No. 888,280. PATENTED MAY 19, 1908.

J. A. & A. W. WATT.

EXTENSIBLE PICTURE FRAME.

APPLICATION FILED SEPT. 5, 1907.

Fig. 1.

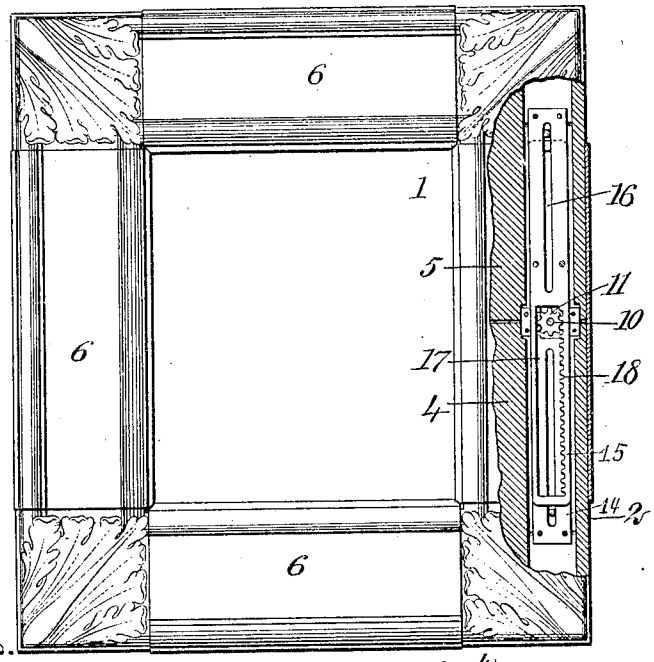


Fig. 4.

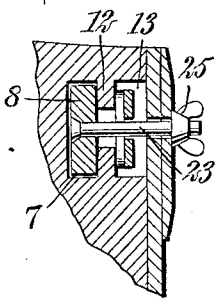


Fig. 3.

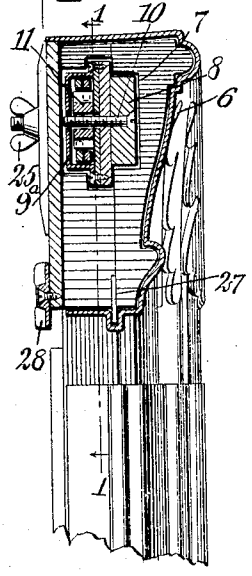
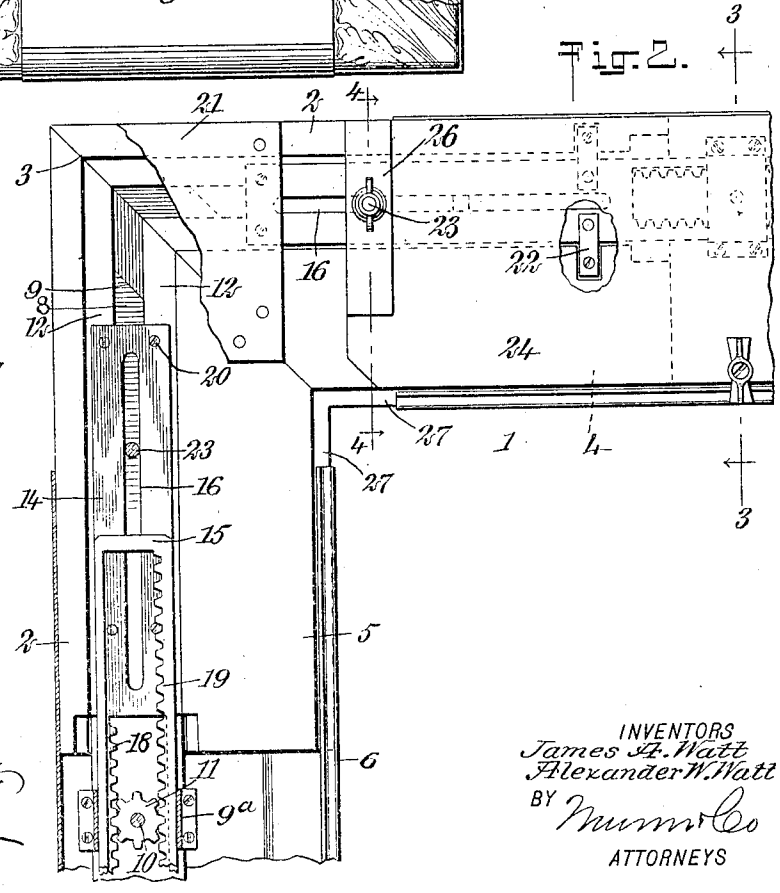


Fig. 2.



WITNESSES

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EXTENSIBLE PICTURE-FRAME.

No. 888,280. Specification of Letters Patent. Patented May 19, 1908.

