United States Patent [19]

Case

[11] **3,769,644**

[45] **Nov. 6, 1973**

[54] **ROOFING TOOL ROOFING KIT, AND METHOD OF USING SAME**

[76] Inventor: **Wayne Case,** Salt Lake City, Utah

[22] Filed: **Aug. 25, 1971**

[21] Appl. No.: **174,708**

[52] **U.S. Cl.** ..... **7/8.1 R,** 7/12, 254/26

[51] **Int. Cl.** **B25f 1/00**

[58] **Field of Search** ..... 7/8.1 R, 8.1 B, 9, 7/12; 145/1 A, 30 B; 254/25, 26, 21

[56] **References Cited**

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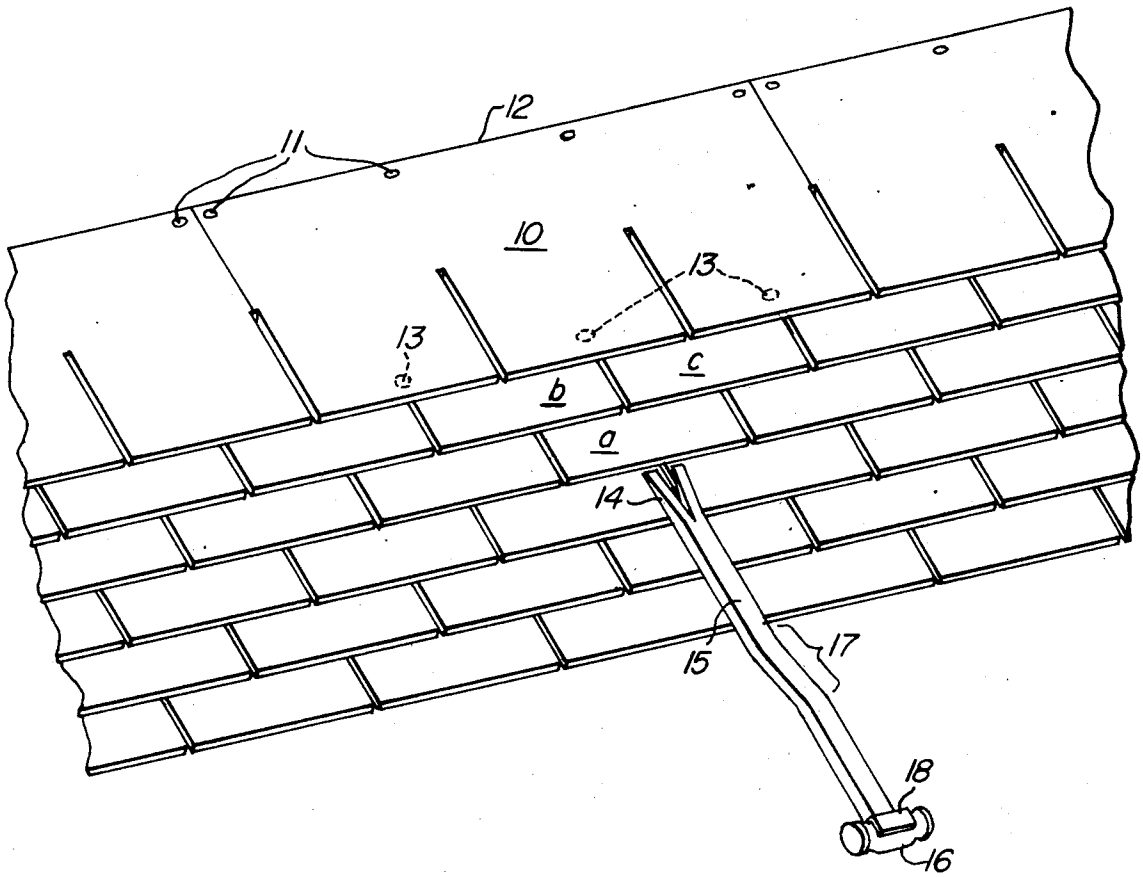
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Primary Examiner—James L. Jones, Jr.
Assistant Examiner—Roscoe V. Parker
Attorney—William S. Britt et al.

