

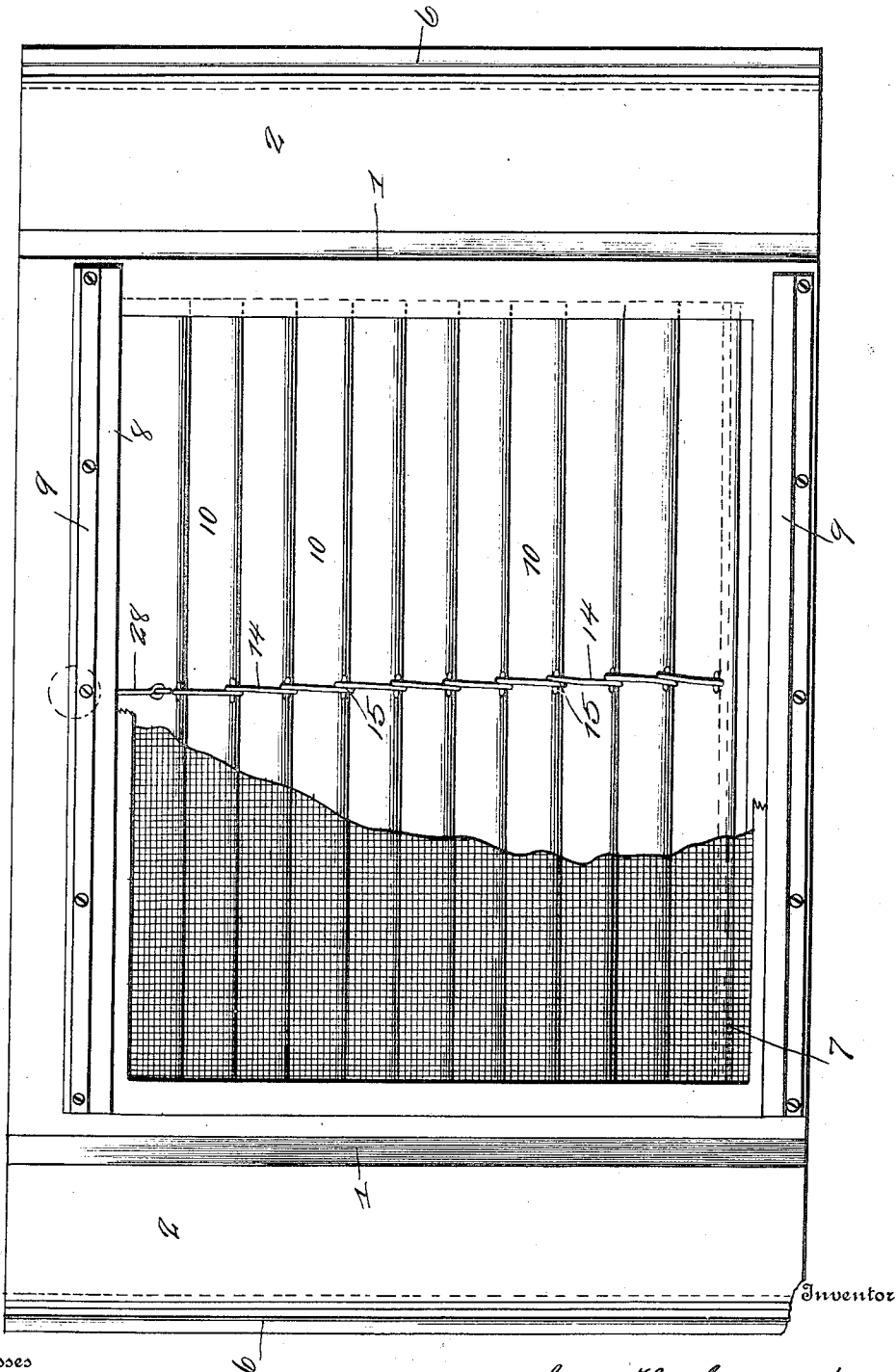
L. H. LEMPERT.
 COMBINED BLIND AND SCREEN.
 APPLICATION FILED JULY 29, 1908.

922,705.

