

No. 878,341.

PATENTED FEB. 4, 1908.

J. CAHILL.
FIREPROOF SHUTTER.
APPLICATION FILED MAR. 30, 1907.

Fig. 1.

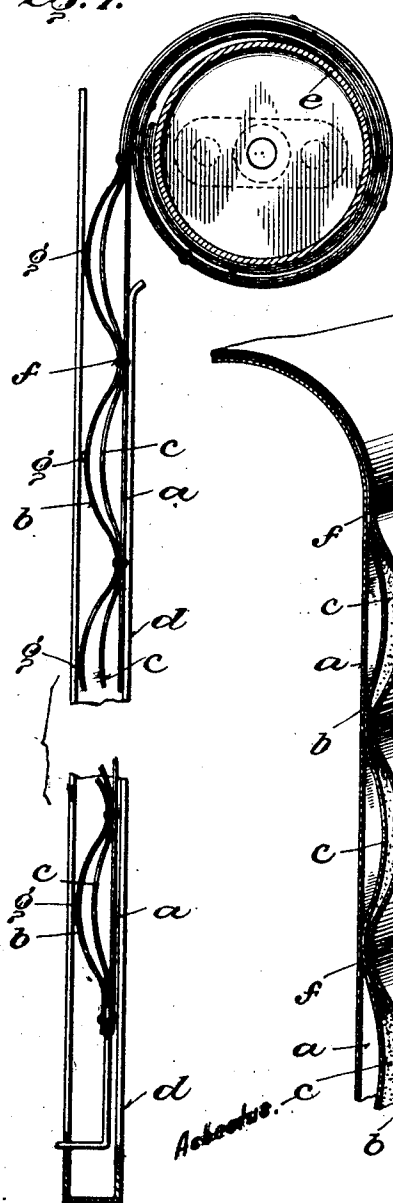
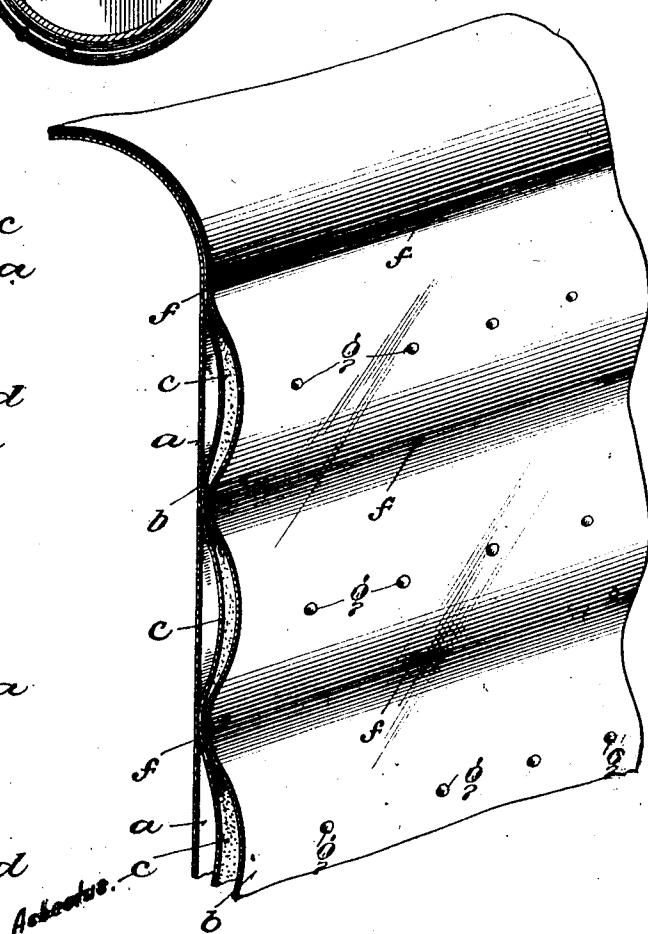


Fig. 2.



Inventor

John Cahill.

Witnesses

W. A. Williams.
A. L. Summerfelt

By

Jack Richmond

Attorney.

UNITED STATES PATENT OFFICE.

JOHN CAHILL, OF NORFOLK, VIRGINIA.

FIREPROOF SHUTTER.

No. 878,341.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed March 30, 1907. Serial No. 365,477.

To all whom it may concern:

Be it known that I, JOHN CAHILL, a citizen of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented a certain new and useful Fireproof Shutter, of which the following is a specification.

The principal object is to provide a fireproof element which can be used either as a door, shutter, blind, curtain or partition.

A special object is to provide a rolling element available as aforesaid, which shall be simple in construction and operation, comparatively inexpensive, and which may be easily erected.

