F. TETZLAFF.

HATCH COVERING.

APPLICATION FILED MAR. 9, 1917.

1,237,841.

Patented Aug. 21, 1917.

3 SHEETS—SHEET 1.

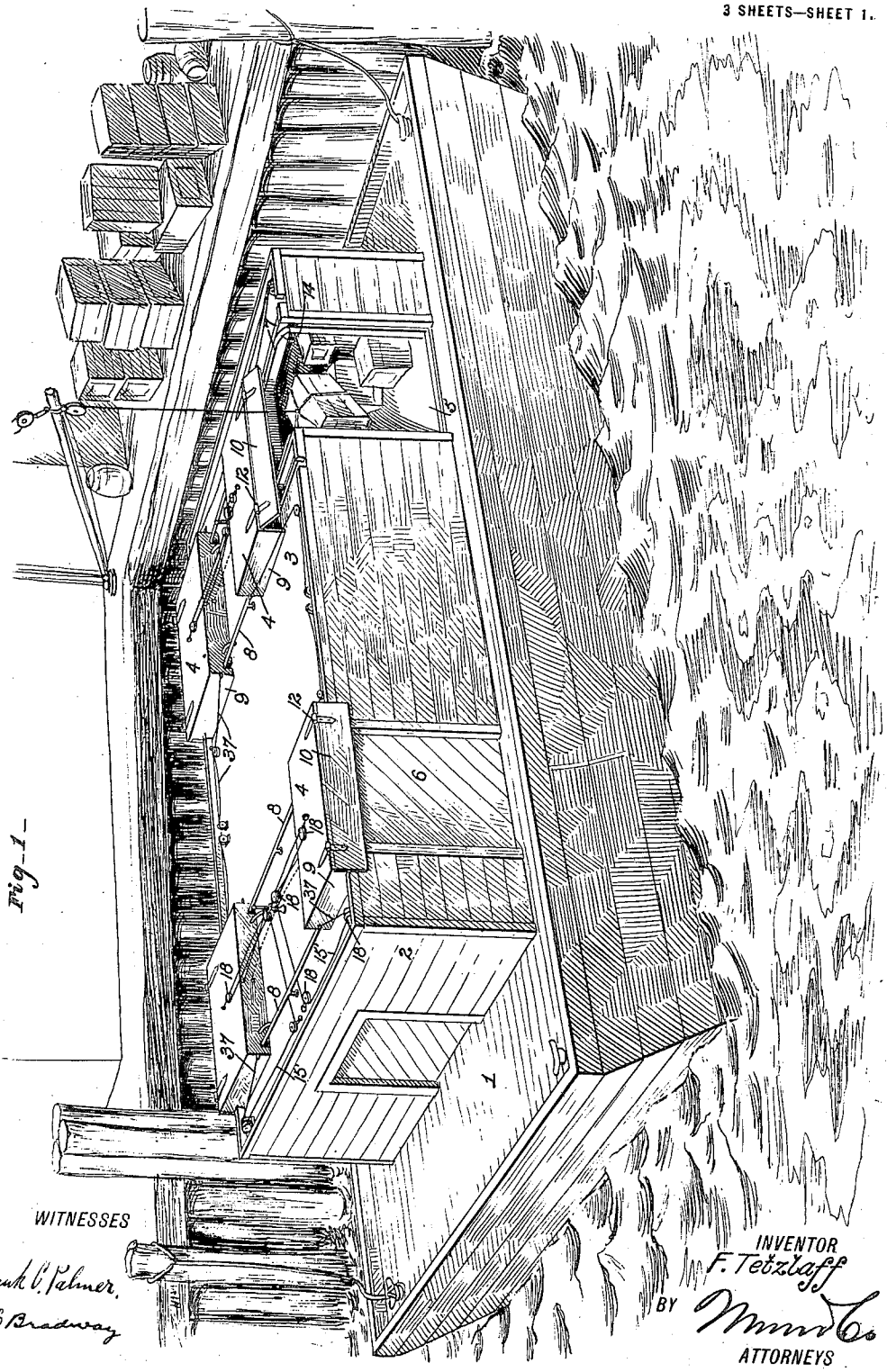


Fig. 1.

