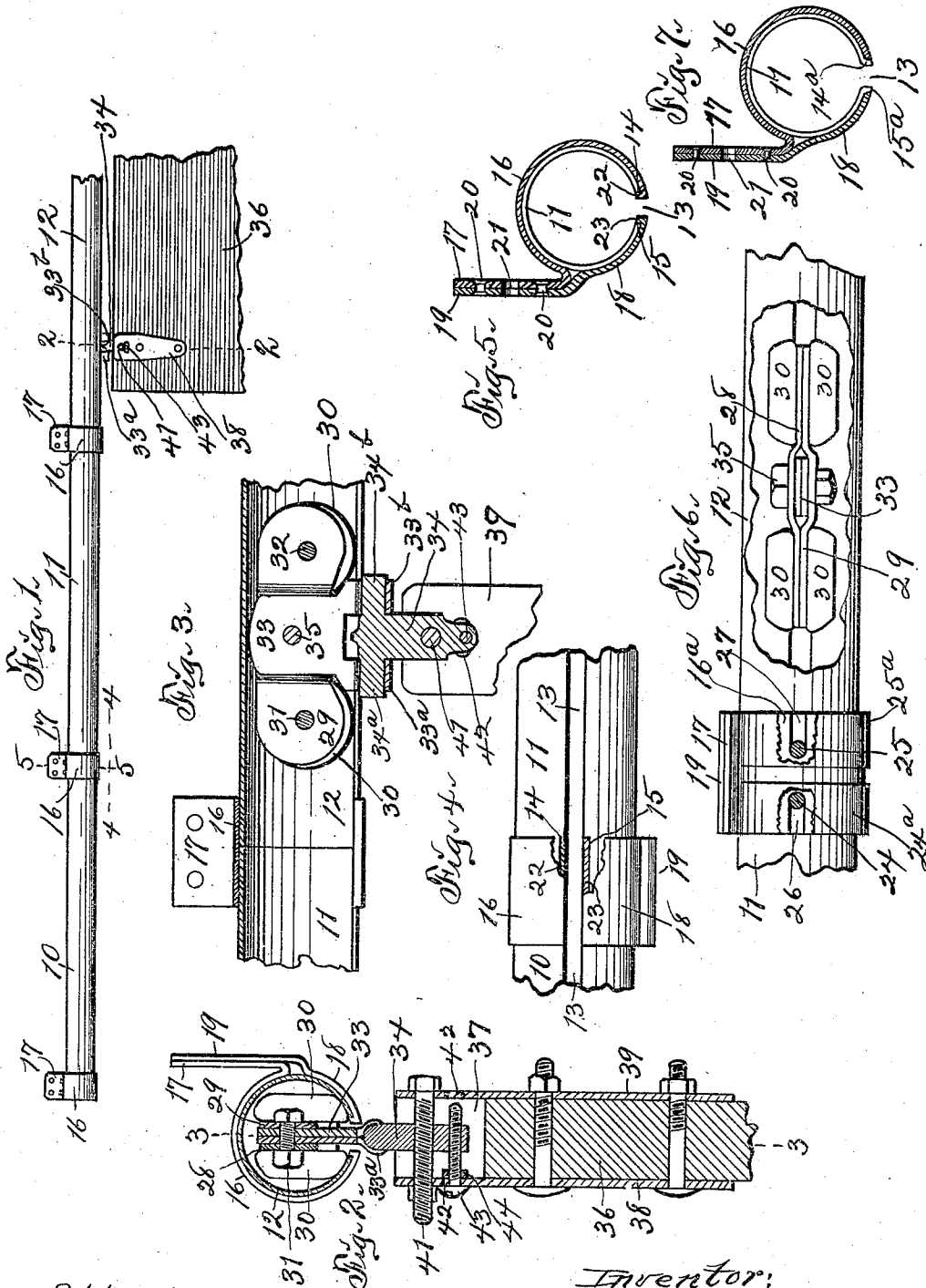


A. WULFF.
 TRACK AND HANGER FOR DOORS.
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UNITED STATES PATENT OFFICE.

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TRACK AND HANGER FOR DOORS.