[57] **ABSTRACT**

A novel method of repairing shingle roofs and a versatile roofing tool for use in such a method is disclosed. The method involves removing individual, defective composition or wood shingles and replacing them with a rigid shingle, such as a metal plate. A roofer's hammer having a hammer head at one end and a claw at the other end of a handle having a gradual compound curve near the midlength of the handle is particularly useful for this purpose. It is used by slipping the claw under shingles immediately above the defective shingle until it reaches the nail near the far edge of the shingle. The claw is engaged with said nail and the head of the hammer is forced downward to extract said nail. A metal plate is engaged in a clip alongside said hammer head. The plate is then forced into the space left by the removed shingle.

8 Claims, 5 Drawing Figures



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SHEET 1 OF 2

FIG. 1.

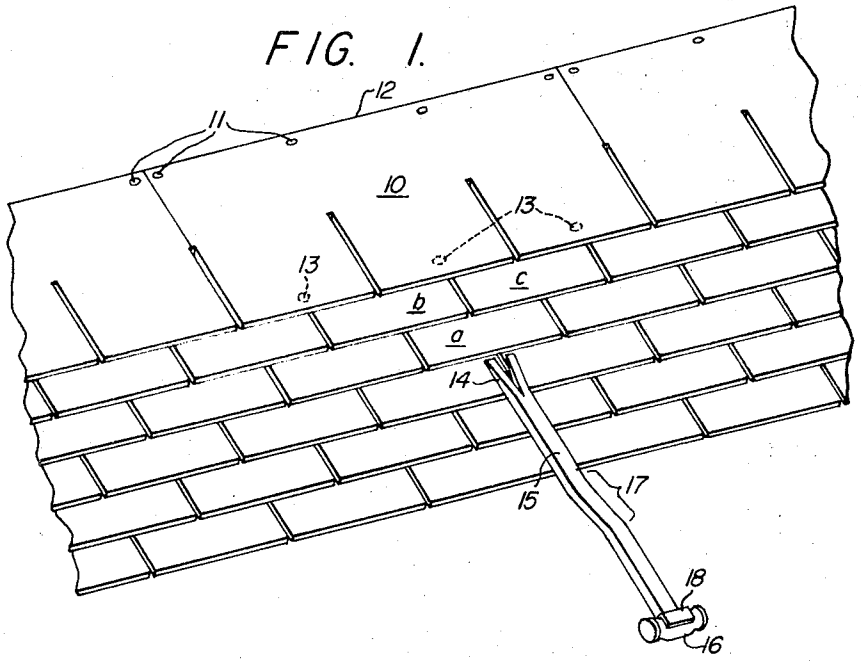
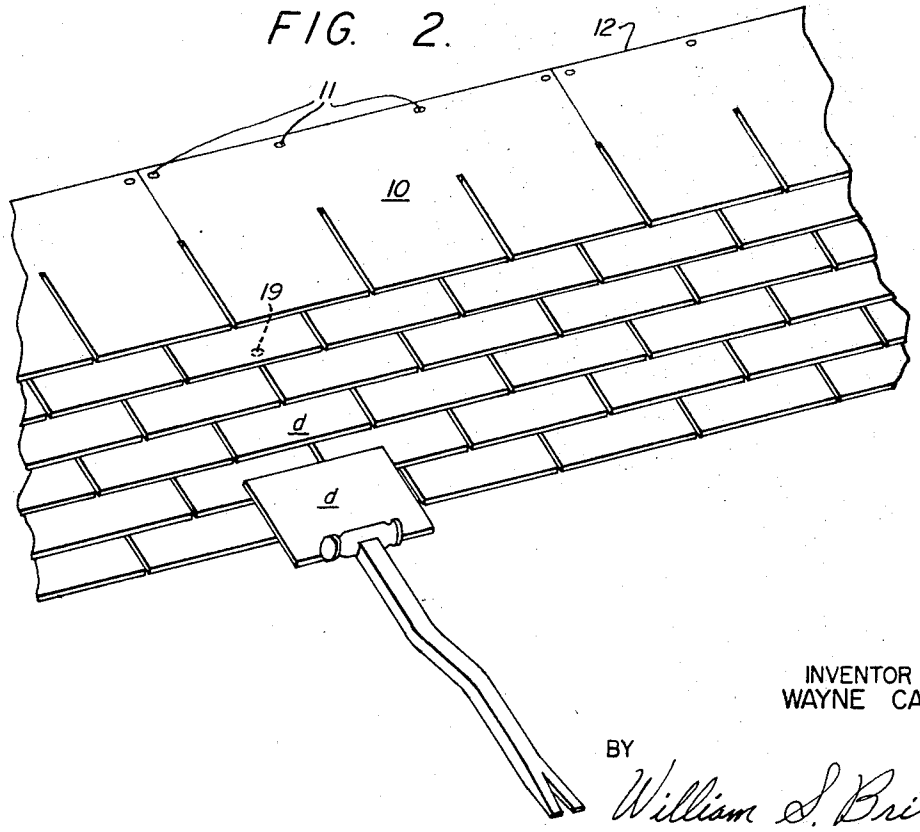


