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(54) ROOF RIPPER

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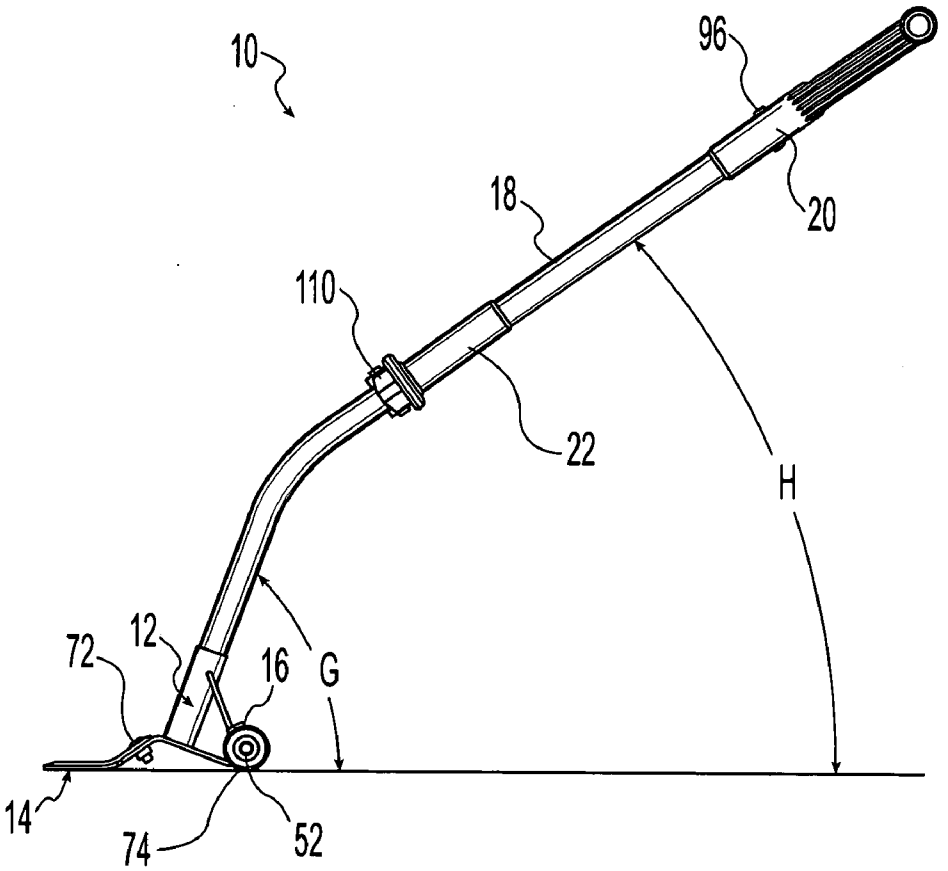
(57) ABSTRACT

A shingle removal tool includes a base, a forwardly extending blade, and a rearwardly extending shaft. A pair wheels are rotatable about a laterally extending axis located rearward of the blade. The blade has a planar portion forming a leading edge. The shaft has an obtuse angle forming a forward portion having a central axis which intersects the plane formed by the planar portion between the planar portion and the wheels and a rearward portion which intersects the plane formed by the planar portion forward of the planar portion. A rear grip can be mounted to the shaft either rigidly or for impact absorption and a fore grip can be adjustable along the shaft.



