



# UNITED STATES PATENT OFFICE.

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## FIRE-SHUTTER.

SPECIFICATION forming part of Letters Patent No. 763,381, dated June 28, 1904.

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*To all whom it may concern:*

Be it known that I, PETER EBNER, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have  
5 invented a certain new and useful Improvement in Fire-Shutters, of which the following is a specification.

This invention relates to rolling fire-shutters, and has for its object to provide for normally holding the shutter in a rolled and elevated position, and it is also designed to provide for releasing the shutter and permitting the same to unroll and cover the window or doorway under the action of excessive heat—  
15 as, for instance, in the event of the burning of an adjacent building or an adjacent part of the same building.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within  
25 the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of one end portion of the roller of a rolling fire-shutter, showing the bearing-bracket therefor and the means of the present invention for preventing accidental turning of the roller. Fig. 2 is an outside elevation of the bearing-bracket with the device of the present invention applied thereto. Fig. 3 is a detail elevation showing the engagement between the gravity-dog and the sprocket-wheel of the roller.

40 Like characters of reference designate corresponding parts in each of the figures of the drawings.

For convenience in illustration the flexible shutter has been omitted from the drawings, and only one end portion of the roller and one roller-bracket have been shown, it of course being understood that the opposite roller-bracket is a duplicate of the bracket illustrated.

The roller 1, upon which the shutter is to be wound, may be solid or tubular, and while gravity alone is ordinarily sufficient for unrolling the shutter any suitable arrangement of spring may be employed to insure the prompt and effective unrolling of the shutter.  
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The roller-bracket consists of a flat attaching-plate 2, from the middle of which projects a vertical plate 3, which is provided with a peripheral flange 4, directed inwardly or toward the roller and forms a cap or casing for embracing the adjacent edge portion of the shutter when rolled upon the roller. A suitable journal 5 is carried by the adjacent end of the roller and pierces the part 3 of the bracket, which forms a bearing therefor.  
60 This journal projects a suitable distance at the outer side of the bracket, and keyed or otherwise rigidly connected thereto is a sprocket-wheel 6, over which runs a suitable endless sprocket-chain 7, whereby the roller  
70 may be manually manipulated to wind and unwind the shutter thereon. To hold the roller against rotation, a dog or pawl 8 is provided, said dog being located between the lower portion of the sprocket-wheel and the  
75 outer face of the roller-bracket, with its rear end pivotally connected to the bracket, as indicated at 9, at a point in rear of the sprocket-wheel, while its free portion is projected slightly in front of the bracket. At an  
80 intermediate point a lug or projection 10 rises from the dog and into the path of lateral teeth or projections 11, carried by the inner face of the sprocket-wheel, to form a stop device to prevent rotation of the sprocket-wheel  
85 and the roller. For holding the dog rigidly in locked engagement with the sprocket-wheel there is a link made up of reversely-arranged overlapped members 12 and 13, of which the member 12 is projected below the  
90 member 13 and provided with an eye 14 for the reception of the free end of the dog 8. The upper end of the member 13 is projected above member 12 and is provided with an eye 15 for the reception of a screw-threaded  
95 fastening 16, which is engaged with a boss or projection 17 upon the outer edge or flange 4 of the bracket. The overlapped portions of

the link members are connected by some fusible material 18, whereby the dog is normally and rigidly held in engagement with the sprocket-wheel. In the event of a fire of sufficient heat to fuse the connection between the link members 12 and 13 the latter will become separated, whereby the dog is permitted to drop upon the pivotal support 9, thereby disengaging its projection or shoulder 10 from the sprocket-wheel, whereby the latter and the roller are free to rotate under the action of the weight of the shutter or the tension of a spring to permit the shutter to run down and close the doorway or window-space.

From the foregoing description it will be understood that the present invention makes use of the sprocket-wheel to form one element of the means for locking the roller against rotation, whereby the present invention produces a very simple, efficient, and compact device the parts of which are readily accessible for setting up and for replacement whenever required.

It will be understood that the sprocket-chain is employed to originally roll up the shutter and is not intended for raising and lowering the shutter after it has been fitted in place, and therefore no objection arises in view of the fact that the wheel and roller are normally locked against rotation.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination in a rolling fire-shutter, of shutter-rolling means including a bracket and a sprocket-wheel mounted thereon and provided with a concentric series of lateral stop-shoulders directed toward the bracket, a sprocket-chain for operating the sprocket-wheel, a dog located between the wheel and the bracket and pivoted to the latter and also provided with a projection to engage the series of shoulders on the wheel and lock the latter, and fusible means extending between

the dog and the bracket to normally hold the former in engagement with the wheel.

2. In a rolling fire-shutter, the combination with a roller-bracket and a roller mounted thereon, of a wheel carried by the roller and provided with a concentric series of lateral stop-shoulders projected toward the bracket, means engaging the wheel for winding the shutter upon the roller, a dog or pawl pivoted to the bracket between the latter and the wheel and provided with a projection for engagement with the series of stop-shoulders to lock the wheel, and a fusible connection between the dog and the bracket to hold the projection of the dog normally in engagement with one of the shoulders of the wheel.

3. In a rolling fire-shutter, the combination with a roller-bracket and a roller, of a dog pivoted upon the bracket to prevent rotation of the roller, and a fusible member connected to the bracket and provided with an eye for the reception of the free end of the dog for the normal support of the latter.

4. In a rolling fire-shutter, the combination with a roller-bracket and a roller, of a dog pivoted upon the bracket to prevent rotation of the roller, and a fusible element embodying fusibly-connected members, one of which has an opening for the reception of the free end of the dog and the other is connected to the bracket.

5. In a rolling fire-shutter, the combination of a roller-bracket, a roller journaled thereon, a sprocket-wheel carried by the roller, an actuating sprocket-chain for the wheel, a lateral stop-shoulder upon the wheel, a dog pivoted upon the bracket and having an intermediate projection for engagement with the shoulder of the wheel, and a fusible member connected to the bracket and provided with an opening for the reception of the free end of the dog.

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In presence of—

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