WITNESSES

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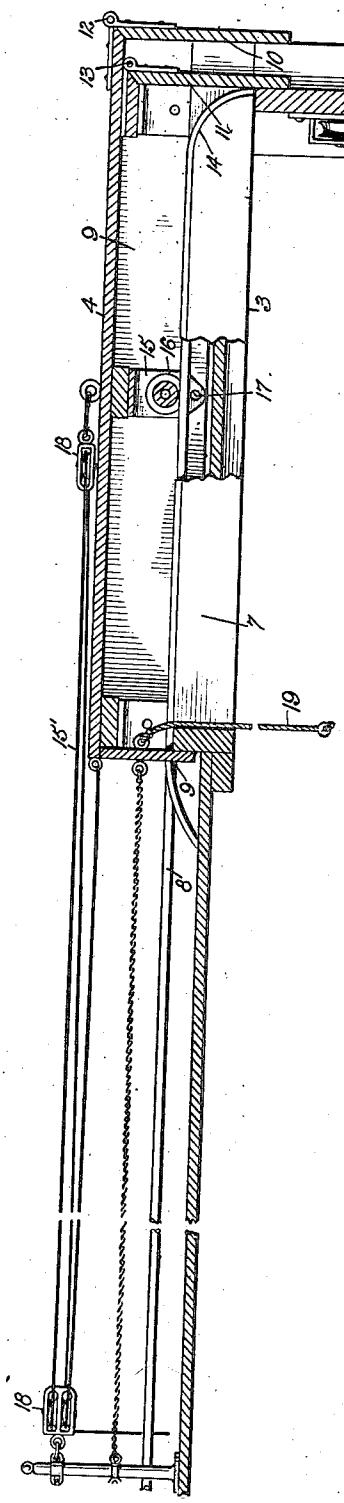


Fig. 2.

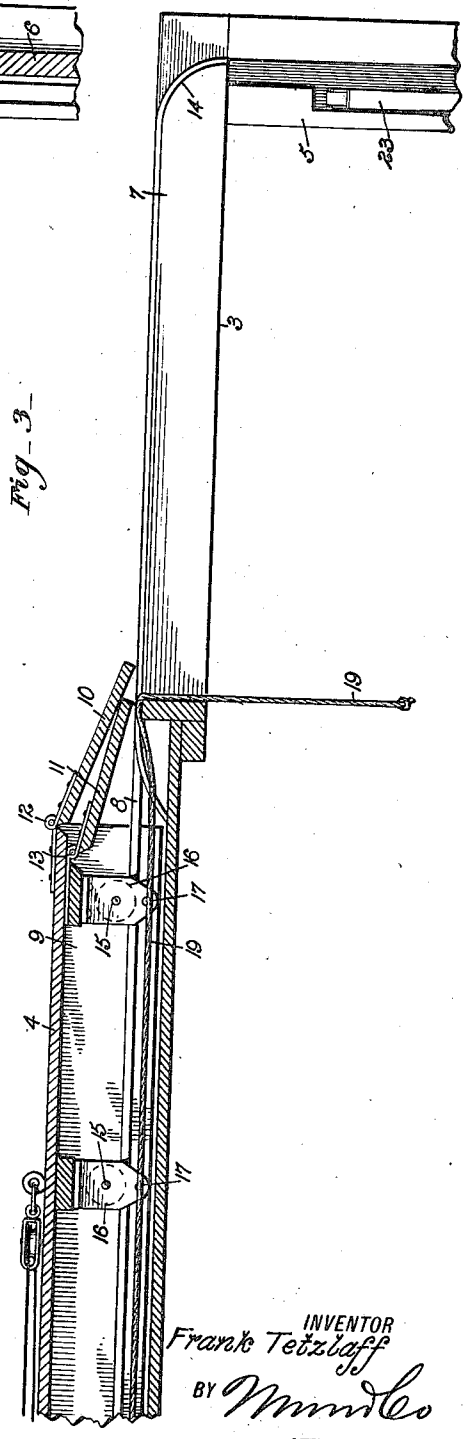


Fig. 3.

