March 18, 1924. 1,487,264

J. R. RAYMER

HANDLE FOR DOORS

Filed Dec. 19, 1921

Fig. 1

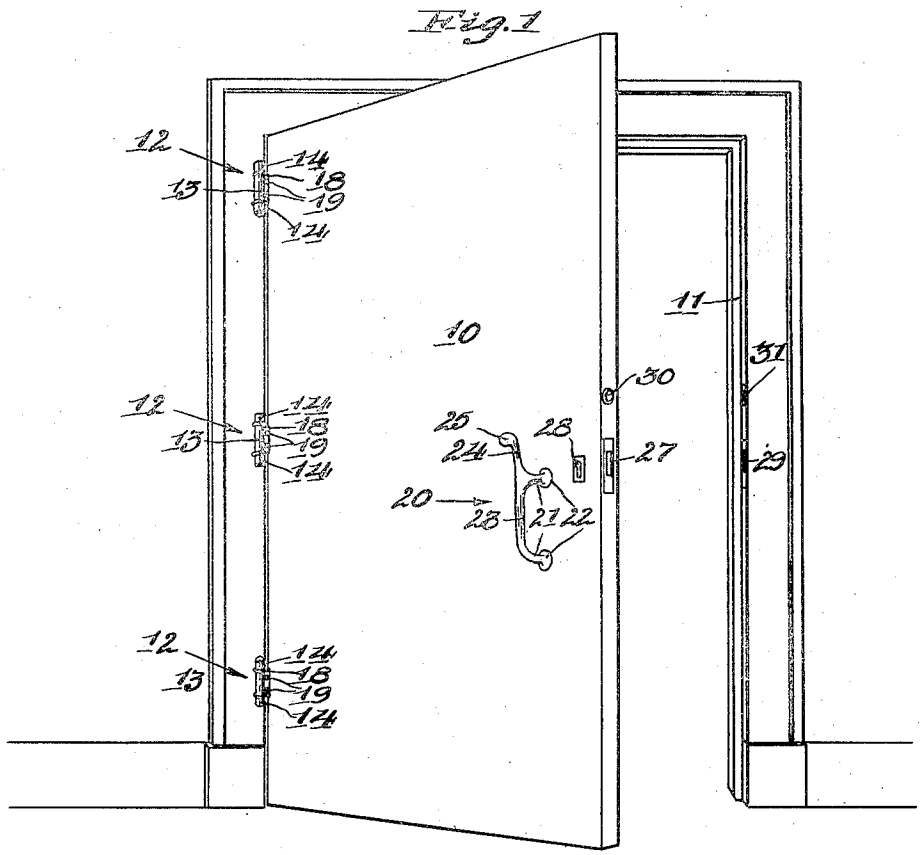


Fig. 2

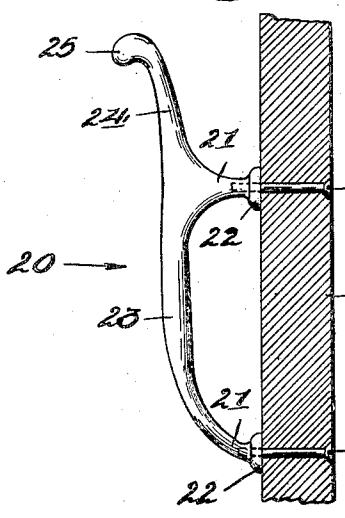


Fig. 3

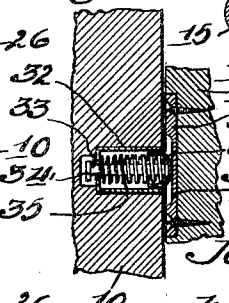
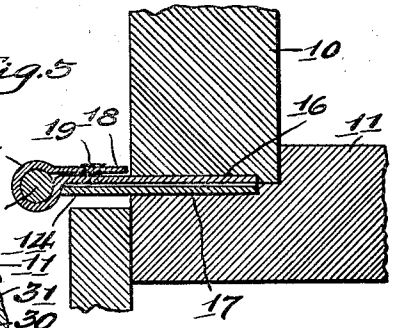


Fig. 4



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UNITED STATES PATENT OFFICE.

JOSEPH R. RAYMER, OF ST. PAUL, MINNESOTA.

HANDLE FOR DOORS.

Application filed December 19, 1921. Serial No. 523,261.

To all whom it may concern:

Be it known that I, JOSEPH R. RAYMER, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented new and useful Improvements in Handles for Doors, of which the following is a specification.

It is my object to provide a novel and efficient door which is peculiarly adapted for use in hospitals.

The essentials of doors for hospital rooms are peculiar. It is requisite not only that such doors should open and close easily and noiselessly but also that they may be opened and closed by an attendant whose hands are full, as for example, by a nurse carrying a tray, medicines or other necessities for the comfort of a patient. The means heretofore provided for securing these results are crude. Thus, it is usual to provide a door having an ordinary knob and spring latch, but with such equipment it is common practice for the attendant to tie a towel or other cloth around the door knobs and over the latch for the double purpose of allowing the door to be opened without turning the knob and to prevent noise.

