

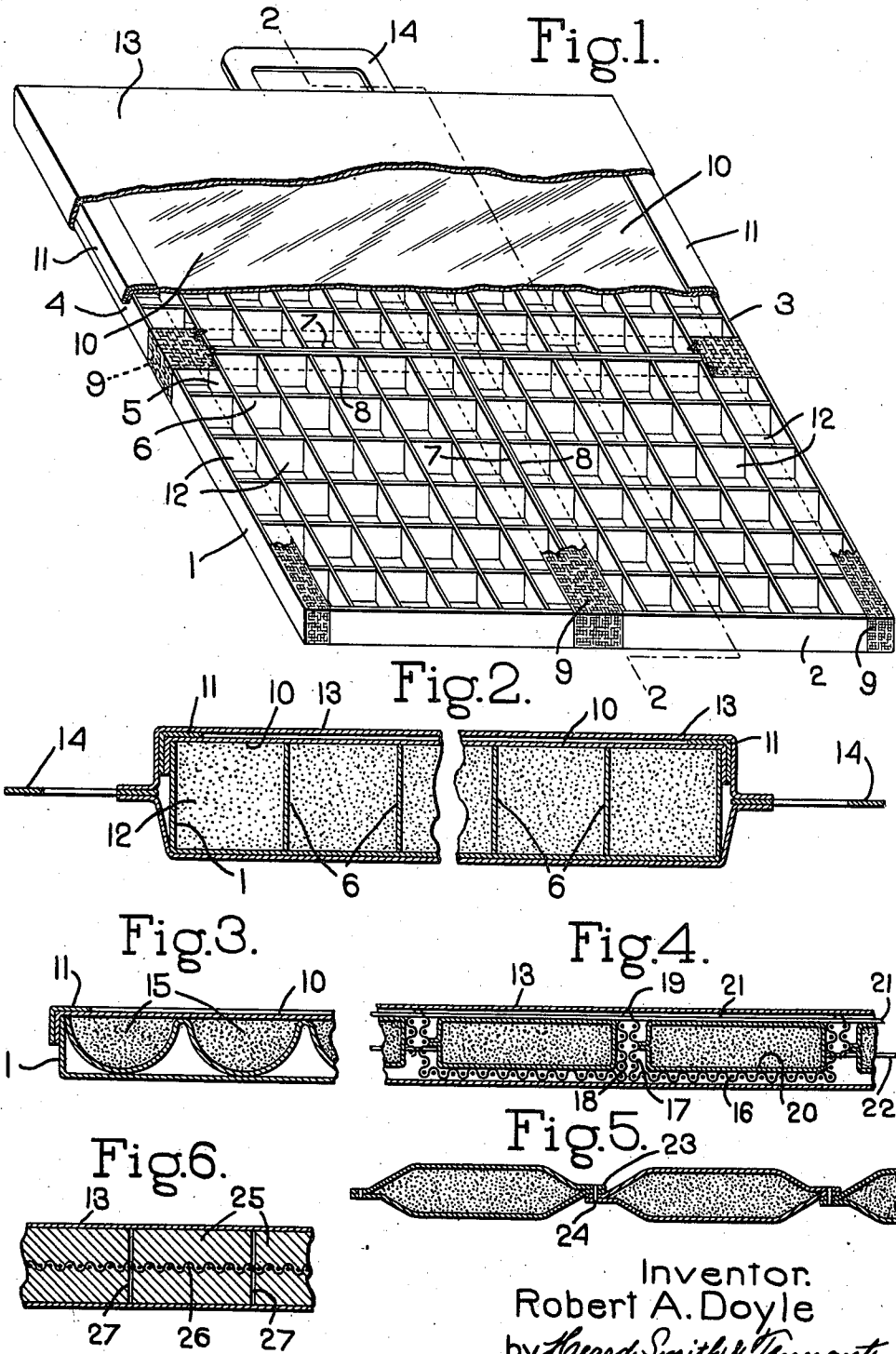
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FIRE EXTINGUISHING BLANKET

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FIRE EXTINGUISHING BLANKET

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2 Claims. (Cl. 169-2)

This invention relates to improvements in fire-extinguishing blankets and the object thereof is to provide a relatively thin flexible blanket of substantial area which can be easily handled, comprising connected units formed of or comprising fire-smothering material.

More particularly the object of the invention is to provide a fire-extinguishing blanket for extinguishing incendiary bombs. Usual types of incendiary bombs which are used for destruction of combustible buildings in war time comprise a casing containing a highly combustible material with means for igniting the material upon contact of the bomb with a solid object. Usual types of bombs comprise a generally cylindrical shell containing flammable material, such as magnesium or phosphorous, which produces great heat, and also projects globules or sparks of the burning material at considerable distances from the source. Such bombs also in some instances contain thermit. The walls of the shell are sometimes of magnesium or if of steel are provided with apertures through which the burning magnesium is projected.