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To all whom it may concern:

Be it known that I, AUGUST WULFF, a citizen of the United States of America, and resident of Cedar Falls, Blackhawk county, Iowa, have invented a new and useful Track and Hanger for Doors, of which the following is a specification.

The object of this invention is to provide improved means for connecting and supporting slotted tubular track sections.

A further object of this invention is to provide improved means for preventing relative rotation of slotted tubular track sections in hangers or brackets.

A further object of this invention is to provide improved means for adjusting a door relative to a traveling hanger.

A further object of this invention is to provide an improved construction for carrier wheels for door hangers.

These several objects contribute to a further object of this invention, which is to improve and simplify the construction and combination of tracks, hangers and carriers employed conjunctively to support doors.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a front elevation of my improved track and brackets, together with a door hanger and portion of a door supported thereby. Fig. 2 is a vertical section on the line 2—2 of Fig. 1. Fig. 3 is a vertical section on the line 3—3 of Fig. 2. Fig. 4 is a bottom plan on the line 4—4 of Fig. 1, on an enlarged scale. Fig. 5 is a cross-section, on line 5—5 of Fig. 1, on an enlarged scale. Fig. 6 is a plan, partly in section, on an enlarged scale, showing a modified construction for connecting track sections to a bracket. Fig. 7 is a cross-section of a modified form of track and bracket.

In the construction of the devices as shown, the numerals 10, 11, 12 designate track sections alike in construction and diameter and varying in length if desired. Each track section is generally cylindrical in form, open at its ends and formed with a slot 13 parallel with its axis or longitudinal center. The slot 13 is widened slightly at both ends by forming notches 14, 15 at each end of each track section.

A series of brackets, or track hangers, are

provided and preferably are alike in construction and serve to connect the several track sections 10, 11, 12, to close the transverse joint between abutting end portions of said track sections, and to support said track section in position for use on a wall or portion of a building. Each bracket comprises a hook 16, preferably made of sheet metal and curved on an arc of the periphery of a track section and adapted to span or compass more than one half the circumference of said track section, a strap 17 integral with and extended in a plane tangent to the arc of the hook, an additional hook 18 on the same arc as but of less length than the hook 16, and a strap 19 integral with the hook 18 offset relative to the arc thereof and extended parallel with the strap 17. The straps 17 and 19 are connected by rivets 20 and are formed with holes 21 adapted to receive screws or bolts to connect the brackets to a suitable support, such as the wall of a building. Each hook 16 is formed with an intumed flange 22 on its extremity adapted to engage in notches 14 in abutting end portions of track sections and each hook 18 is formed with an intumed flange 23 on its extremity adapted to engage in notches 15 in abutting end portions of said track sections. The flanges 22, 23 lie on opposite sides of the slot 13 and do not in any manner interfere or obstruct it. The transverse joint of abutting track sections is midway of the length of the hook 16 and is protected by the overlying portions of said hook. The flanges 22, 23 in the notches 14, 15 prevent rotation of the track sections relative to each other and to the hooks 16, 18. When the track sections are mounted for use as shown the slot 13 is directed longitudinally.

In the construction shown in Fig. 6 the notches 14, 15 and flanges 22, 23 are omitted and pins 24, 25, carried by and projecting radially from abutting end portions of track sections, enter and engage in alining slots 26, 27 in a hook 16^a. These pins and slots provide a connection of the track sections and hooks that prevents rotation of the sections relative to the hooks; but they break the smooth contour of the hooks and provide lodgment for rain, sleet, snow and ice, and for such reason are, perhaps, less desirable than the flanges and notches above described, unless provided with shields 24^a, 25^a carried by the pins and overlying the slots.