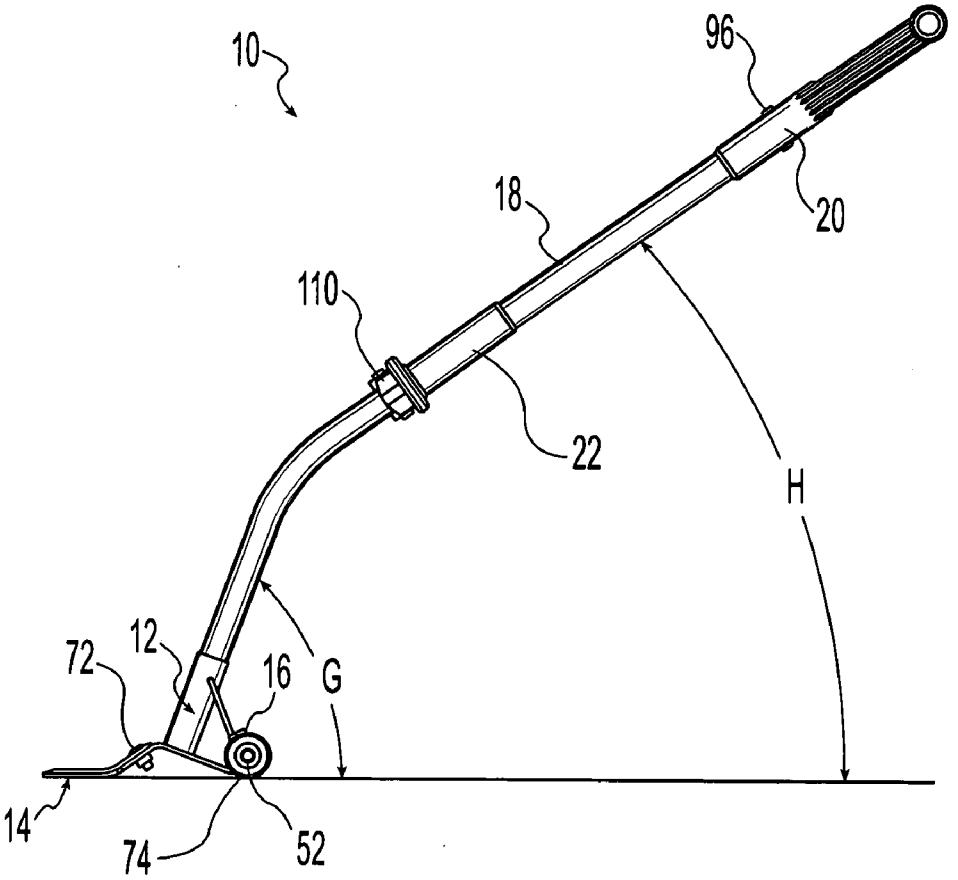

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Fig. 1

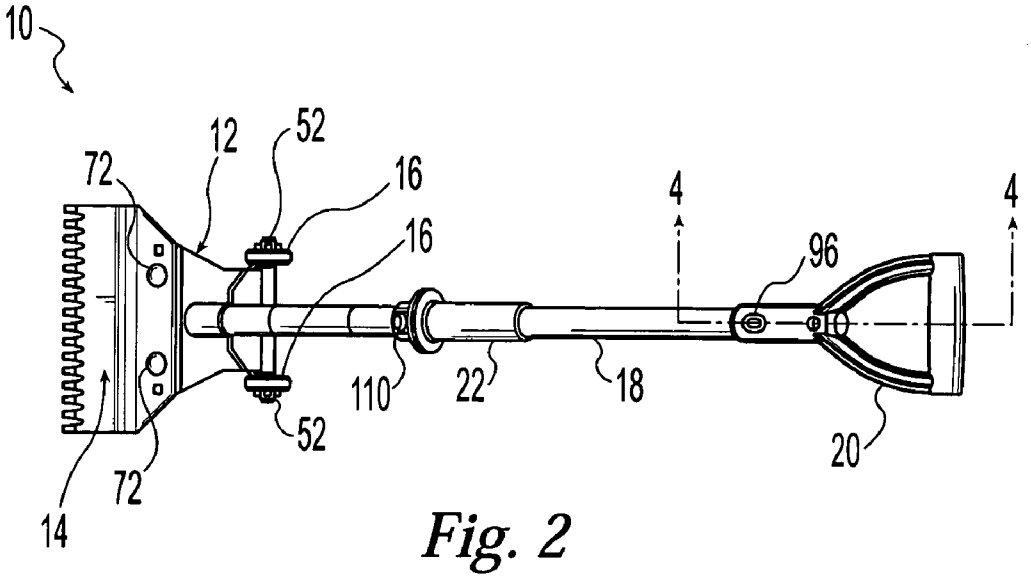
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Fig. 2