Application filed September 5, 1907. Serial No. 391,458.

To all whom it may concern:

Be it known that we, JAMES A. WATT and ALEXANDER WILLIAM WATT, both subjects of the King of Great Britain, and residents, respectively, of the city of New York, borough of Manhattan, in the county and State of New York, and of Wilkes-Barre, in the county of Luzerne and State of Pennsylvania, have invented a new and Improved Extensible Picture-Frame, of which the following is a full, clear, and exact description.

This invention relates to picture frames.

The object of the invention is to produce an extensible frame of simple construction, which may be conveniently used by artists for temporarily mounting a canvas within a frame in order to observe the resulting effect.

The invention is expected to be most useful in studios, for the purpose mentioned.

A further object of the invention is to provide a construction which will insure a high degree of rigidity in the frame when extended, and to construct the frame so that it will present the same ornamental appearance when extended as when in its contracted condition.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of a frame embodying our invention, a portion of one of the rails being broken away and shown in section, as viewed on line 1—1 of Fig. 3; Fig. 2 is a rear elevation showing a corner of the frame upon an enlarged scale, certain parts being broken away and shown in section; Fig. 3 is a cross section on the line 3—3 of Fig. 2; and Fig. 4 is a partial cross section taken on the line 4—4 of Fig. 2.

Referring more particularly to the parts, 1 represents the body of the frame which is formed of four rails 2, having permanent miter joints 3. The rails 2 are divided into two sections 4 and 5, of equal length. When the frame is in its unextended or closed position, such as that indicated in Figs. 1 and 2, the end faces of these rail sections 4 and 5 substantially abut against each other on a central axis of the frame, as indicated in Fig. 1. The rail sections 4 and 5 are adapted to slide in and out of sleeves or sheaths 6 which are arranged as shown in Fig. 1, there being one in connection with each of the rails 2. These sheaths are preferably formed of light sheet metal, as indicated in Fig. 3, and are pressed or molded so as to conform closely to the molding or form of the rail. The rails 2 are provided with longitudinally disposed undercut guide grooves 7, as indicated most clearly in Fig. 4. These grooves are formed in the rail sections 4 and 5 so that they aline and produce a continuous longitudinal groove extending from end to end of the rail when the rail sections come together in the collapsed position of the frame, as indicated in Fig. 1. In each of the grooves 7 there is provided a guide bar 8 which substantially fills the groove, as shown in Fig. 4. These guide bars extend across the meeting point or joint of the rail sections, and have inclined mitered end faces 9 which are adapted to abut against each other at the miter joint 3 when the frame is contracted.

Near the middle point of each of the guide bars 8, a rudimentary case 9^a, of sheet metal, is attached, and at this joint a pivot screw 10 extends upwardly through the case from the guide bar, as indicated most clearly in Fig. 3. Within the rudimentary case 9^a through which the pivot screw 10 passes, a pinion 11 is rotatably mounted. By reason of the fact that the guide groove 7 is undercut, as shown in Fig. 4, oppositely disposed tongues 12 are formed, which project inwardly above the slot. Above these tongues an outer guide slot 13 is formed, of substantially the same width as the guide slot 7. In one aspect, the slots 7 and 13 may be considered as one slot, having an inwardly projecting tongue on each side thereof, as shown. In the outer slots 13 we provide extension racks 14 and 15, as indicated in Fig. 2. These racks have the form indicated in Fig. 1; each consists of an elongated bar, one end of which is attached to one of the rail sections, while the other end projects into the slot of the opposite rail section. The bodies of these guide racks are formed with narrow guide slots 16, and these extend substantially one-half of the length of the bar, as shown in Fig. 1. The portions of the bars which project into the opposite rail, are provided with enlarged pinion slots 17. The outer side of one of these pinion slots is provided with rack teeth 18, as shown in Fig. 1, and the inner side of the other rack bar is provided with similar

rack teeth 19. As indicated most clearly in Fig. 2, these rack bars are arranged so that one may slide over the other, and they are arranged in an opposite position, so that the teeth of both racks are engaged by the pinion 11, the pinion slot of one rack extending in one direction from the pinion, while the pinion slot of the other rack extends in the opposite direction. The bodies of the rack bars are rigidly attached to the tongues 12 by means of suitable screws 20, as indicated most clearly in Fig. 2.

At the corners of the frame on the rear side, corner plates or pallets 21 are attached, so as to cover the fixed ends of the rack bars, as shown. As indicated in Fig. 2, the rack bars near the meeting points of the rail sections, are additionally secured by longitudinally disposed clips 22 which are recessed in the rear faces of the rail sections. The guide bars 8 are provided with outwardly extending clamping bolts 23 which pass through the slots 16 respectively, being disposed beyond the end of the opposing rack.