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3 SHEETS—SHEET 3.

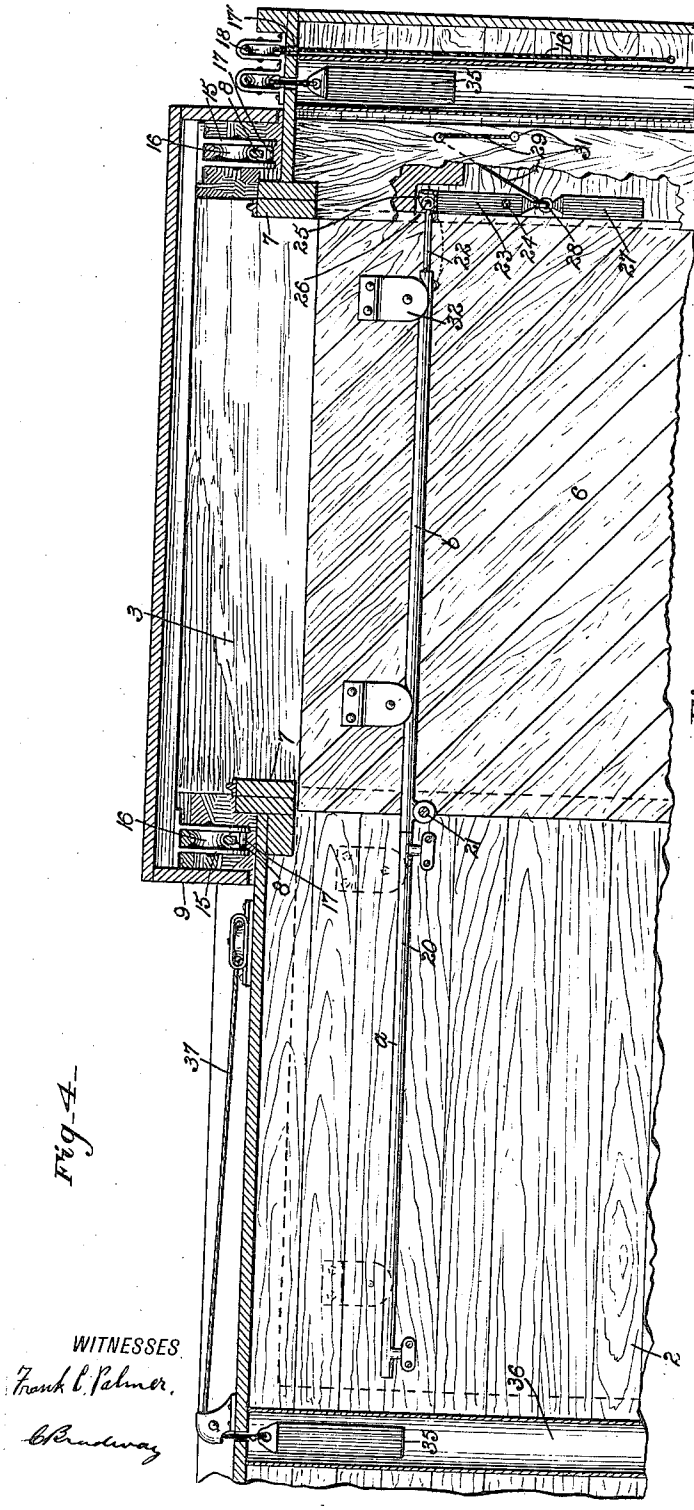


Fig. 4.