If water is thrown upon or a stream of water played upon magnesium bombs of this type combustion will be accelerated. If however a fine spray of water is played upon and around the bomb the acceleration of combustion will be practically negligible and by wetting down the area surrounding the bomb the spreading of the fire will be restricted or prevented. Such bombs are most commonly extinguished by carefully shoveling dry sand around and upon them. Where sand is thus tossed upon the bomb only a relatively small portion of each shovelful will be effectively deposited upon it, as would be the case when sand is thrown on a milk bottle, and frequently not enough sand will reach the bomb in time effectively to suppress its active burning. Another method is by depositing or tossing upon the burning bomb a bag or bags filled with sand. Sand bags are usually of such weight as to be difficult to handle and are not of sufficient area effectively to enclose the bomb.

The principal object of the present invention is to provide a relatively thin flexible blanket of substantial area comprising a substantially flat container having at least one combustible wall and enclosing a group of closely assembled units of fire-smothering material and of such weight that it can be readily handled by one or two persons and when dropped or tossed upon the bomb will become draped about the bomb so that the smothering material when released from the

several units will be deposited effectively upon the bomb and prevented from being dispersed by the upwardly flowing currents of gas and air caused by the burning material.

A further object of the invention is to provide a fire-extinguishing blanket of the character described with a flexible envelope of combustible material having preferably at opposite edges handle members which can be readily grasped to transport the blanket and to toss it upon the bomb without requiring the user to approach the bomb so closely as to be liable to be burned by sparks projected from the bomb.

These and other objects and features of the invention will more fully appear from the following description and the accompanying drawing and will be particularly pointed out in the claims.

Preferred embodiments of the invention are illustrated in the accompanying drawing, in which

Fig. 1 is an illustration of one embodiment of the invention showing a cellular container, certain portions of the covering of the cells and of the enclosing envelope being broken away;

Fig. 2 is an enlarged vertical sectional view centrally broken away on line 2-2, Fig. 1, showing the cells filled with fire-smothering material;

Fig. 3 is a vertical sectional view, broken away, of a modified form of cellular blanket;

Fig. 4 is a detail vertical sectional view, partly broken away, of a modified form of the invention comprising flexibly connected wire receptacles containing separate units of fire-smothering material;

Fig. 5 is a vertical sectional view, broken away, of another form of cellular blanket comprising series of united bags each containing fire-smothering material; and

Fig. 6 is a detail vertical sectional view of a portion of a modified form of blanket comprising connected units of suitable asphalt mastic or bitumastic.

The embodiment of the invention illustrated in Figs. 1 and 2 comprises a plurality, four, rectangular associated preferably similar boxes 1, 2, 3, 4, of cardboard, or other preferably combustible material, in which the cells of each box are constructed by interlocking partitions 5 and 6, preferably forming square or rectangular cells of suitable dimensions such, for example, as two inches square and of a desired depth for example of one inch to one and one-half inches, with the end and side walls 7 and 8 of each box contacting with the complementary side of an adjacent

box and secured together in any suitable manner such, for example, as by strips of adhesive tape or steel mesh 9 overlying and adhesively secured to the upper edges of the walls, the tape acting as a hinge to permit flexure of the blanket as a whole.

The cells desirably are covered by a single sheet of tough readily combustible material 10, such as oil paper, which may be held in place by a suitable binding strip 11 of cardboard or other suitable material saturated or otherwise treated with a suitable fire-resistant material such as sodium silicate surrounding and overlying the side walls of the assembled boxes and overlying the edge portion of the sheet 10. The frame 11 may if desired be secured to the side walls in any suitable manner to maintain the sheet 10 taut.

The cells are filled with a suitable preferably granular or powdered material 12, such as sand, or other inert finely granulated material such as sand-blast dust, which is a waste product produced by projecting steel or cast iron shot against the sides of castings for the purpose of cleaning and smoothing the castings and which comprises the mixture of particles of sand which adhere to the casting and fine fragments of iron produced by the breaking up of the shot which is projected against the surface of the cast iron. This material is of finely granular form or powdered and has been demonstrated by suitable tests to be an effective material for smothering bombs. Another material which has been similarly found to be effective is asphalt mastic or bitumastic which is a mineral asphalt described in Webster's International Dictionary as "A mixture of asphalt and other material, as sand, crushed rock, or asbestos, used similarly to cement. When heated it can be pored or troweled." Asphalt mastic or mineral cement has the characteristic of melting when heated and burning slowly with a smoky flame. Also a coal tar pitch of 300-degrees F. softening point, marketed as a waste product, may be successfully employed.

The cells of the blanket may be filled with granulated or fragmentary asphalt mastic or pitch which is considerably lighter in weight than sand or other smothering materials and consequently enables the blanket to be more easily handled.

The cells of the blanket when thus filled and covered desirably are enclosed in a tough envelope 13, preferably of paper, provided with means which can be readily grasped by the hand. As illustrated herein suitable handles 14 are secured to the ends of the envelope or may be made of integral apertured extensions of the envelope so that the blanket can be readily transported and placed or thrown upon the burning bomb or incipient fire.