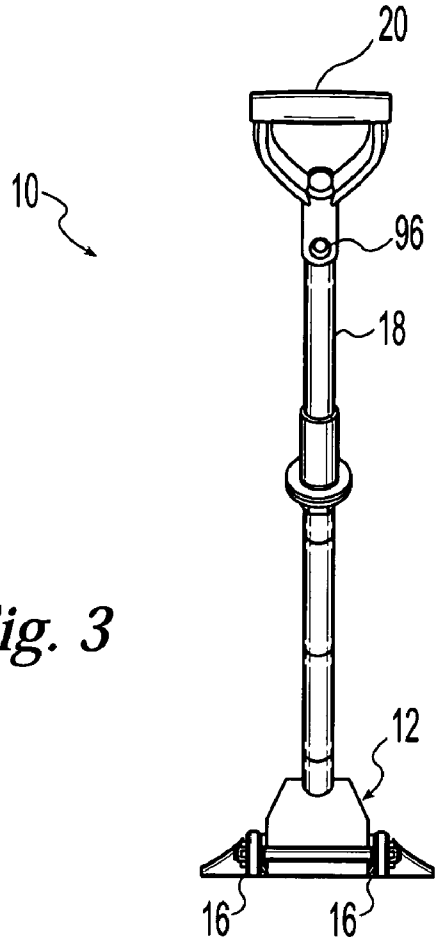

Fig. 3

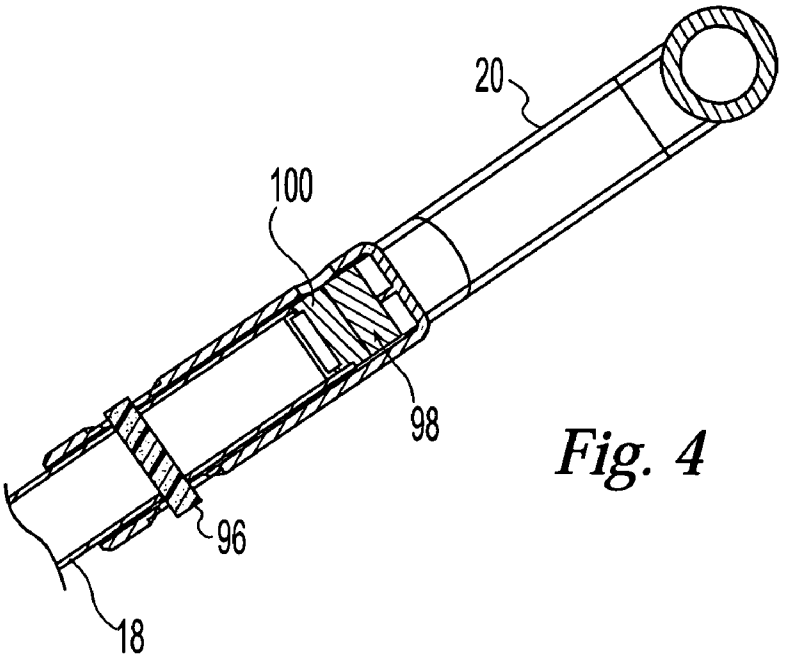

Fig. 4

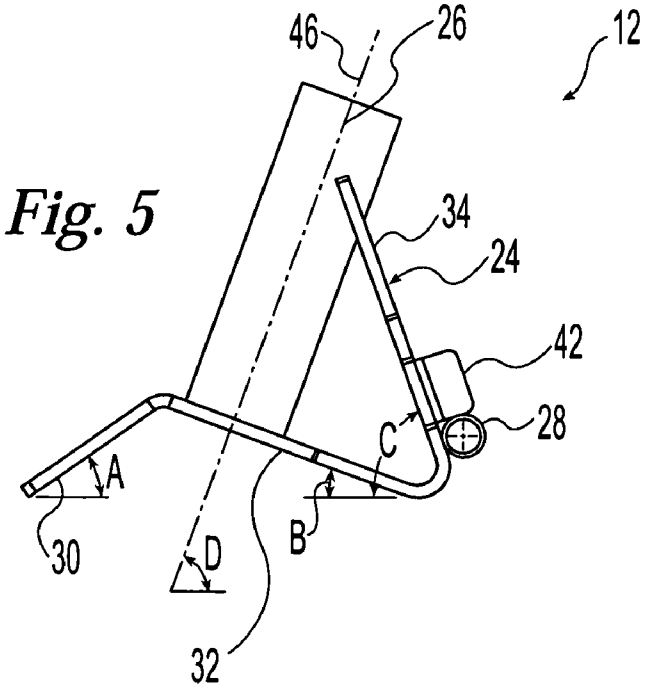
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Fig. 5