On the rear faces of the rails, we provide cover plates or boards 24, there being one cover plate disposed at each joint. The clamping bolts 23 project outwardly through these cover plates, and are provided with wing nuts 25 which screw down upon rest seats 26 on the outer side of the cover plate and near each end thereof. To these cover plates, preferably at the outer edges thereof, the sheaths 6 aforesaid, are attached. It will now be understood that the pinions 11 lie in the pinion slots of the overlapping or telescoped rack bars, and each of these pinions is pivotally mounted upon its corresponding guide bar 8. When the frame is extended, as the rail sections 4 and 5 separate, the pinion rotates, so that the guide bar 8 is maintained in a mid position longitudinally of the rail; in this way the sheaths or sleeves 6 are all maintained in a mid position on their corresponding rails. When the frame has been sufficiently extended, the wing nuts 25 are screwed up so as to clamp the rail sections rigidly upon the guide bars 8.

On the inner sides of the rails, projecting metal strips 27 are provided, around which the inner portions of the sleeves 6 are formed, as indicated in Fig. 3. Against this part the forward edge of the canvas or picture is seated when the picture is placed in the frame, and the picture may be held in position by turn buttons 28 mounted near the inner edges of the cover plates 24, as indicated.

Special attention is called to the guide bar 8. This bar gives a great rigidity to the extended and clamped frame, and insures that when the frame is being extended, the rails on the opposite sides will be guided in absolute parallelism, and so that they extend an equal amount simultaneously. This is a valuable feature, as it prevents any tendency of the frame to jam itself in being extended or contracted. Special attention is called, also, to the fact that as the rails are extended, the pinion 11 constantly maintains itself in a mid position between the separated rail sections, and in this way the sleeves 6 are maintained in mid positions. In this way the symmetry and ornamental appearance of the frame is in no way detracted from, whether the frame is in its contracted or its extended position.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. A picture frame having rails formed in sections adapted to be extended, sheaths covering the joints between said rail sections, wheels having pivots fixed with respect to said sheaths, and racks carried by said rail sections engaging said wheels on opposite sides whereby said sheaths are maintained in a mid position on the respective rails when extended.

2. A picture frame having rails formed in extensible sections, sheaths covering the joints between said rail sections, racks carried respectively by said rail sections, pinions having pivots fixed with respect to said sheaths, said pinions meshing with said racks and affording means for holding said sheaths in mid position on said rails when extended, and means independent of said sheaths for guiding said rail sections in being extended.

3. A picture frame having rails formed in sections adapted to be extended, guide bars mounted in said rails adapted to guide said sections when being extended, sheaths covering the joints between said rail sections, pinions having pivots fixed with respect to said sheaths, and racks carried by said rails meshing with opposite sides of said pinions.

4. A picture frame having rails formed in sections adapted to be extended, guide bars mounted to slide in said rail sections and adapted to guide the same in being extended, racks carried respectively by said rail sections, and pinions mounted on said guide bars and engaging said racks.

5. A picture frame having rails formed in sections adapted to be extended, guide bars mounted to slide in said rail sections and adapted to guide the same in being extended, racks carried respectively by said rail sections, pinions mounted on said guide bars and engaging said racks, and sheaths attached to said guide bars and covering the joints between the said rail sections.

6. A picture frame having rails formed in sections adapted to be extended and having alining guide grooves, guide bars received in said grooves connecting said rail sections and adapted to guide the same when extended, racks carried by said rail sections respec-

tively, and pinions pivotally attached to said guide bars.

7. A picture frame having rails formed in extensible sections, a guide bar connecting said sections and sliding in the same, racks carried respectively by said rail sections, pinions pivotally mounted on said guide bars meshing with said racks and affording means for holding said guide bars in mid position on said rails, and means for clamping said guide bars to said rail sections.

8. A picture frame having rails formed in extensible sections with undercut guide grooves, guide bars running in said guide grooves, racks carried by said rail sections and concealed therein, pinions pivotally mounted on said guide bars and meshing with said racks, and means for clamping said guide bars against said rail sections.

9. A picture frame having rails formed in extensible sections, guide members sliding in said sections when extended, racks carried by said sections and having pinion slots formed therein overlying each other, said racks each having rack teeth, the rack teeth of the one being disposed opposite the rack teeth of the other, pinions attached to said guide members disposed in said slots and meshing with said teeth, and means for clamping said frame against enlargement or contraction.

10. A picture frame having rails formed in extensible sections, said rails having guide grooves with inwardly projecting tongues on the sides thereof, guide bars running in said grooves under said tongues, racks attached respectively to said rail sections in said grooves over said tongues, said racks overlying each other, pinions attached pivotally to said guide bars and meshing with said racks to maintain said guide bars in mid position, and clamping bolts passing up through said guide bars and affording means for clamping the same.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JAMES A. WATT.

ALEXANDER WILLIAM WATT.

Witnesses to the signature of James A. Watt:

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