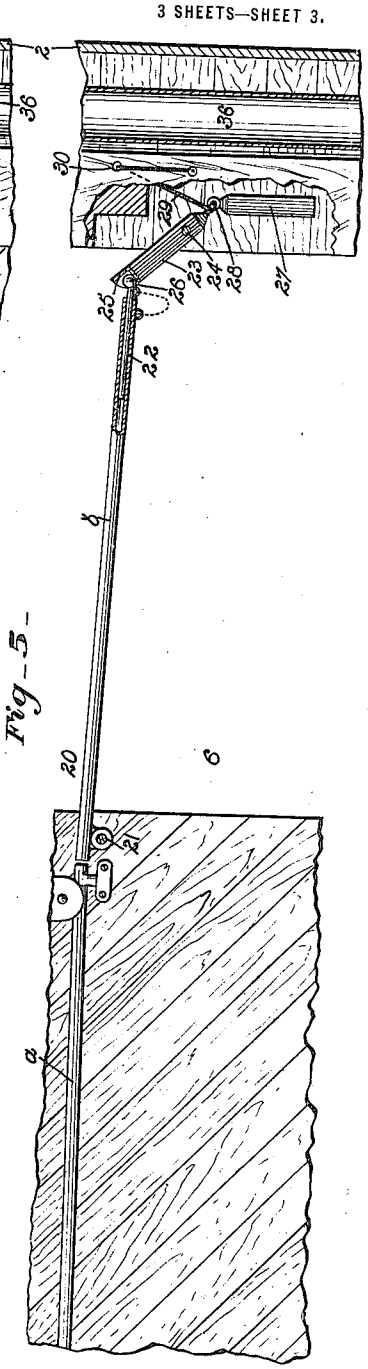


Fig. 5.

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HATCH-COVERING.

1,237,841. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed March 9, 1917. Serial No. 153,589.

To all whom it may concern:

Be it known that I, FRANK TETZLAFF, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Hatch-Covering, of which the following is a full, clear, and exact description.

This invention relates to hatch covers and doors for barges or other freight carriers, and the invention has for its general objects to improve the construction and operation of closures of this character so as to be reliable and efficient in use, comparatively simple and inexpensive to manufacture and install, and so designed that the maximum security and protection is obtained.

A more specific object of the invention is the provision of a novel hatch cover which is slidably interengaged with track rails whereby the cover can slide to and from closed position and be held in place at all times so that there is no danger of it being displaced or blown away, there being simple, novel and effective means whereby the cover can be moved open or closed from within the house of the barge.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawings, which illustrate one embodiment of the invention and wherein similar characters of reference indicate corresponding parts in all the views,

Figure 1 is a perspective view of a barge or lighter with one of the hatches and doors open for the loading or unloading of freight;

Fig. 2 is a detail sectional view of the hatch cover taken in a plane parallel with its line of movement, the hatch cover being in closed position;

Fig. 3 is a similar view showing the hatch cover in open position;

Fig. 4 is a vertical section of the hatch cover taken at right-angles to the section of Fig. 2 and showing the door in closed position; and

Fig. 5 is a detail view showing the door in open position and the movable portion of the door-supporting rail about to be removed from across the door opening.

Referring to the drawing 1 designates a barge or freight carrier of any desired type and 2 is the house in which freight is stored, this house being provided with a number of hatch openings 3 that are adapted to be closed by covers 4. In the side walls of the house 2 are door openings 5 in line with the hatch openings, and these openings 5 are adapted to be closed by laterally sliding doors 6.

Around three sides of each hatch opening is a coaming 7, and at the sides of each hatch opening are parallel rails 8 on which the covers 4 slide, the said rails extending transversely to the roof of the house, as clearly shown in Fig. 1. Each cover 4 has fixed depending walls 9 which are adapted to engage outside the coaming 7 so as to have a weather-tight fit. On the outer edge of each cover 4 are a pair of depending flaps, wings or shutters 10 and 11 mounted on the cover 4 by hinges 12 and 13, respectively. The shutter 10 is adapted, when the hatch cover is in closed position as shown in Fig. 2, to rest against the outer surface of the side wall of the house 2, while the shutter 11 is adapted to rest against the door 6, whereby an effective weather-proof seal is provided. The coaming 7 is rounded or beveled at 14, Figs. 2 and 3, so that the shutters will readily ride on the coaming and change from the position shown in Fig. 2 to that shown in Fig. 3. In other words, the shutters are automatically moved from open to closed position and vice versa as the hatch cover is shifted. The hatch cover has depending from its under side a plurality of brackets 15 which straddle the rails 8 and are provided with grooved rollers 16 which ride on top of the rails, and on the brackets are horizontal pins or members 17 which extend under the rails so that it is impossible for the hatch cover in all positions from becoming detached from the latter.