My purpose is to eliminate the necessity for such expedients and at the same time to provide a door suitable, efficient and sanitary for the purposes indicated.

It is further important that such doors may be left in partially open position and that they may be locked in case of the death of the occupant of the room.

My improved door is provided with a jamb, a friction latch, hinges adapted to hold the door in any desired position and a pull which may be engaged without the use of the hands, by the forearm, as well as by the hands.

In the accompanying drawings, which illustrate the best form of my device at present known to me, Fig. 1 is a perspective view of my improved door; Fig. 2 is a side elevation of the handle together with the adjacent portion of the door, said portion of the door being shown in section; Fig. 3 is a horizontal section through a hinge of the type illustrated in Fig. 1 together with adjacent portions of the jamb and door and Fig. 4 is a central vertical section of the friction latch together with adjacent portions of the door and jamb.

Referring to the accompanying drawings I have used the numeral 10 to indicate the door proper, which is of the usual shape and supported by hinges secured to one of its vertical edges. A jamb 11 stops swinging movement of the door in closed position. Three hinges 12 support the door 10 and consist of central and end straps 13 and 14, respectively, which are formed with bearings on a vertical pin 15 and are severally secured by suitable screws to the door 10 and jamb 11, said screws being inserted through perforations, respectively, in flat portions 16 and 17 of said straps. These portions 16 and 17 of each hinge are countersunk in adjacent surfaces of the door 10 and jamb 11 in the usual manner. The central strap 13 passes substantially around the pin 15 and is then folded back upon itself at its end 18. The end 18 is secured to the portion 16 of the strap by a pair of screws 19, and is spaced a short distance from the adjacent surface of the portion 16. The strap 13 is sufficiently flexible to allow bending when the screws 19 are tightened to bring the end 18 closer to the portion 16. As will be readily understood, when the screws 19 are tightened the strap 13 is bent to grip the pin 15 and thereby resisting turning of said strap around said pin. The straps 14 rigidly support the pin 15 at its ends. By adjusting the several pairs of screws 19 the desired amount of friction is produced between the pins 15 and straps 13 and greater or less force may be required to move the door 10 on its hinges. The screws 19 are adjusted until by the application of a moderate amount of force on the door pull, the door may be swung on its hinges but there is sufficient resistance to hold the door stationary when it is struck by ordinary drafts of air.

The pull 20 of my door is formed with brackets 21 which have flanges 22 adapted to bear against the surface of the door 10. A grip bar 23 extends between the brackets 21 being offset from the surface of the door by the brackets 21 and a projection 24, formed in continuation of the grip bar 23, is curved outward from the door 10 at its upper end 25. This hook-like projection 24 is formed to be engaged otherwise than by the hand of the user as by the forearm. Countersunk screws 26 are inserted through suitable perforations in the door 10 and are threaded in tapped holes in the brackets 21 to fasten the handle 20 to said door. A lock

27 may be actuated by a suitable key inserted in a key hole 28 to drive the locking bolt into a strike 29 mounted in the door frame adjacent to the jamb.

To hold the door 10 in closed position and at the same time to adapt said door to be opened from either side without the use of the hands, I provide a friction latch 30. This latch (Fig. 4) is mounted in a suitable mortiсed hole in the door 10 and is provided with a strike 31 on the jamb 11. The latch 30 is mounted in a cylindrical casing 32 in the door and its hemispherical end is normally held to project from the edge of the door. A spindle 33, formed with a head 34 on one end, is rigidly secured to the latch 30 at the other end and a spring 35, which abuts against the inner surface of the latch 30 at one end and against the casing 32 at its other end, resiliently supports the latch in extended position. The strike 31, on the jamb 11, is formed with a depression 36 which is adapted to receive the convex end of the latch 30 when the door is closed. As will be readily understood the latch 30 telescopes into the casing 32 against the action of the spring 35 when the door 10 is opened or closed.

In use the door may be opened and closed by grasping the grip 23, or when a person whose hands are occupied desires to open the door, the forearm of such person is placed behind the projection 24 and the door is drawn open against the friction of the hinges 12 and latch 30. The door will remain stationary in open or closed position against the action of air currents and may be locked by use of the key in the key hole 28. It will be understood from the foregoing description that a person may open the door 10 from either side without touching any metal parts with the hands. Thus my improved door is unusually sanitary.

Having described my invention what I claim as new and desire to protect by Letters Patent is:

1. A pull for a door comprising a bracket adapted to be secured to a door and a hook-like projection off-set from the door and formed on said bracket to be engaged by the forearm to open the door.

2. A pull for a door comprising, brackets adapted to be secured to a door, a grip bar between said brackets and offset therefrom, and a projection formed in continuation of said bar to be engaged by the forearm to open the door.

In testimony whereof, I have hereunto signed my name to this specification.

JOSEPH R. RAYMER.