Aug. 21, 1962 E. WEISSMAN 3,049,836

ROOFING REPAIR PATCH

Filed Feb. 27, 1959

Fig.1

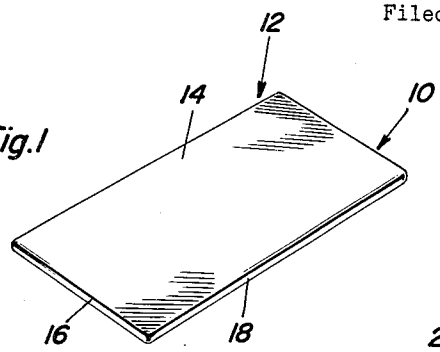


Fig.2

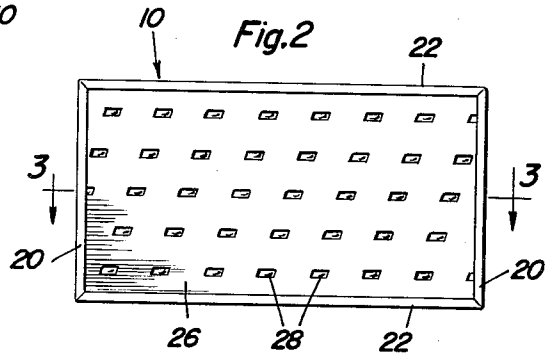


Fig.3

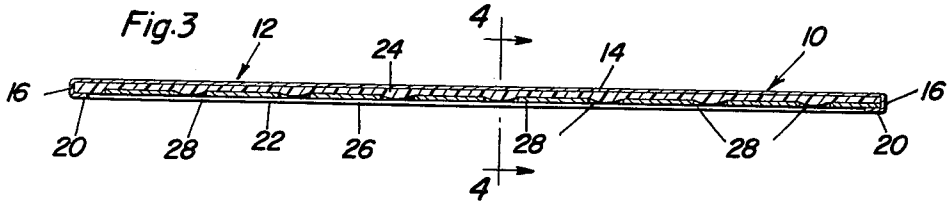


Fig.4

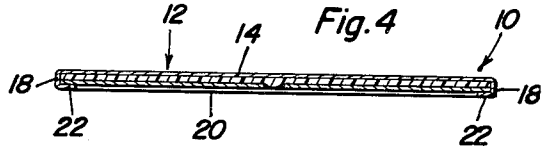


Fig.5

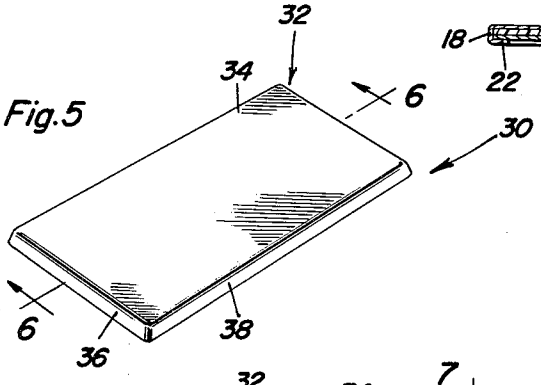


Fig.6

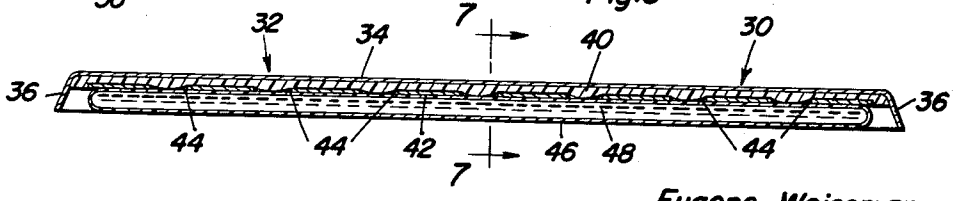
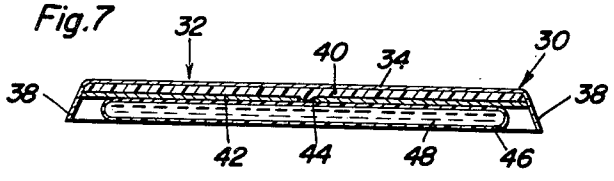


Fig.7



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ROOFING REPAIR PATCH

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This invention relates in general to home repair devices, and more specifically to an improved roofing repair patch.