There are further objects, whereof some are obvious and whereof others will be referred to with more particularity in the detailed description.

The nature, characteristic features and scope of the invention will be more clearly understood from the following description taken in connection with the accompanying drawing, wherein—

Figure 1, is a sectional view of a roller blind or shutter embodying features of my invention; and Fig. 2, is a perspective view of the shutter.

Referring to the drawings, *a* and *b* are metal sheets, and for the purposes of this description they represent, respectively, the exposed inside and outside walls of a roller blind or shutter.

c is an interposed sheet of asbestos or equivalent fire-resistant material.

d is a guide frame to accommodate the shutter, and *e* is a suitable spindle on which the shutter is rolled.

The inside sheet *a* is flat when unrolled while the outside sheet *b* and interposed element *c* are corrugated. The purpose of this is two-fold, namely, to provide air chambers or pockets, whereby there is insured a free circulation of air so that buckling and distortion of the shutter, when exposed to the heat, is obviated; and to impart increased strength and rigidity to the structure with a minimum amount of metal so that the shutter is comparatively light. This arrangement is further advantageous in that it insures a compact rolling of the curtain or shutter for when the shutter is rolled the sheet *b* becomes uncorrugated and the thickness of the shutter rolled is the combined thickness of the three complementary sheets, (see Fig. 1). This is accomplished by the

peculiar way of binding the sheets and by making the sheet elements of varying lengths the outer sheet *b* having the greater distance to travel being the longest, the intermediate sheet *a* a trifle shorter, and the sheet *a* having the lesser distance to travel, is the shortest. The corrugating is effected by securing the complementary sheets at spaced intervals by means of rivets *f* and it will be understood that after a course of rivets is laid, the asbestos sheet *c* and outside sheet *b* are "humped" or raised, while the inside sheet *a* is kept flat; the sheets being secured in this relation by further courses of rivets *f*.

It is desirable to provide a shield or some protecting means to prevent the wearing of the outer sheet *b* while traveling up and down in the guide frame *d*, and for the sake of illustration I have shown rivets or projections *g*, disposed on the raised or corrugated parts of said sheet, which hold the sheet away from the guide-frame.

Having described the nature and objects of the invention, what I claim as new and desire to secure by Letters Patent is:—

1. A fire-proof roller blind, shutter or like construction comprising a plurality of flexible sheets of varying lengths, proportionately divided and riveted together at spaced intervals, the arrangement being such that when the curtain is unrolled there are air chambers or pockets and when rolled one sheet is in continuous contact with the next adjacent sheet, substantially as specified.

2. A fire-proof roller blind, shutter or like construction comprising a flat sheet, a corrugated sheet and an interposed sheet of fire-resistant material, said sheets being formed of flexible material and being of varying length and being proportionately divided, the corrugating being effected by raising the sheet at spaced intervals and securing the sheets together by rivets whereby when rolled one sheet is in continuous contact with the next adjacent sheet, substantially as specified.

3. A fire-proof roller-blind, shutter or like construction comprising continuous flexible metal sheets and an interposed sheet of fire-resistant material, said sheets varying in length and being proportionately divided and being secured at spaced intervals whereby one of said metal sheets and the interposed sheet is corrugated when unrolled and smooth when rolled whereby a compact rolling is insured, substantially as described.

4. A fire-proof roller blind, shutter or like construction comprising flexible metal sheets and an interposed sheet of fire-resistant material, said sheets being secured together at spaced intervals, one of said metal sheets and the interposed sheet being longer than the other sheet and being corrugated when unrolled and uncorrugated when rolled said sheets being proportionately divided, substantially as specified.

5. A fire-proof roller blind, shutter or like construction comprising flexible metal sheets and an intermediate asbestos sheet, the latter and one of the metal sheets being corrugated when unrolled and uncorrugated when rolled which is effected by making them longer than the other sheet and securing them at intervals by rivets said sheets being proportionately divided, substantially as specified.

6. In combination with a guide frame, a fire-proof roller blind, shutter or like construction comprising flexible metal sheets of

varying length secured together at spaced intervals whereby one is corrugated, and an intermediate fire-proof sheet, said corrugated sheet having a shield near its outer edge for the purpose of preventing wear the sheets being proportionately divided, substantially as specified.

7. A fire-proof roller blind, shutter or like construction comprising a plurality of flexible elements of varying length secured together at spaced intervals so as to operate as a unit, one of said elements being corrugated when unrolled to provide strength and air spaces and uncorrugated when rolled said elements being proportionately divided, substantially as specified.

In testimony whereof I have hereunto signed my name to this specification in presence of two witnesses.

JOHN CAHILL.

Witnesses:

A. B. DEGGS,
ALBERT JARVIS.