A series of carriers and door hangers are provided and are constructed as follows: Each carrier is composed of parallel bars 28, 29, offset oppositely at their centers and apertured at the centers of the offset portions a track wheel 30 on opposite sides of each end of the bars 28, 29 and axle pins 31, 32 journaled in end portions of the bars, extending through centers of the wheels and riveted or upset on the outer faces thereof. Each wheel 30 preferably is formed of a single piece of sheet metal by stamping and drawing and comprises a web, apertured to receive an axle pin, and a rim, of partial spherical contour, extending in one direction only from the edge of the web and integral therewith. The cross section contour of the rim is on an arc of the inner surface of a track section 10, 11 or 12. The wheels on opposite sides of the bars 28, 29 are oppositely arranged to fit, bear and travel on the inner surface of either track section on opposite sides of the slot 13. Each hanger is formed of two members, a sling or stirrup 33 and a link 34. Each stirrup preferably is made of a single piece of sheet metal doubled at its center and expanded and bifurcated to form twin pivot bearings 33^a, 33^b spaced apart and having its end portions reduced in width, extended through the slot 13 and between the offset central portions of the bars 28, 29 and pivoted thereto by a bolt 35. Each link 34 preferably is formed of a single piece of metal having pivots 34^a, 34^b extending oppositely from one end and adapted for journaling in the bearings 33^a, 33^b of the stirrup.

A door 36 may be carried by one or more of the hangers and is connected thereto as follows: A notch 37 is formed in the upper margin of the door and plates 38, 39 are mounted on opposite sides of the door and cross said notch. A bolt 41 is mounted in and connects the plates 38, 39 and extends through the notch 37. The link 34 is pivoted on the bolt 41 within the notch 37 and may move freely longitudinally of said bolt. Slots 42 are formed in the plates 38, 39 below the bolt 41 and a screw 43 is mounted through either slot and seated in a threaded aperture in the link 34 below the bolt 41. It is the function of the screw 43 to adjust the position of the link 34 in the length of the bolt 41 and in respect of the thickness of the door 36 and thereby regulate and determine the vertical plane of the door relative to the slot 13 of the track sections. The adjusting screw 43 may be employed in other constructions such, for instance, as is shown in

the companion application of Wells filed September 14, 1908, serially numbered 453,063 and pending concurrently herewith.

In Fig. 7 flanges 14^a, 15^a are turned downward from the track sections on the opposite sides of the slot 13 and ends of the hooks 16, 18 (without flanges 22) engage said flanges and prevent rotation of the track sections.

I claim as my invention:

1. The combination with a series of hollow cylindrical track sections each formed with a longitudinal slot and notches at the ends of said slot, of a series of brackets for supporting the track sections, each bracket composed of separate hooks formed with integral straps adapted for conjunctive support, each hook partially embracing end portions of track sections and formed with inturned flanges entering said notches.

2. The combination with a series of hollow cylindrical track sections each formed with a longitudinal slot, of a series of brackets for supporting the track sections, each bracket composed of separate hooks formed with integral straps adapted for conjunctive support, each hook partially embracing a track section, and interlocking connections between said hooks and track sections.

3. The combination with a series of hollow cylindrical track sections each formed with a longitudinal slot, of a series of brackets for supporting the track sections, each bracket composed of separate hooks formed with integral straps adapted for conjunctive support, said hooks of different lengths, each hook partially embracing a track section, and interlocking connections between one of said hooks and track sections.

4. The combination with a series of hollow cylindrical track sections each formed with a longitudinal slot, of a series of brackets for supporting the track sections, each bracket formed with a straight strap and a hook offset to one side only of said strap and curved on an arc of the periphery of a track section, one of said hooks adapted to span more than one half the circumference of said track section, the other of said hooks on the same arc and of less length than the first hook, said straps adapted for parallel arrangement and conjunctive mounting to a suitable support, and interlocking connections between said hooks and track sections.

Signed by me at Cedar Falls, Iowa, this 21st day of November, 1908.

AUGUST WULFF.

Witnesses:

A. WAGNER,
W. L. MARCH.