The blanket may be placed in convenient locations in the halls or rooms of a building with the side of the envelope which supports the bottoms of the boxes resting upon the floor. In use the blanket is transported to the bomb or incipient fire, then reversed and deposited or tossed upon the bomb or incipient fire, with the side of the envelope containing the combustible covering 10 for the cells placed downwardly upon the bomb or fire. The heat of the burning bomb or fire will rapidly burn the envelope and the covering 10 thereby releasing the smothering material from the cells and depositing it uniformly upon the burning bomb or incipient fire, while the bottoms of the boxes, which desirably are impreg-

nated or treated with a fire-resistant material, such, for example, as sodium silicate, will form a covering which before burning will prevent the smothering material from being dispersed by the upwardly flowing currents of gases and air produced by the combustion of the material of the bomb or by the fire.

By reason of its flexibility the blanket will conform more or less closely to the contour of the bomb and will consequently restrict the admission of air to the bomb and thereby aid in smothering the fire. It will also restrict or prevent flying of sparks from the bomb which might ignite combustible materials within the range of the flight of said sparks.

When the bomb is thus enclosed it can be picked up upon a shovel and transported to the location in which it will do no damage and permit any fire in the floor or surface upon which the bomb rests to be extinguished by water thrown or projected upon it by a hose in the usual manner, or by another blanket.

Other forms of blankets comprising cells filled with suitable fire-smothering material may be employed, such for example as that illustrated in Fig. 3, in which the cells are formed of moulded paper pulp or pressed sheets providing a series of pockets 15 which in turn may be placed within the boxes, as above stated, and covered with a combustible sheet 10 held in place by the frame 11 as before stated, or which may be covered by a combustible sheet and enclosed directly in the envelope in the manner herein described.

Another embodiment of the invention, which is illustrated in Fig. 4, comprises a cellular container formed of a sheet or flexibly connected strips of wire screening which is bent to provide sectional cells each having a horizontal base section 16 and bent up end sections 17 and 18 connected at their upper ends by integral looped portions 19 of the fold, adapted to receive combustible receptacles, such as paper bags 20 containing the smothering material. Flexible wires or rods 21 extend longitudinally of the bags through the loop 19 of the wire mesh and serve to retain the bags in the cells when the blanket is inverted and placed upon the bomb. One or more similar rods 22, extending longitudinally through the wire mesh, at the sides of the bags containing the fire-smothering material, are provided to prevent lateral displacement of the bags. The ends of the wire mesh sheet may be extended beyond the end bags and rolled or otherwise formed to provide handles by which the blanket can be manipulated, or the blanket may be enclosed in a paper bag 13 of the type above described.

By virtue of this construction the blanket is given sufficient flexibility to enable it to wrap around the bomb when reversed and placed or tossed upon it so that the fire-smothering material will be deposited properly upon the burning bomb.

Another modification of the invention which is illustrated in Fig. 5 comprises a series of bags or sacks 23 having overlapping edges 24 secured together in any suitable manner as by rivets or staples, it being understood that several rows of such assembled sacks are secured together side by side to make a blanket of the desired size. Such a blanket can be provided with suitable handles or may be enclosed in an envelope of the character above described.

Another embodiment of the invention is illustrated in Fig. 6 which comprises a series of units

25 formed of moulded asphalt mastic or coal tar pitch, preferably in the form of square or rectangular blocks in which a suitable sheet of fabric or wire mesh 26 extends through and unites adjacent blocks, preferably centrally of the thickness thereof, the blocks being separated by spaces 27 of sufficient width to give flexibility to the blanket. The blanket thus formed may if desired be enclosed in an envelope 13 having handles 14 of the character above described to enable it to be readily manipulated.

Where a blanket containing asphalt mastic, or coal tar pitch, either in granular or fragmentary form or in blocks as illustrated in Fig. 6, is employed the asphalt mastic or pitch when deposited upon the burning bomb or fire will melt thereby forming a sticky mass which will envelop the bomb or fire thereby restricting the rapidity of the burning and/or preventing access of air to the burning material and will also impede the flight of the sparks projected from the bomb. The slow burning of the asphalt mastic thus enveloping a bomb will enable the bomb to be picked up by a shovel and transported to a suitable location where it will do no damage and also enable access to such fires as may have been started where the bomb has rested upon a wooden floor or other combustible material.

It will be understood that the particular embodiments of the invention shown herein are of an illustrative character, that the blanket may be made of any desired size which can be con-

veniently handled, and that various other modifications in form, construction and arrangement of the cellular structure, or other parts of the blanket, may be made within the spirit and scope of the following claims, and that the blanket is adapted not only for use in extinguishing incendiary bombs, but also other types of incipient fires not of incendiary bomb origin.

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

1. A blanket for extinguishing incendiary bombs comprising a flexible substantially flat relatively thin closed cellular container having one side of combustible material and the opposite side of fire-resistant material with the cells thereof filled with granular inert material adapted when the blanket is thrown over an ignited bomb with the combustible side downward to cause the inert material to be released and uniformly deposited upon the bomb while the fire-resistant side restrains dispersion of the granular material by rising gaseous currents.

2. A fire-extinguishing blanket comprising a flexible substantially flat relatively thin closed cellular container of substantial area having the cells thereof filled with fragmentary or granular fire-smothering material and enclosed in a tough envelope having a retaining wall of combustible material and provided with handles to permit ready transportation and use of the blanket.

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