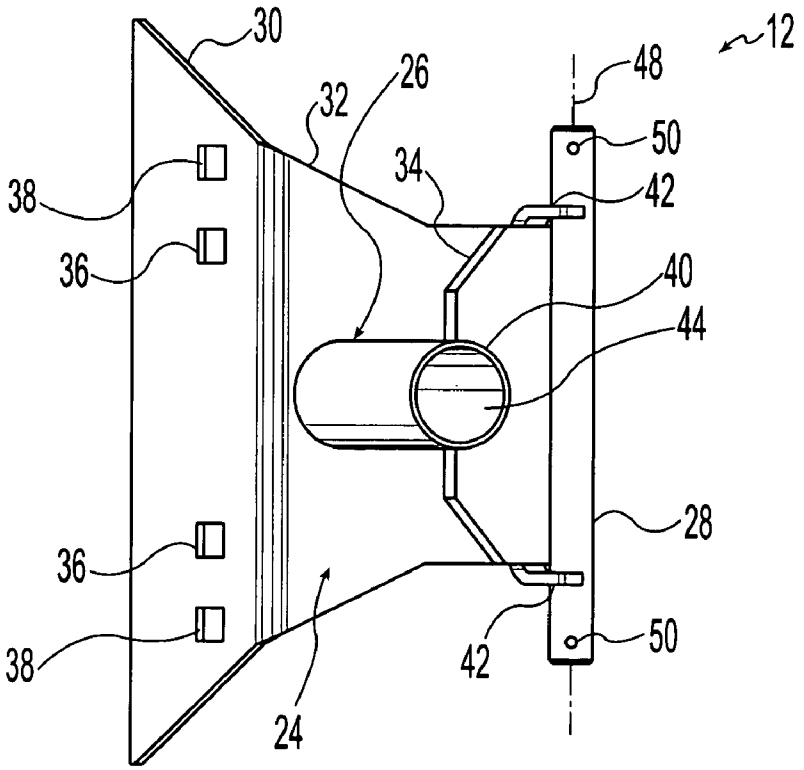
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Fig. 6