Patented May 25, 1909.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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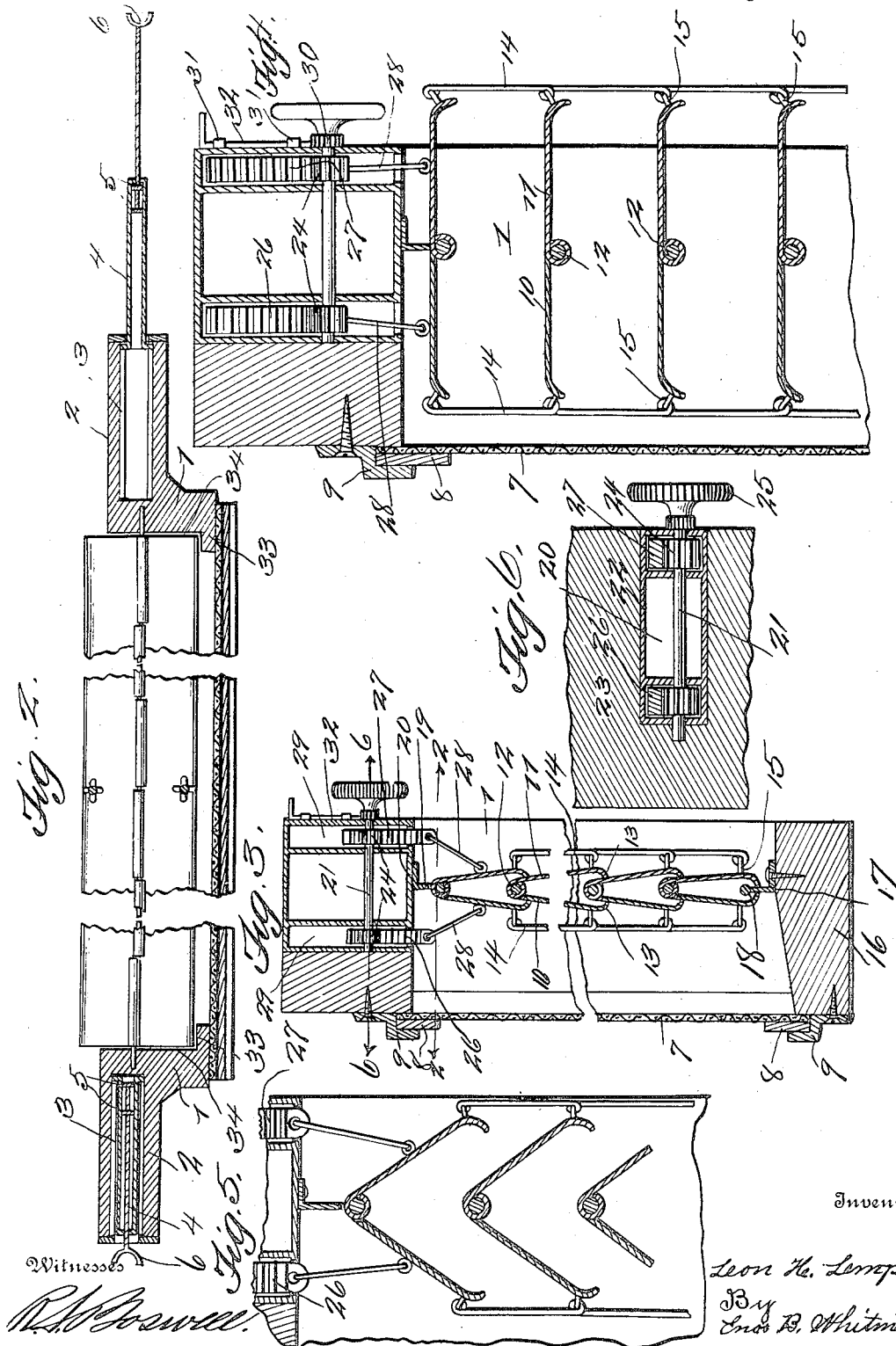
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UNITED STATES PATENT OFFICE.

LEON H. LEMPert, OF ROCHESTER, NEW YORK.

COMBINED BLIND AND SCREEN.