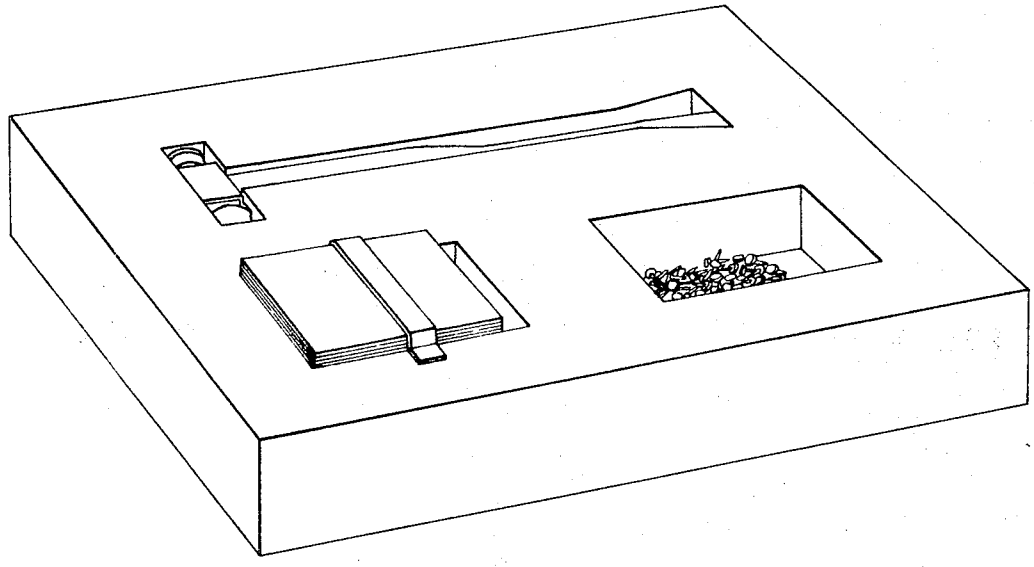
FIG. 2.



INVENTOR
WAYNE CASE

BY
William S. Britt
ATTORNEY

FIG. 3.



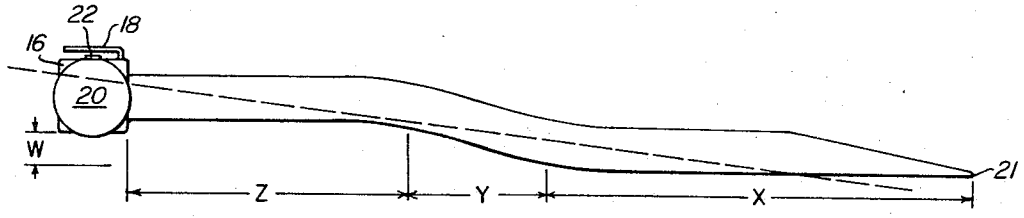


FIG. 4.

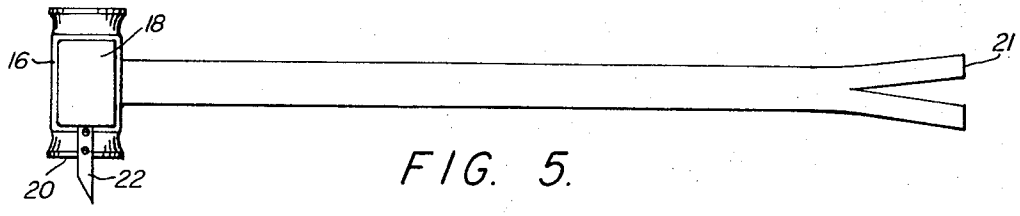


FIG. 5.