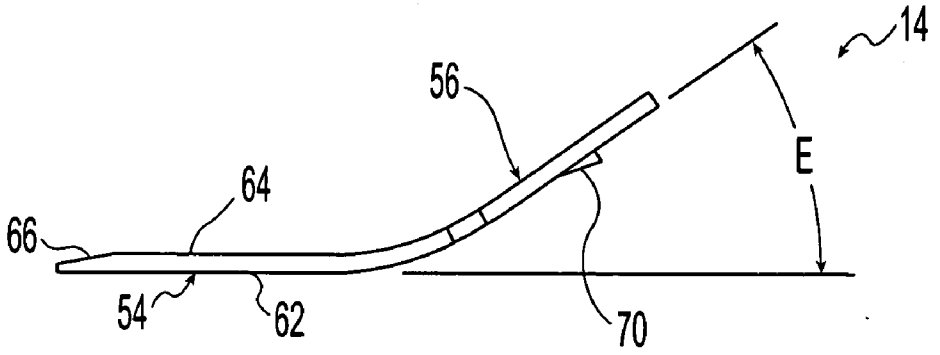

Fig. 7

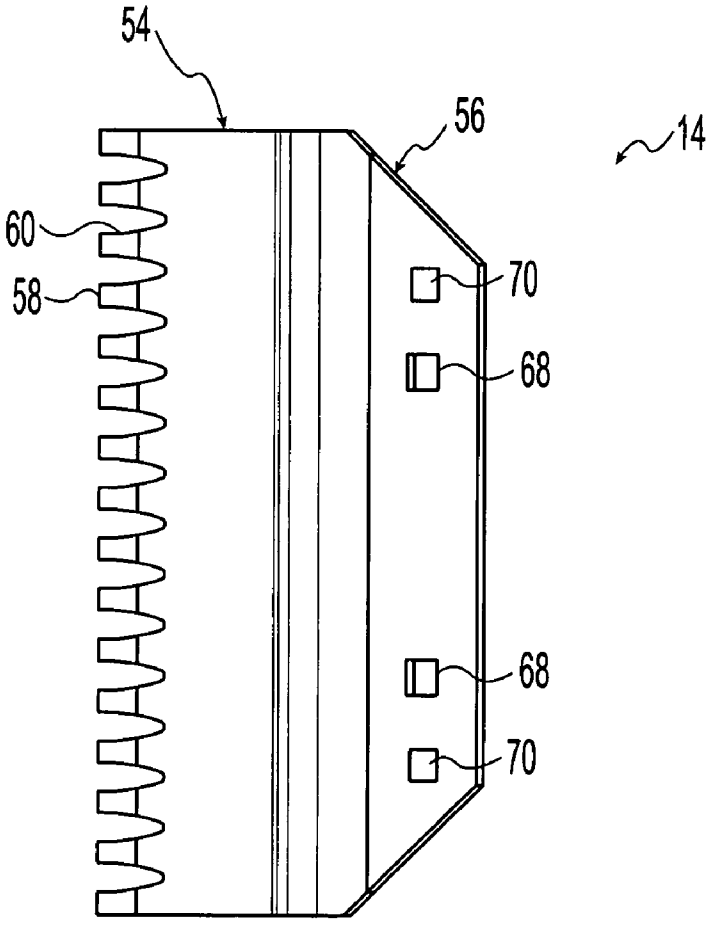

Fig. 8

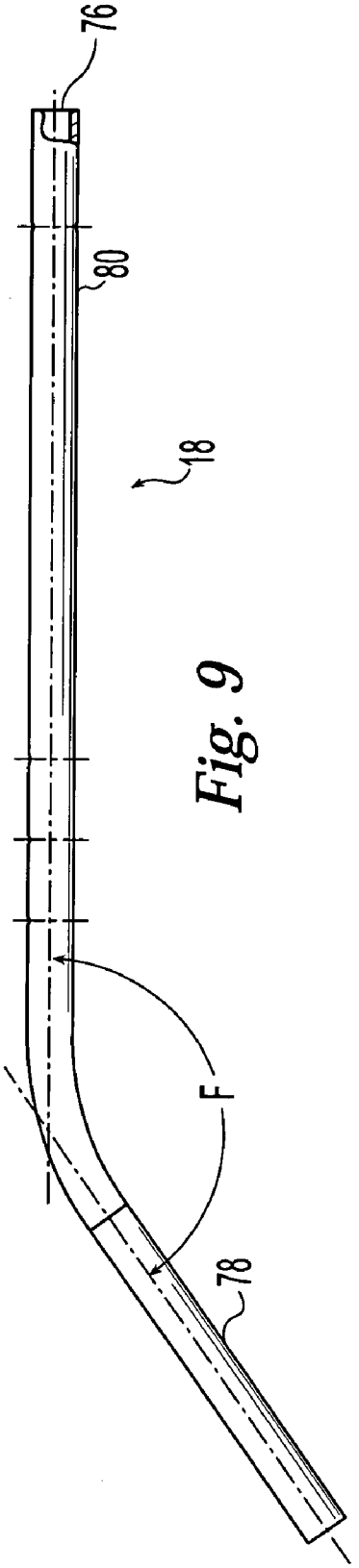