No. 922,705.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEON H. LEMPert, of Rochester, in the county of Monroe and State of New York, have invented a new and useful Improvement in Combined Blinds and Screens, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in screens or shutters for windows, and it has for its objects among others to provide a simple and efficient form of window or door screen or shutter that will provide for ventilation and yet wholly prevent people on the outside from peering through into the room within, and still so constructed that it may form practically a closed window to both air and light. The construction is such that when the slats are in their intermediate position, that substantially midway between full open and full closed light and air may enter the room, but the lower edges of every pair of slats cut through the pivot of the next slats below, or, in other words, a horizontal line drawn from the lower edge of any outer slat will touch a part of the slat next below it, so that vision along said line is obscured and if a person were to look on a line inclined slightly upward to avoid the slat below vision would extend no farther than the inner surface of the inner slat and thus the person could not see into the room.

Means are provided for easy adjustment of the slats of the screen, and also provision is made for securing the slats in their adjusted positions.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claim.

The invention, in its preferred form, is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a face view of the screen with the wire gauze broken away. Fig. 2 is a top plan, with portions broken away, the frame being shown in section, as on the line 2—2 of Fig. 3. Fig. 3 is a vertical section, with portions broken away, showing the slats fully closed so as to shut out all air and light. Fig. 4 is a view similar to Fig. 3, showing the slats brought to horizontal position so as to admit

of looking out through the blinds. Fig. 5 is a view similar to Figs. 3 and 4 with the actuating means removed, showing the slats partially open, for ventilation, but still in position to prevent anyone looking through between them. Fig. 6 is a horizontal section of a portion of the upper rail of the frame, as on the line 6—6 of Fig. 3 showing the means for operating and controlling the slats.

Like numerals of reference indicate like parts throughout the several views.

Referring to the drawings 1 designates the frame, which may be of any suitable construction, but in the present instance it is shown as made so as to be fitted within the frames of windows or doors of various widths. For this purpose it is formed at its two vertical sides with lateral extended parts 2, made hollow, within which are held the sheet metal parts 3 extending from top to bottom of the frame, the said hollow parts 3 holding within them the blades 4 as seen best in Fig. 2. These blades are vertical strips of metal formed on their inner edges with laterally projecting strips 5 to reach across between the side walls of the part 3 to hold the blades laterally in line with the adjacent coacting parts. When the shutter frame is put into a window in case the blades 4 are drawn laterally outward as seen at the right of Fig. 2, so that the curved end 6 will fit into the channel between the stops of the casing of the window occupied by the vertical side rails of the sash. By means of these laterally extensible parts of the shutter frame, which is considerably narrower than the ordinary window, the frame with the slats, soon to be described, may be set at the middle of the window, or at one side or the other as may be wished in any given case.

In the present instance I have shown a wire screen 7 of simple form substantially like those in common use, the same being shown as having a light frame 8 held to the shutter frame 1 by simple means as angular strips 9, Fig. 3. This wire screen is merely an accessory to the slat shutter, and may or may not be employed. It being then understood that the form of frame herein shown and just briefly described, while desirable is not necessary to the successful operation of the other parts of the invention now to be described, I will proceed to explain the construction and operation of the slatted structure.

The slats 10 and 11 are all uniform and alike and may be made of any suitable rigid material, as thin sheet metal; they are arranged in pairs as seen in Figs. 3, 4 and 5, 5 hinged on horizontal rods 12 reaching across the frame 1 and projecting into the latter as seen clearly in Fig. 2 at their ends. The upper edges of each pair of slats are recessed alternately, with the projecting portions 10 bent around the rods 12, forming alternated hinged sections, as seen best in Fig. 2.

The lower edges 13 of all the sections are slightly curved toward each other, as shown clearly in Fig. 3, so that when wholly closed 15 these lower edges meet and close along the slats immediately beneath the said edges, touching the slats below just under the line of the rod 12, as shown in said Fig. 3.

The slats are all connected by outer and 20 inner vertical wires or the like 14 looped into projections 15 near the lower edges of the slats, so that all the slats must move together in the act of opening or closing them.

On the lower rail 16 of the frame 1 is an 25 angular strip 17 secured to said lower rail in any suitable manner, to close the narrow horizontal opening beneath the lower pair of slats, this angular strip being provided at its upper end with the rod 18 along the upturned 30 edge thereof, beneath which rod the lower curved edges of the lower pair of slats close when the slats are wholly shut as seen in Fig. 3.