INVENTOR
WAYNE CASE

BY
William S. Britt
ATTORNEY

ROOFING TOOL ROOFING KIT, AND METHOD OF USING SAME

BACKGROUND OF THE INVENTION

Field:

The invention relates to a novel method of repairing shingle roofs and to a unique roofing tool and roofing kit useful in said method. Shingle roofs of various compositions, wooden shakes and the like develop leaks after years of exposure. Although separate leaks can be traced to a particular shingle, it is customary to repair said roofs by spreading hot tar over the defective shingle and surrounding shingles. The heat of summer drives out the oily components and the cold of winter causes the tar to crack, again permitting the roof to leak. Subsequent applications of tar must cover an ever increasing area to seal the edge of the former tar patch. If shingles are subsequently replaced, a large number of shingles must be removed which is difficult because of the large, thick tar patch.

RELATED ART

Patents have been granted on hammers having a combination of utilities. The following patents are known to applicant:

U.S. Pat. 418,085 of Tack shows a hammer head, a straight handle and a notch on the side of the handle for nail pulling.

U.S. Pat. 1,642,390 of Tekker describes a roofer's hammer with a claw on the end of the handle. A spear-like blade is attached above the hammer head for cutting purposes.

U.S. Pat. 899,016 of Allen relates to a roofing hammer having a projection above the head for forcing curved metal roofing strips into place.

U.S. Pat. 698,631 of Carlisle discloses a carpenter's hammer with a clip on the side of the hammer head for holding a nail in a driving position.

U.S. Pat. 450,922 of Truman described a staple puller having a claw at one end and a tack hammer at the opposite end. The claw is leveraged about a fulcrum point near the claw.

U.S. Pat. 2,419,613 of Crement describes a sheet-metal workers hammer having a curved handle so that the hammer head may be easily placed in various striking positions without substantially changing ones striking motion.

OBJECTS OF THE INVENTION

The following are objects of the invention:

To provide a roofer's hammer having offset, elongated nail-pulling means opposite the hammer head;

To provide a roofer's hammer having clip means for holding a shingle adjacent the hammer head;

To provide a roofer's hammer having knife means disposed on the hammer head opposite a striking face;

To provide a roofer's hammer having removable elongated nail pulling means.

DESCRIPTION OF INVENTION

A novel roofer's hammer and an improved method for repairing shingle roofs has been invented. The hammer is especially advantageous inasmuch as it is the only tool required for repairing a shingle roof by replacement of defective or deteriorated shingles. The hammer has preferably a striking face and a knife blade as part of the hammer. The handle has a gradual compound curve intermediate its ends and nail pulling means at the end opposite the hammer head.

The hammer is used to remove defective shingles by inserting the elongated nail pulling means under a shingle above the defective shingle until it contacts a nail holding the defective shingle. The nail is removed by forcing the hammer head towards the roof causing the nail pulling means to raise. After removing all the nails holding the defective shingle a new shingle is inserted, which may be facilitated by having a hammer with shingle holding means.

Further description of the invention may be facilitated by reference to the accompanying drawings.

FIG. **1** is a perspective view of a shingle roof section and the novel roofer's hammer.

FIG. **2** is a perspective view of a shingle roof section and the novel roofer's hammer holding a replacement shingle.

FIG. **3** is a perspective view of a shingle roof repair kit comprising hammer, shingles and nails.

FIG. **4** is an elevational view of the novel roofer's hammer.

FIG. **5** is a plan view of the novel roofer's hammer.

A novel method of repairing shingle roofs is illustrated in FIGS. **1** and **2**. In FIG. **1** a section of shingle roof is shown with the uppermost shingle **10** fully exposed. A full shingle, usually 36 inches in length and 12 inches in width is composed of three shingle sections. The slots between the sections are about ⅜ inch wide and are about one-half the width of a shingle, i.e., the slots are about **6** inches in length. It is nailed to the roof by nails **11** along the upper edge **12** of the shingle. A defective or deteriorated shingle is designated by the letter "*a*." To remove shingle "*a*" it is necessary to insert the elongated nail pulling means **14** forming the lower shank **15** of the hammer under the shingles "*b*" and "*c*" immediately above shingle "*a*" until the nail puller (claw) comes into contact with the nails **13** fastening shingle "*a*" to the roof. The elongated nail pulling means **14**, including lower shank **15**, is preferably straight and sufficiently long that nails **13** may be pulled without unduly raising the upper shingles ("*b*" and "*c*").