Fig. 9

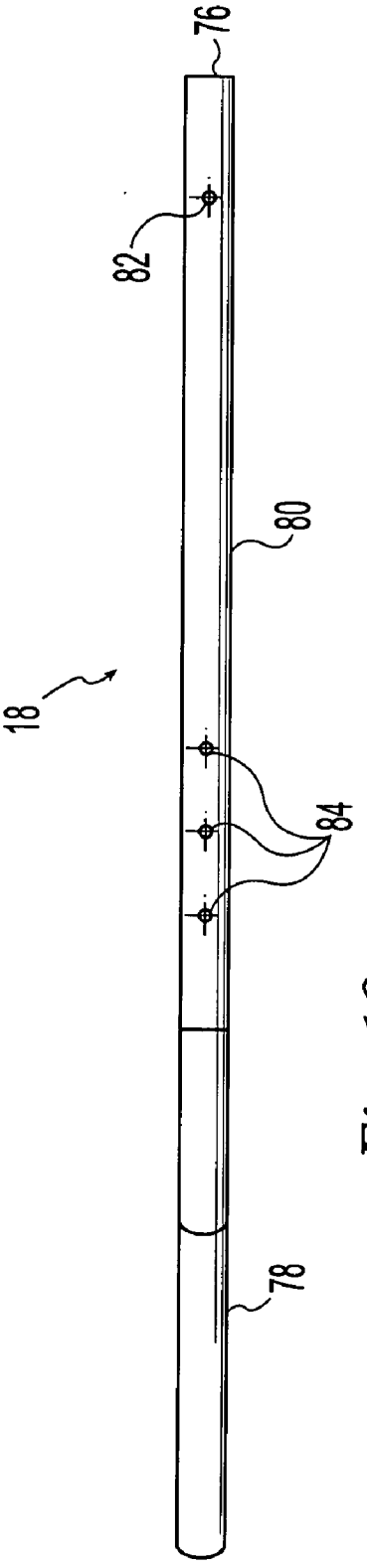

Fig. 10

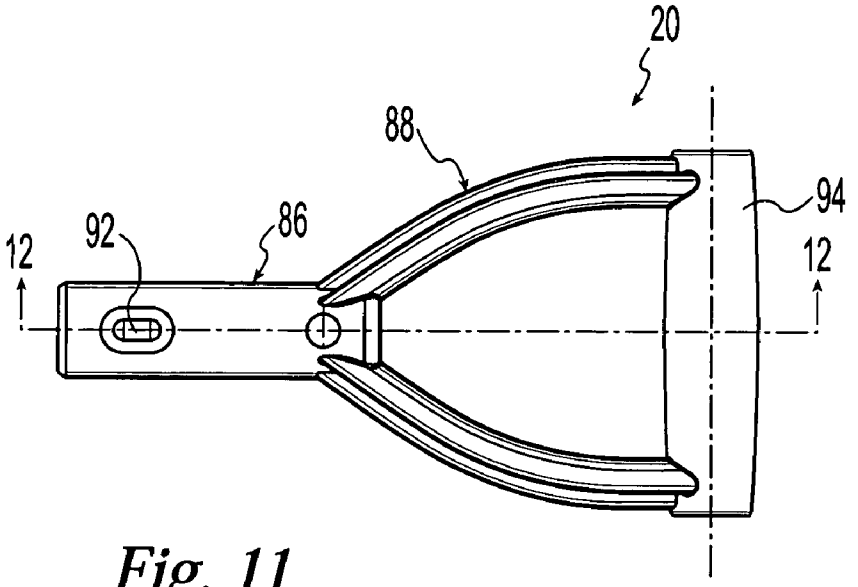

Fig. 11