A majority of the homes in this country are provided with composition roofs. While such roofs are extremely effective, they are subject to damage by nails, tears and blisters. Even though the damage to a roof may be small, during a rain storm water will leak through such a small damaged place and into the building causing a very great amount of damage. On the other hand, if a simple repair were effective, this damage could be eliminated. However, due to the construction of the composition roof, it is normally necessary to replace individual shingles and since such shingles are interlocked, it is practically impossible for the average person to do this. Thus it is necessary that a roofer be called in at a relatively great expense to the house owner and in many instances with a delay which will prove costly during inclement weather.

It is therefore the primary object of this invention to provide a roof repair patch which is of such a nature whereby it is only necessary for the homeowner or other person attempting the repairs to locate the damaged area of the composition roof, place the repair patch over the damaged area and step upon the repair patch at which time the repair patch will be effectively applied.

Another object of this invention is to provide an improved repair patch for use in construction with composition roofs, the repair patch including a shell which is of a pan-like construction and which has disposed in the lower part thereof a suitable mastic which is covered by a membrane, the membrane having openings therethrough whereby when the shell is disposed in an inverted position over a damaged area and pressure is applied to the shell by stepping thereon, the mastic will be forced through the membrane and into engagement with the roof so as to adhere the membrane to the roof and thus seal the damaged area.

Still another object of this invention is to provide a repair patch for composition roofs and the like, the repair patch being of an extremely simple construction and readily applicable, said repair patch being formed of a pan-like shell which is formed of a thin metal material, such as a foil, and having disposed in the lower portion thereof a mastic which is overlaid by a membrane preferably in the form of roofing paper, the mebrane having openings therethrough through which the mastic may flow so that the repair patch may be applied merely by positioning over the damaged area and applying a relatively great pressure thereon to deform the shell and cause the mastic to flow through the openings in the membranes so that the mastic will engage the roof and seal the membrane to the roof surrounding the damaged area.

A further object of this invention is to provide a repair patch for composition roofs and the like which may be applied during inclement weather, the repair patch including a lightweight shell which is deformable and which is of the pan-type, the shell having disposed in the lower portion thereof a mastic which is overlaid by a membrane, such as roofing paper, and there being disposed in the upper part of the shell the water resistant adhesive within a frangible container so that when the patch is applied by pressure, the shell will deform and the frangible container broken so that the adhesive will spread over the damaged area and adhere to the roof notwithstanding the

fact that the roof is wet and thus aid in the sealing of the damaged area by the mastic and membrane.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a bottom perspective view of one form of repair patch, showing the general outline thereof;

FIGURE 2 is an enlarged plan view of the repair patch of FIGURE 1 and shows the arrangement of the openings in the membrane thereof;

FIGURE 3 is an enlarged longitudinal sectional view taken substantially upon the plane indicated by the section line 3—3 of FIGURE 2 and shows the specific details of construction of the repair patch;

FIGURE 4 is a transverse sectional view taken through the repair patch substantially upon the plane indicated by the section line 4—4 of FIGURE 3 and shows further the details of the repair patch;

FIGURE 5 is a bottom perspective view of a second form of repair patch;

FIGURE 6 is an enlarged longitudinal sectional view taken substantially upon the plane indicated by the section line 6—6 of FIGURE 5 and shows the specific details of the construction of the repair patch of FIGURE 5; and

FIGURE 7 is a transverse sectional view taken substantially upon the plane indicated by the section line 7—7 of FIGURE 6 and shows further the details of the repair patch.

Referring now to the drawings in detail, it will be seen that there is illustrated in FIGURES 1, 2, 3 and 4 a first form of roofing repair patch which is referred to in general by the reference numeral **10**. The roofing repair patch **10** includes a shallow pan-like shell **12** which has a bottom wall **14**, upstanding end walls **16** and upstanding side walls **18**. The end walls **16** terminate at the upper edges thereof in inturned flanges **20** and the side walls **18** terminate at the upper edges thereof in similar inturned flanges **22**. Disposed in the lower part of the shell **12** and overlying the bottom **14** thereof is a suitable mastic such as that normally used in the repair of roofs. The mastic is referred to by the reference numeral **24**. Overlying the mastic **24** is a membrane **26** which is preferably in the form of roofing paper. The membrane **26** has formed therein a plurality of elongated openings **28** which are best illustrated in FIGURE 2. The membrane **26** is held in place by the flanges **20** and **22** of the shell **12**.

At this time it is pointed out that the shell **12** may be formed of any suitable deformable material so that when pressure is applied thereto it will flatten out. It is preferred that the shell **12** be formed of a thin aluminum foil which will have sufficient rigidity to support the repair patch prior to the positioning thereof and of a sufficient thickness to protect the elements of the repair patch once it has been applied. However, undoubtedly other materials will be developed which will suffice or replace the aluminum foil as a desired shell forming material.

