20–30 are rotatable in registry with inner portals 64 of the individual medical examination rooms.

As illustrated in FIG. 4, the carrousel 36 may be constructed of frame-like members, so as to present and define individual medical test equipment components 32. As illustrated in FIGS. 5 and 10, the carrousel may include a bottom circular track 38 which, in turn, is supported by means of a plurality of vertical columns 41 embodying a support bracket 58 with a vertical bracket 46, supporting 48, and weight support wheel 50, which engages the bottom of circular track 38. Slot 60 allows adjustable positioning of support bracket 58 so as to regulate the pressure of aligning roller 44 against the circular track.

A proximity sensing element 52 may be mounted upon bracket 58 such that, when positioning element 54 is placed in registry with it, the drive motor is shut off.

In FIG. 6, drive motor 70 is illustrated as supported upon bracket 76 and includes gear train 72 and friction drive wheel 74. A modification of the drive mechanism is illustrated in FIG. 13, motor 70 and wheel 74 being
mounted upon a hinge 78. A shaft 81 may extend through the open edges of the hinge and compression spring 83 so as to vary frictional pressure of the wheel 74, as it contacts track 38. Spring 83 may be seated in bracket 85.

In FIGS. 3, 7, and 12, the individual medical examination rooms are shown as having a lower wall 66 and side wall 62, converging so as to define a medical instrument portal 64 at the core end of the room. The carrousel may have a metal frame 36, enclosing medical examination panel 24, such that a spirometer, electrocardiograph, or the like may be presented in instrument portal 64 for extension to a patient seated upon examination table 80 (FIG. 1). As illustrated in FIG. 1, the individual examination rooms may include a wash basin 82 and a desk cabinet fixture 84. Medical test equipment such as visual acuity test device may be linked into computer feed 86 within each room. Otherwise, the data from the ECG, for example, is fed through a plurality of leads into core 40 and thence to the computer.

In FIG. 2, there is illustrated a modification of invention wherein the outer faces such as 56, rotates with respect to the stationary central core embodying the test instrument segments in complementary inner hexagonal frame 36.

In FIG. 8, there is illustrated a further modification wherein both the medical exam annulus and the central core are stationary and the instrumentation rotates in an outer annulus. The individual examination rooms may be entered from a stairway and the door system supported in the central core.

In FIG. 9, there is illustrated a further modification wherein the medical examination room and core are stationary, yet the instrumentation is rotated on a circular track presented beneath the floors and accessible to each exam room by a trap door in the floor.

Manifestly, the configuration of the exam room and the carrousel may be varied without departing from the spirit of the invention.

We claim:

1. In a multiphasic screening laboratory building structure:

A. an area constituting a central core;
B. a circular array of a plurality of separate test chambers surrounding said central core area, each test chamber being of truncated configuration and including:
   i. inner and outer walls;
   ii. an inner portal in said inner wall opening into said core; and
   iii. an outer door in said outer wall;
C. a carrousel rotatably mounted interiorly of said inner core and having an outer periphery proximate said inner walls of said test chambers;
D. said carrousel including a plurality of radially juxtaposed separate segments;
E. medical testing equipment supported in said segments of said carrousel; and
F. means for incrementally rotating said carrousel to selectively position said segments in registry with selected said inner portals upon rotation of said carrousel.

2. A multiphasic screening laboratory as in claim 1, including a circular track mounted in said core, said track mounting said carrousel for rotation therearound, a drive mechanism mounted on said carrousel and operably engaging said circular track, and coacting proximity position sensing means on said carrousel and track operable when in registry to stop said drive mechanism at a position of alignment of a said segment with a said inner portal of a said test chamber.

3. A multiphasic screening laboratory as in claim 2, said truncated test chambers being six in number and said inner portals being substantially planar adjacent said inner core, and said carrousel being hexagonally shaped and defining planar medical testing equipment segments registarable with said planar portals upon rotation of said carrousel.

4. A multiphasic screening laboratory as in claim 3, including wedge-shaped storage chambers intermediate said truncated test chambers.

5. A multiphasic screening laboratory as in claim 4, including a plurality of vertical columns having weight bearing and aligning rollers contacting said circular track.

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