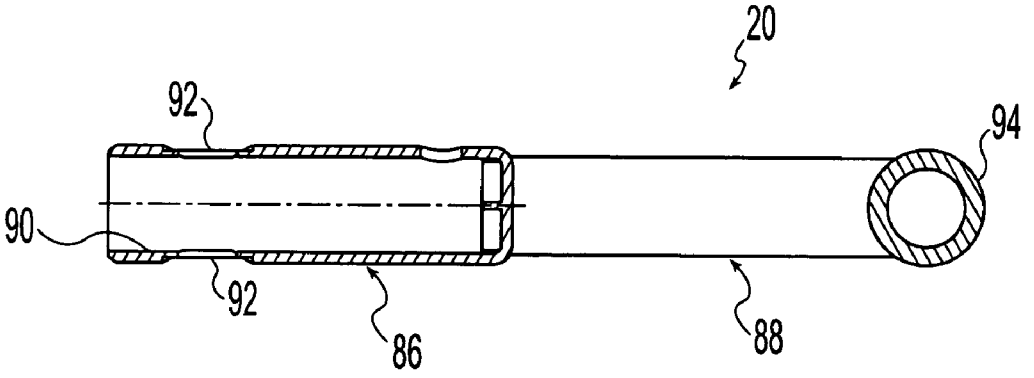

Fig. 12

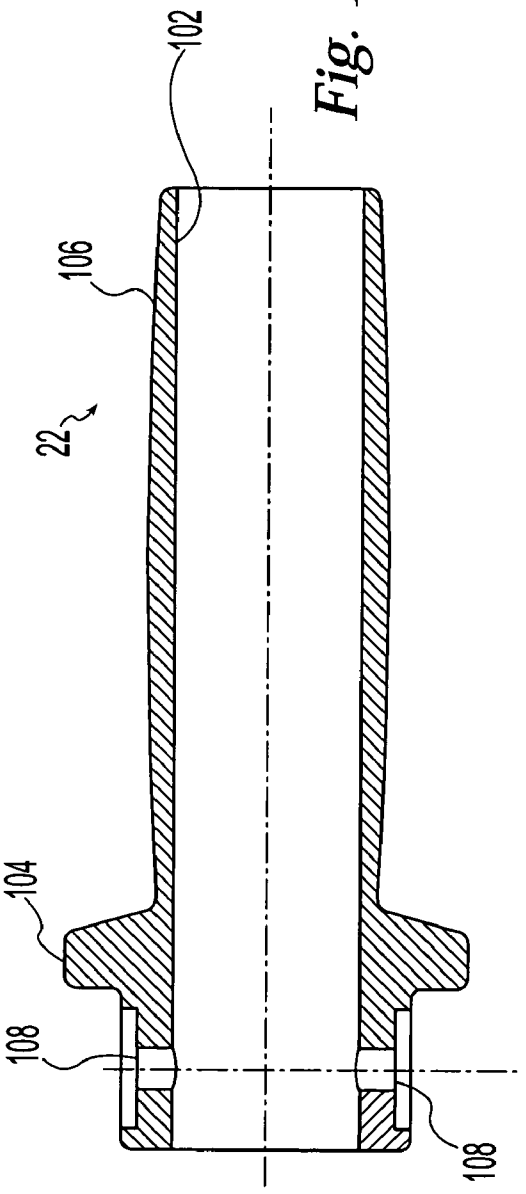

Fig. 13

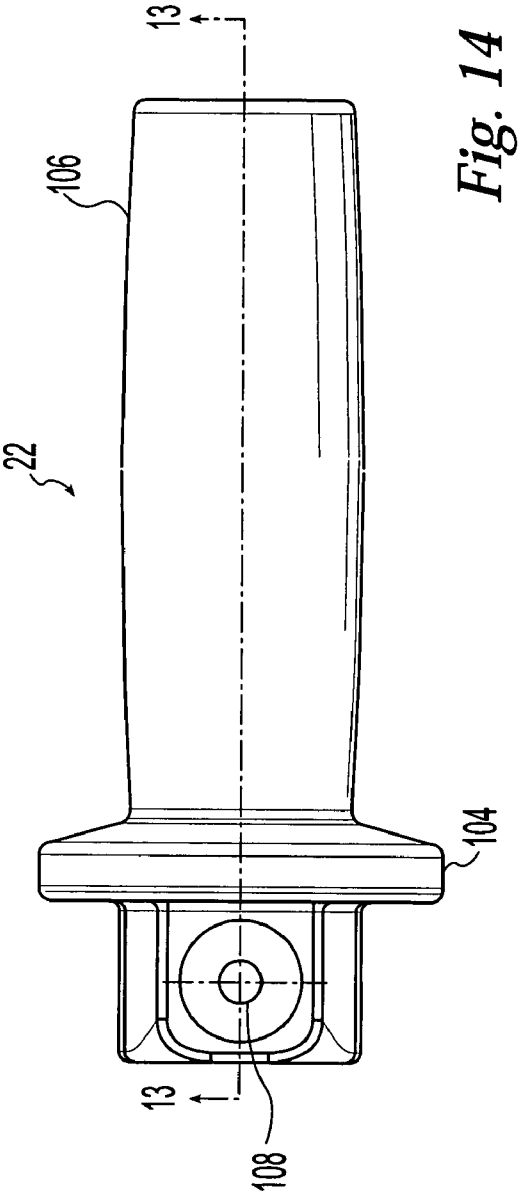