Above the upper rod 12 is placed a similar 35 angular strip 19, secured to the under surface of the top rail 20 of the frame 1 in any suitable manner with its lower pendent edge close to or just touching the upper curved portions of the upper pair of slats, as seen in 40 Figs. 3 and 4 to close the opening above the upper slats and shut out the view there-through.

In the upper rail 20 of the frame 1 is inserted horizontally and at right angles to the 45 length of the rods 12, a short shaft 21, in a suitable casing 22, said shaft having upon it two pinions 23 and 24 and a thumb wheel 25 preferably knurled or roughened on its periphery for working the slats. Coacting with 50 the said pinions are a pair of toothed racks 26 and 27 vertically disposed the lower ends of the racks being connected with the upper pair of slats by means of short rods or links 28 as seen clearly in Figs. 3, 4 and 5. By 55 turning the wheel 25 one way and the other the slats may be given any desired position from the wholly closed as seen in Fig. 3 to the wholly open as shown in Fig. 4.

The vertical racks 26 and 27 move upward 60 and downward in suitable guides or ways 29 in the casing 22 when the thumb wheel is turned to adjust the slats. The rods or links 28 connecting the racks with the upper slats are joined to the latter in such a manner 65 and position as to permit them to move un-

ward in the said ways when the racks are drawn fully up to bring the slats to their horizontal positions, as seen clearly in Fig. 4.

The bodies of the slats and the rods 12 are placed inside of the middle vertical line of the 70 frame 1 so that when the slats are brought to their horizontal position as shown in Fig. 4 the outer connecting wires 14 will not touch the screen 7 when the latter is employed.

The thumb wheel and its shaft are mid- 75 way of the length of the upper rail of the frame 1, the wheel being indicated by dotted lines in Fig. 1. Also the vertical sections of the frame with contained part are on a vertical transverse plane passing through the 80 middle of the frame and through the axis of said shaft, as seen clearly also in Fig. 1.

On the shaft 21 just inside the frame 1 and near the thumb wheel is a toothed wheel 30, 85 and vertically movable in suitable guides 31 on the upper rail is a catch piece 32 in position to have its lower end brought to engage in the teeth of said wheel 30 so as to hold the shaft from turning when it has been brought to the proper position to bring the slats at 90 the desired position.

The side rails of the frame 1 are shown as formed with the inward projections 33 projecting inward beyond the ends of the slats to cover the narrow vertical spaces 34 be- 95 tween the ends of the slats and the adjacent inner faces of the side rails of the frame for the purpose of cutting off any view from without through said openings, these narrow openings being necessary in order that the 100 slats may be freely shifted to occupy different positions, as above set forth.

The operation, having been made clear as the above description has proceeded, and being clearly understood from the accom- 105 panying drawings, a further detailed description thereof does not seem necessary.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages. 110

It is deemed important that the rods or links 28 be connected directly to the upper slats instead of to the wires 14 connecting the slats, whereby liability of bending said wires is avoided, the connections between the 115 racks and the slats are shortened and said connections are brought nearer to the centers or pivots of the slats, whereby greater ease of movement is attained, as well as compactness of parts, as I am enabled to bring the 120 racks nearer together and thus employ a shorter shaft.

What is claimed as new is;—

A screen composed of slats arranged in pairs, the slats of each pair having their 125 lower edges curved inwardly and the next adjacent pair disposed in position to have their upper edges embraced by said curved lower edges adjacent to and below the support of the slats, means extending laterally from 130

said slats above the curved portions thereof, inner and outer vertical wires looped into the same for moving all of the slats in unison, short links connected with the uppermost
5 slats near their midheight, means to which said links are pivotally connected for raising and lowering the slats, fixed means at the bottom of the window frame against which the curved edges of the lowermost slats en-
10 gage and which they engage when the slats are closed, and an angular strip at the top of the window frame independent of the pivotal

support of the upper slats with its depending portion engaging the upper curved portions of the upper pair of slats to close the opening 15 above the latter.

In witness whereof, I have hereunto set my hand this 27th day of July, 1908, in the presence of two subscribing witnesses.

LEON H. LEMPert

Witnesses:

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