

(No Model.)

A. GROSCH, A. ALLENBERG & C. BUERLING.
FIRE SHUTTER FASTENER.

No. 503,046.

Patented Aug. 8, 1893.

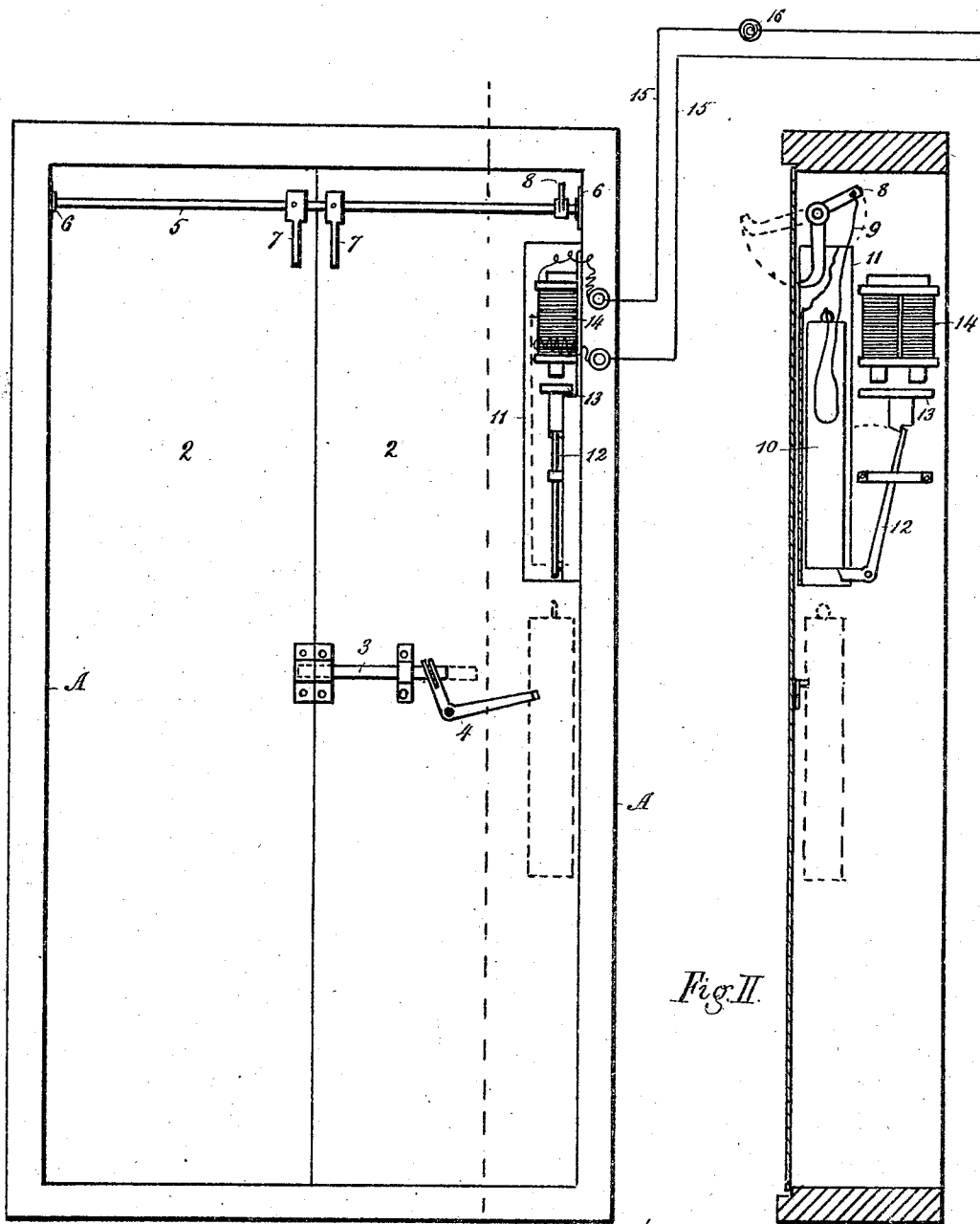


Fig. I.

Fig. II.

Witnesses.

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UNITED STATES PATENT OFFICE.

ALEXANDER GROSCH, ALBERT ALLENBERG, AND CHARLES BUERLING, OF
CINCINNATI, OHIO.

FIRE-SHUTTER FASTENER.

SPECIFICATION forming part of Letters Patent No. 503,046, dated August 8, 1893.

Application filed March 11, 1893. Serial No. 465,861. (No model.)

To all whom it may concern:

Be it known that we, ALEXANDER GROSCH, ALBERT ALLENBERG, and CHARLES BUERLING, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in Automatic Devices for Opening Shutters, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure I is an inside view of a pair of shutters provided with our improved automatic opening device, and Fig. II, a side view of the same.

Our invention relates to improvements in automatic devices for opening shutters and its object is to provide a simple, effective and reliable device, whereby in the event of a fire originating in the interior of a building, the shutters of the window which may be nearest the location of the fire will be thrown open and thus give entrance to firemen and others in time to extinguish the fire and save the building and its contents before the flames attain a headway which cannot be checked.

It is a fact familiar to all observers that while many buildings designed for the storage of large quantities of valuable merchandise are well protected from danger on the outside, the larger number of them are exposed to fires which frequently originate within the walls by reason of spontaneous combustion and various other causes. The shutters and doors being made of heavy iron are securely locked and the keys in the hands of owners or tenants living at a distance, the destruction is complete before adequate means can be found to arrest the progress of the flames.

The peculiar features of our invention will be readily understood by reference to the following specification and accompanying drawings in which—

A designates a window frame provided with shutters 2 hinged to the frame in the usual manner and locked by a sliding bolt 3 actuated by an angle lever 4. A rotatable shaft 5 is journaled in bearings 6 attached to the upper part of the window frame. Depending arms 7 are attached near the center of the shaft, their free ends being in contact with the shutters. One end of the shaft is

provided with an angle lever 8 connected by a chain 9 with a suitable weight 10, which slides in a box or casing 11 and is normally upheld by the short arm of an angle lever 12, while the upper extremity of the long arm is retained in a shallow notch formed in the extension of an armature 13 actuated by an electro-magnet 14. An electric circuit formed by the conducting wire 15 connects the magnet to a suitable battery which may be located at any convenient place in the building. The circuit is interrupted by a thermostat 15 which may be adjusted as desired and placed near the ceiling of the apartment.

The operation of the device is easily explained. In the event of a fire occurring inside of the building, the heated air will ascend and when it reaches the degree at which the thermostat is adjusted, the circuit will be closed and the magnet will attract the armature thereby releasing the lever 12 and the weight. The chain 9, having sufficient slack, the descending weight will first trip the lever 4 and withdraw the bolt and immediately thereafter the shaft 5 will bring the levers 7 into action and the shutters will be thrown open.

What we claim as new is—

In an automatic device for opening shutters, the combination of an electro-magnet and armature; a thermostat adapted to govern the action of the magnet; a rotatable shaft 5 actuated by a crank lever 8 and provided with dependent arms bearing upon the shutters; a weight attached to said crank lever by a slackened chain and normally upheld by a lever 12 interposed between the weight and the armature and the lever 4, and the sliding bolt actuated thereby—all constructed and arranged substantially as and for the purpose herein set forth.

In testimony that we claim the foregoing we have hereunto set our hands, this 27th day of February, 1893, in the presence of witnesses.

ALEXANDER GROSCH.
ALBERT ALLENBERG.
CHARLES BUERLING.

Witnesses:

SAMUEL WALLACE,
JOHN WENTZEL.