The hatch covers can be operated from within the house 2, and for this purpose a pull cable 15′ is employed for each hatch cover to pull the same open. The free end 16′ of each cable extends downwardly through an opening 17, in the roof of the house, as shown in Fig. 4. The cable passes over suitable guide pulleys or blocks 18.

One of the blocks 18 for each operating cable 15′ is connected with its associated hatch cover, as is also one end of cable 15′ and consequently when the free end 16′ of a cable 15′ is pulled downwardly the hatch cover connected with such cable will be moved open. A second cable 19 is connected to the inside of each hatch cover and hangs downwardly in the hatch opening, and by pulling on this cable 19 the hatch cover can be closed.

The sliding door 6 for each opening 5 is movable horizontally on a rail 20 which has a fixed portion *a* and a movable portion *b* and which is pivoted at 21, Figs. 4 and 5. The portion *b* of the rail has an extension member or catch 22 telescoping in the free end of the member 2, and a latch or keeper 23 normally holds the extension or bolt 22, as shown in Fig. 4. The latch 23 is mounted to swing on a pivot 24, the upper end of the latch being formed with a seat or socket 25 in which the headed end 26 of the bolt 22 is adapted to engage. On the lower end of the latch is suspended a weight 27 which holds the latch in upright position. Connected with the hinged joint 28 between the weight and latch is a pull cord 29 which passes through a guide 30, so that by pulling downwardly on the knob 31 the latch or member 23 is thrown from the position shown in Fig. 4 to that shown in Fig. 5, whereby the bolt is thrown inwardly with respect to the member *b* of the door-supporting rail. When the pull on the cord 29 is released, the member 23 will be automatically restored to upright position by the weight 27, and the rail section *b* will drop to a vertical position to thereby leave the door opening unobstructed. The door 6 has rollers 32 which ride on the rail 20 as the door is moved open and closed. When the door is to be closed the rail section *b* must be restored to horizontal position by hand. The rail section *b* is raised to a horizontal position and then the bolt 22 is extended so as to engage with the keeper or catch 23.

To facilitate the movement of the hatch cover the same is provided with counterbalance weights 35 which move in tubular guideways 36, as shown in Fig. 4, and these weights are connected by suitably guided cables 37 with the hatch covers.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while I have described the principle of operation, together with the device which I now consider to be the best embodiment thereof, I desire to have it understood that the device shown is merely illustrative and that such changes may be made when desired as fall within the scope of the appended claims.

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

1. The combination of a roofed or decked structure having a hatch opening in the top and a door opening in the side, a hatch cover slidable on the top of the structure to open and close the hatch opening, a door for the side opening, and a shutter carried by the hatch cover and adapted to hang over the top of the door opening when the hatch cover is in closed position.

2. The combination of a roofed or decked structure having a hatch opening in the top and a door opening in the side, a hatch cover slidable on the top of the structure to open and close the hatch opening, a door for the side opening, a shutter carried by the hatch cover and adapted to hang over the top of the door opening when the hatch cover is in closed position, and a coaming along the sides of the hatch opening and having means forming rails on which the shutter slides in the movement of the hatch cover.

3. The combination of a roofed or decked structure having a hatch opening, coaming around three sides of the opening, a cover having depending fixed walls to engage outside the coaming, and a pendent swinging shutter on the cover and adapted to cover the side of the opening devoid of the coaming.

4. The combination of a roofed or decked structure having a hatch opening, coaming around three sides of the opening, a cover having depending fixed walls to engage outside the coaming, a pendent swinging shutter on the cover and adapted to cover the side of the opening devoid of the coaming, guide rails, and means on the cover having an interlocking engagement with the rails for preventing the removal of the cover from the rails.

5. The combination of a roofed or decked structure having a hatch opening in its top and a door opening in its side, said openings meeting, a slidable hatch cover for the top opening, a slidable door for the side opening, and swinging shutters carried by the hatch cover and so arranged that one shutter hangs over the top of the door and the other hangs against the side of the door structure and across the top of the door opening.

FRANK TETZLAFF.