The nail pulling means **14** inserted under shingles "b" and "c" lays flat against the roof. When the claw contacts a nail, the hammer head **16** is forced towards the roof to cause the claw to be levered about the compound curved section **17** of the hammer handle. The longer dimension of the hammer head is parallel to the roof when the flat portion of the claw is flush with the roof. Forcing the hammer head towards the roof raises the claw, pulling the nail engaged therein. Other nails holding the particular shingle to be removed are pulled in a similar manner.

A replacement shingle "d" held by a clip **18** alongside the longer dimension of the hammer head is inserted in place of the removed shingle as shown in FIG. **2**. The clip **18** is positioned on the upper side of the hammer head when said hammer is positioned for nail pulling. Shingle "d" has about the same dimensions as one of the three sections of a large shingle such as shingle **10**. A single nail **19** placed under shingle "e" can be used to hold shingle "d" in place although several nails can be used, if desired. Also, a complete shingle can be replaced in this manner by using three metal plate inserts. Shingle "d" is shown in two positions;

first, in the clip of the hammer ready to be inserted and; second, inserted as part of the roof.

The advantages of the novel repair method and hammer are numerous. The hammer permits repair of a roof by use of a single tool which increase safety and improves efficiency. This hammer provides means for pulling nails, pounding nails, cutting shingles where necessary and inserting shingles. Repair of shingle roofs by the method of this invention is simple, efficient and inexpensive. Repairing shingled roofs by application of tar is a temporary repair inasmuch as the heat of summer usually evaporates the oily components present resulting in cracking during the winter months. The repair method of this invention involves only the defective shingles. The replacement shingle can be substantially the same color as the shingle removed, thereby resulting in a repaired roof in which the repairs are substantially undetectable.

The simplicity of repairing a roof by the means of this invention enables repair by unskilled roofers such as homeowners. A repair kit for use by homeowners as well as roofer's is illustrated in FIG. 3. A hammer similar to the one illustrated in FIG. 4 is provided along with shingles, which are usually sheet metal inasmuch as metal shingles are easier to insert than composition or wood shingles. Nails of the appropriate size are also provided so that repair work will be effective.

FIGS. 4 and 5 depict a preferred embodiment of the hammer of this invention. FIG. 4 is an elevational view looking at one striking face 20 of the hammer head 16. The striking face 20 is in a plane which is parallel to a plane passing through the entire length of said handle. The handle comprises three sections; an upper shank (Z) attached to said head, a compound curved section (Y) connecting said upper shank to the lower shank (X).

The upper shank (Z) may be quite short with the hammer head 16 being substantially adjacent to the compound curved section (Y). However, it is generally preferred that the upper shank be about 2 to 6 inches in length with an optimum length of about 4 inches. The compound curved section is generally several inches in length and preferably sufficiently long that the hammer may be gripped in this region with little discomfort to the hand. The handle may be gripped near the junction of the compound curved section (Y) and the lower shank (X) in a fashion to align the hand with the striking head. This is illustrated in FIG. 4 by the dotted line passing through the hammer head and the handle at the juncture between the compound curved section (Y) and the lower shank (X). The compound curved section preferably comprises gradual curves so that the handle may be gripped in that region.

The lower shank and upper shank are both preferably straight sections and are substantially preferably parallel to one another. A slight departure from a parallel relationship does not, however, diminish the utility of the hammer. The lower shank is at least about 6 inches in length and is terminated at its end with a claw for pulling nails. It is preferably located at the end of the handle rather than at a side of the handle near the end. A claw located at the end of the handle can be forced under nail heads with greater force. As shown in FIG. 4 the claw is tapered from the handle thickness to a thin, straight edge at the trailing edge 21 of the claw. The trailing edge runs perpendicular to the striking face 20 of the hammer. The lower shank is generally longer than the upper shank and a desirable weight balance is achieved when the ratio of the upper shank length to lower shank length is from about 1:1 to about 1:2.

The offset or displacement (W) between the upper and lower shank is from about ¾ inches to about 2 inches although a displacement of about 1 inch to about 1-½ inch is preferred. The handle thickness can range from about ¾ inch to about 2 inches with a preferred thickness of from about 1 inch to about 1-½ inch.

