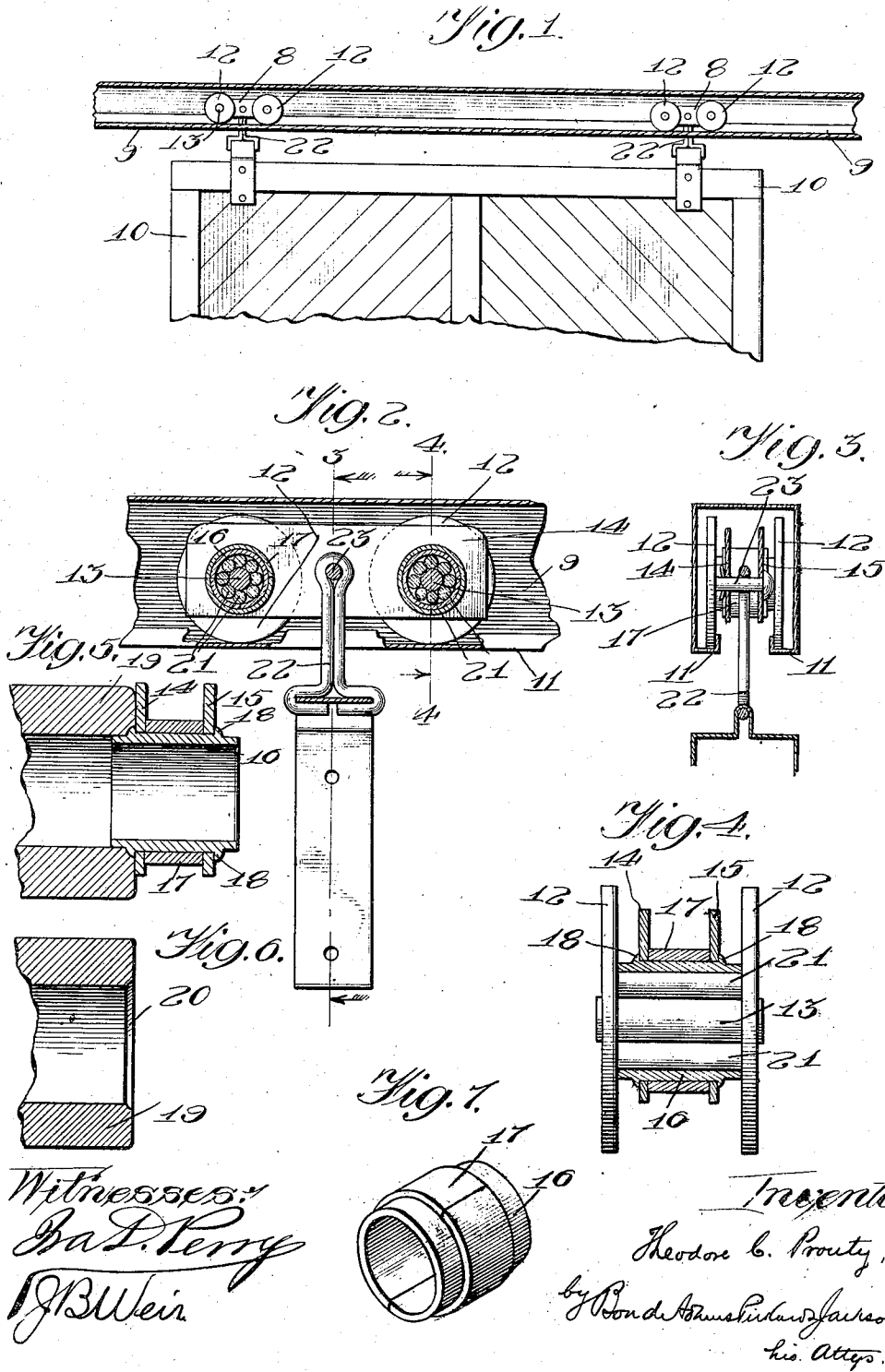


T. C. PROUTY.
DOOR HANGER TRUCK FRAME.
APPLICATION FILED FEB. 25, 1905.

931,799.

Patented Aug. 24, 1909.



UNITED STATES PATENT OFFICE.

THEODORE C. PROUTY, OF AURORA, ILLINOIS, ASSIGNOR TO WILCOX MANUFACTURING COMPANY, OF AURORA, ILLINOIS, A CORPORATION OF ILLINOIS.

DOOR-HANGER TRUCK-FRAME.

931,799.

Specification of Letters Patent.

Patented Aug. 24, 1909.

Application filed February 25, 1905. Serial No. 247,313.

To all whom it may concern:

Be it known that I, THEODORE C. PROUTY, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Door-Hanger Truck-Frames, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to door-hangers, and has particularly to do with the construction of the truck-frame by which the wheels and axles of the hanger are carried, and to which the suspending-devices for the door are attached.

It has for its object to provide a new and improved truck-frame constructed entirely of sheet steel without the use of rivets, or other equivalent devices, for securing the parts together.