In the use of the repair patch **10**, once the damaged area has been located, the repair patch **10** is placed over the damaged area with the pan-like shell **12** in an inverted position. That is, the bottom **14** of the shell **12** is disposed uppermost. Then pressure is applied to the shell, preferably by stepping on the shell **12** so that the shell **12** is deformed. Inasmuch as the mebrane **26** will initially engage the damaged area of the roof and since the mastic **24** will be forced through the openings **28** in the membrane **26**, it will be readily apparent that although

the mastic **24** is initially disposed uppermost, the mastic **24** will flow beneath the membrane **26** and provide the desired seal between the roof and the membrane **26**. Once, the repair patch **10** has been applied, it will be protected by the shell **12**. Furthermore, as is well known when heat is applied to the roof by the sun, the mastic **24** will have a tendency to soften and completely flow beneath the membrane **26** to provide a permanent seal.

Referring now to FIGURES 5, 6 and 7, it will be seen that there is illustrated a second form of repair patch which is referred to in general by the reference numeral **30**. The repair patch **30** includes a shallow pan-like shell which is referred to in general by the reference numeral **32**. The shell **32** has a bottom wall **34**, and upstanding end walls **36** and side walls **38**. Disposed in the lower part of the shell **12** and overlying the bottom wall **34** thereof is a suitable mastic **40**, such as the mastic **24**. Overlying the mastic **40** is a membrane which is formed of a roofing paper, the mebrane being referred to by the reference numeral **42**. The membrane **42** is provided with a plurality of openings **44** to permit the flow of the mastic **40** through the membrane **42** when the roofing repair patch **32** is applied.

It will be readily apparent that the shell **32** is deeper than the shell **12** and that the mebrane **42** is disposed below the upper edge of the shell **32**. Thus space is left in the upper part of the shell **32** for the reception of a flat container **46**. The flat container **46** is formed of a frangible material, such as a thin flexible plastic. Disposed within the container **46** is a conventional household adhesive of the type which may be applied over a wet surface and the adhesive will adhere to such wet surface. The adhesive **48** is not a critical part of the invention and may be one of the numerous household adhesives which will function in the manner outlined.

When it is desired to apply the repair patch **30**, it is merely necessary to locate the damaged area of the roof. Then although the roof may be wet due to inclement weather, it is merely necessary to place the repair patch **30** in its inverted position, that is with the bottom of the shell **32** disposed uppermost, in overlying relation to the damaged area. The repair patch **30** is then applied by applying pressure to the shell **32**. This pressure is most easily applied by stepping on the bottom **34** of the shell **32**. As pressure is applied to the shell **32**, the container **46** will be first ruptured so that the adhesive **48** will flow over the damaged area. Continued downward movement of the bottom **34** of the shell **32** will result in the engagement of the membrane **42** with the roof surface in overlying relation to the adhesive **48**. Further, the pressure applied on the mastic **40** by the bottom wall **34** and shell **32** will result in the flow of the mastic **40** in limited quantities through the openings **44** in the membrane **42**. Thus, the membrane **42** will be secured to the roof both by the adhesive **48** and by the mastic **40**. Further, inasmuch as the mastic **40** will have a tendency

to flow during warm weather through the elevation of the temperature of the roof from the sun rays, the mastic **40** will continue to flow with respect to the membrane **42** and thus provide a more effective seal. At the same time, the shell **32** will protect the components of the repair patch.

From the foregoing, it will be readily apparent that there has been devised an extremely simple repair patch which is of such a construction whereby it may be effectively applied to a roof to seal a damaged area. Further, the repair patch is of such a nature whereby it may be stored in quantities or may be distributed in the local hardware stores so that at such time as the roof of a building is slightly damaged, it is merely necessary for the houseowner or other person to locate the damaged area, acquire a repair patch of the desired size and then place the repair patch over the damaged area and applying pressure thereto merely by stepping on it. Thus, the average small roof repair necessitated by the tearing of composition shingles may be accomplished by an unskilled person.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A roofing repair patch comprising a shallow inverted pan-like shell, a mastic composition in the upper portion of said shell, a membrane in the shell underlying the mastic composition, a frangible container in the shell underlying the membrane, and a waterproof adhesive in the container, said shell being flexible and crushable under foot pressure for rupturing the container and freeing the adhesive for securing the patch to a roof, said membrane having preformed, unobstructed openings therein of such dimensions as to normally retain the mastic composition but through which said mastic composition will extend in response to pressure on the shell for further securing the patch to the roof.

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