The lower shank may range in length from about 6 inches to about 18 inches. A preferred length for the lower shank is about 6 inches to 8 inches for an integral handle. However, because some situations require a longer shank, for example, for use with 14 inch long wood shingles, it is desirable to have detachable lower shanks. Optimum balance of the hammer is achieved when the lower shank is about 6 to 8 inches in length, but detachable lower shanks up to 18 inches may be readily utilized. The detachable lower shank may be connected to the remainder of the handle by a threaded joint, a friction joint, a spring loaded ball and detent joint, or a tongue and groove joint locked with a set screw.

This novel roofer's hammer can be readily provided with a knife blade 22 for use in cutting tar paper, composition shingles and the like. In FIG. 5 a thin, razor-like, replaceable blade is shown attached to the hammer head by a pair of net screws. Other means of attaching a blade to the hammer head may be utilized, for example, by having a blade attached to a short threaded stud which could be screwed in a threaded hole in one of the hammer faces. The blade may also be retractably attached to the hammer head so that both striking faces of the hammer can be used. The blade is generally short, about one to two inches in length and about ¼ inch to about ½ inch in width with a very thin thickness. Although a permanent knife blade can be made a part of the hammer it is preferred that replaceable blades be utilized.

The knife blade may be placed on the hammer head in substantially any orientation, for example, the blade may project above the hammer head in alignment with the upper shank of the handle. A preferred location for the knife blade is shown in FIG. 5. The cutting edge of the blade may be reversed so that cutting action results from either pulling or pushing action.

The hammer, method and repair kit of this invention are particularly useful for replacing worn or defective shingles or roofs having shingles blown off. The replacement shingles are preferably metal or plastic shingles such as nylon, polyester, rigid vinyl and the like which may easily be inserted under the remaining shingles without damaging the remaining shingles. The replacement shingles should be sufficiently rigid to be self-supporting when gripped near an edge.

The hammer is particularly advantageous inasmuch as defective shingles can be replaced without substantially damaging the surrounding shingles. To enhance this property of the hammer the lower shank may have a substantially different cross-sectional shape than the upper shank and curved section. For example, a thin, flat cross-section for the lower shank enhances its ability to be slipped under shingles without damaging the shingles inasmuch as the shingles are raised only slightly. Because compositon shingles tend to become

brittle upon aging it is desirable to disturb surrounding shingles as little as possible when removing defective shingles or inserting replacement shingles.

Although the invention has been described hereinabove with reference to specific embodiments, it is to be understood that it is not to be limited solely thereto but to include all the variations and modifications falling within the scope of the appended claims.

The hammer described above may be utilized efficiently in varying lengths from about 8 to about 30 inches although best balance is achieved for handle lengths of about 8 to 18 inches and preferably about 12 to 18 inches.

I claim:

1. A roofer's hammer having a length of from about 8 inches to about 18 inches comprising:

a an elongated handle attached to a hammer head comprising a substantially straight upper shank adjacent said hammer head; a substantially straight lower shank having nail pulling means at the end thereof, said lower shank substantially parallel to said upper shank and offset therefrom so that said hammer handle is leveraged about said offset between said upper and lower shanks wherein the lower shank is at least about as long as said upper shank and said offset connects said upper and lower shanks by a gradual compound curved section adapted to serve as a gripping region; and

b a hammer head having at least one striking face wherein the striking face is substantially parallel to a plane containing said upper and lower shanks and said curved handle section.

2. The hammer of claim **1** wherein said upper shank is offset at least about ¾ inch from said lower shank.

3. The hammer of claim **1** wherein the substantially straight lower shank is at least about 6 inches in length.

4. The hammer of claim **1** wherein the substantially straight upper shank is at least about one-half the length of the lower shank.

5. The hammer of claim **1** wherein the upper shank and lower shank are offset by and connected by a compound curved section which is in a straight-line alignment with said striking face.

6. The hammer of claim **1** wherein the length of the curved handle section is less than the length of said lower shank.

7. The hammer of claim **1** wherein the hammer head has attached thereto a clip for holding a plate-like shingle in a position projecting beyond the top surface of said hammer head.

8. The hammer of claim **1** wherein a knife element is replaceably attached to the hammer head.

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