My improved truck-frame is composed of a pair of parallel sheet-metal plates spaced a suitable distance apart and connected near their ends by short tubes, also formed of sheet metal, which not only serve to secure the side plates and frame together but also carry the roller bearings in which the wheel-axes rotate. Said tubes are secured in place, and at the same time secure the side plates of the frame in place, by means of annular shoulders, formed upon the surface of the said tubes outside of and adjacent to the said side plates by means of dies, which raise a thin film of metal from the outer surface of the end portions of the tubes and force it back along the tube into contact with the outer surface of the side plates. It will be understood that the side plates are held apart by separating sleeves which are fitted upon the tube between the side plates; or, if preferred, shoulders may be formed on the tubes to take the place of said sleeves. By this construction the side plates are held firmly in position without the use of rivets, or other equivalent devices, and the parts may be assembled much more expeditiously. The wheel-axes extend through the said tubes and are preferably provided with roller-bearings which fit in the tubes around the axles.

In the accompanying drawings, which fully illustrate my invention,—Figure 1 is an elevation, illustrating a door-hanger applied to a door; Fig. 2 is a longitudinal vertical section of the door-hanger and track, show-

ing also the suspending-devices; Fig. 3 is a vertical section on line 3—3 of Fig. 2; Fig. 4 is a partial vertical section on line 4—4 of Fig. 2, the wheels being in elevation; Fig. 5 is a sectional view, illustrating the method of constructing the truck-frame; Fig. 6 is a sectional view of the die; and Fig. 7 is a perspective view of the tubular bearing and the separating sleeve which holds the side plates of the frame apart.

Referring to the drawings,—8 indicates the door-hanger; 9 the track; and 10 the door. As shown in Fig. 3, the track is in general of an inverted U shape having horizontal portions 11 at its lower side edges which support and guide the wheels 12 of the door-hanger. Said wheels are set a distance apart and are connected by an axle 13, as shown in Fig. 4.

14—15 indicate the side-plates of the truck-frame, which, as best shown in Fig. 4, are set a distance apart upon short tubes 16,—said side plates being held apart by sleeves 17, which fit upon the tubes 16. As shown in Fig. 7, the tube 16 and sleeve 17 are formed of sheet metal bent into circular form.

18 indicates shoulders formed upon the outer surface of the tube 16 and lying closely in contact with the side plates 14—15. As best shown in Fig. 5, said shoulders are formed by means of dies 19, the internal diameter of which is slightly less than the external diameter of the end portions of the sleeve 16. The inner edge of the die is cut away, as shown at 20 in Fig. 6, to round the outer surface of the shoulder 18 as it is pressed home against the side plate. In practice, the die 19 is forced by an endwise movement upon the tube 16, when, by reason of its being slightly less in diameter than the external diameter of said tube, it raises a thin film of steel from the outer surface of the tube and forces it up against the adjacent side plate. Oppositely-moving dies may be provided, if desired, at opposite ends of the tube 16 so as to secure both side plates in place at the same time.

All the parts of the truck-frame are made of sheet steel, so that the frame is not only light in weight, but the parts may readily be stamped out, shaped and assembled.

21 indicates the roller-bearings, which fit in the tube 16 around the axle 13. If desired, the roller-bearings may be omitted.

22 indicates a suspending-device by which the door is suspended from the truck. Said suspending-device which, as best shown in Fig. 2, is preferably formed of a double rod, is connected with the truck by means of a pin 23 which is fitted in the side plates 14 and 15 at about the longitudinal center of the truck, as shown in Figs. 2 and 3. The sleeve 17 may, if desired, be made integral with the tube 16, but the construction shown is preferable, as it is cheaper and just as efficient.

So far as I am aware no one has heretofore secured together the side-plates of a door-hanger truck-frame, or equivalent devices, by means of tubes having shoulders formed upon their outer surfaces in the manner described; nor has anyone contemplated the construction of a truck-frame from sheet metal without the use of rivets, or equivalent connecting-devices. The claims hereinafter made are, therefore, to be construed accordingly,—my invention not being restricted to the specific details of the construction shown and described, except in so far as they are particularly claimed.

The construction herein described is designed primarily for use in the construction of truck frames for door-hangers, but it may

be used for any other purpose for which it is adapted, such as for uniting the side members of a wheel, either on a tubular or a solid hub, or for assembling the parts of any other device to which it is applicable.

That which I claim as my invention and desire to secure by Letters Patent is,—

1. The combination of a hub, a sleeve on said hub, side-plates mounted upon said hub opposite the ends of said sleeve and fitting closely thereagainst, and integral shoulders formed upon said hub outside of and adjacent to said side-plates for holding said side-plates closely in contact with said sleeve, the ends of the hub projecting beyond said shoulders.

2. The combination of a hub, side-plates mounted upon said hub, spacing means on said hub for holding said side-plates apart, said hub having integral shoulders formed on the outer surface thereof outside of and adjacent to said side plates for preventing outward movement thereof, the ends of said hub projecting beyond said shoulders.

THEODORE C. PROUTY.

Witnesses:

A. M. SCOTT,

JESSIE L. JONES.