Fig. 14

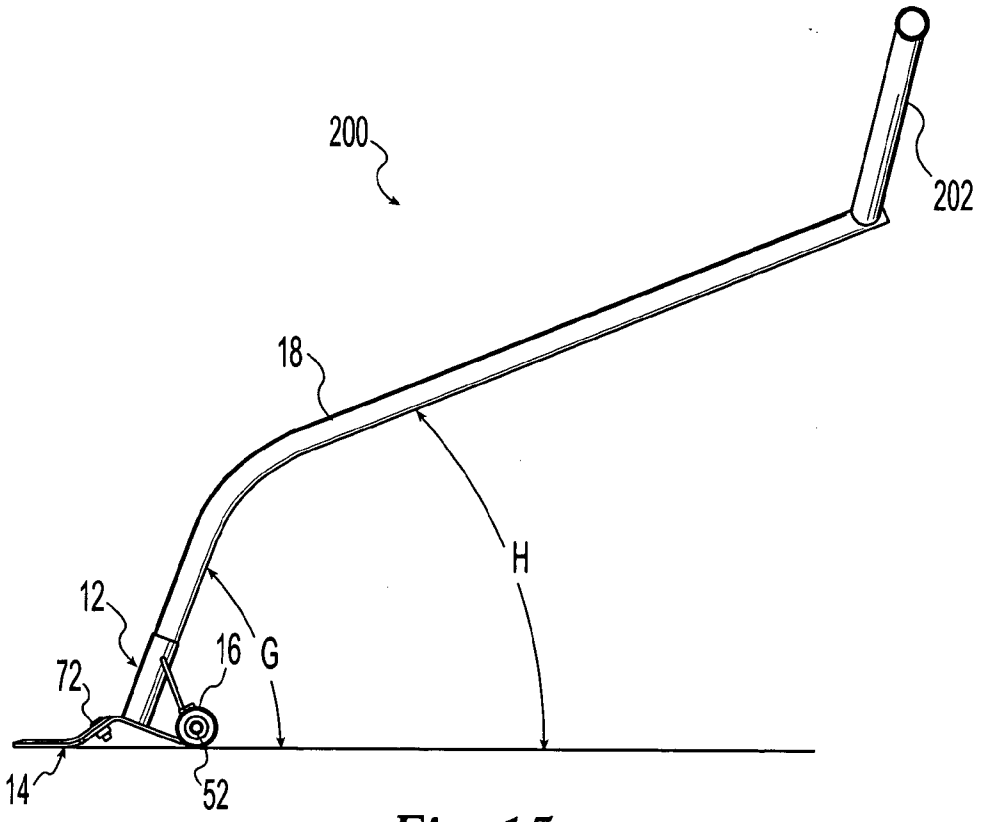

Fig. 15

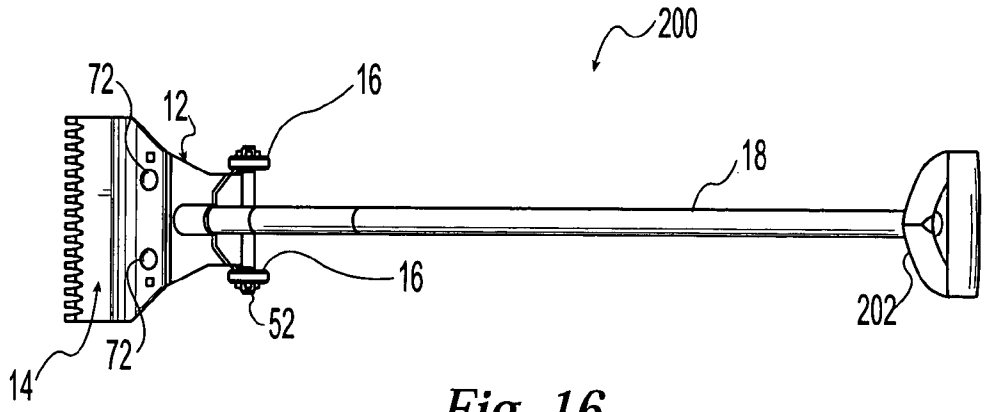

Fig. 16

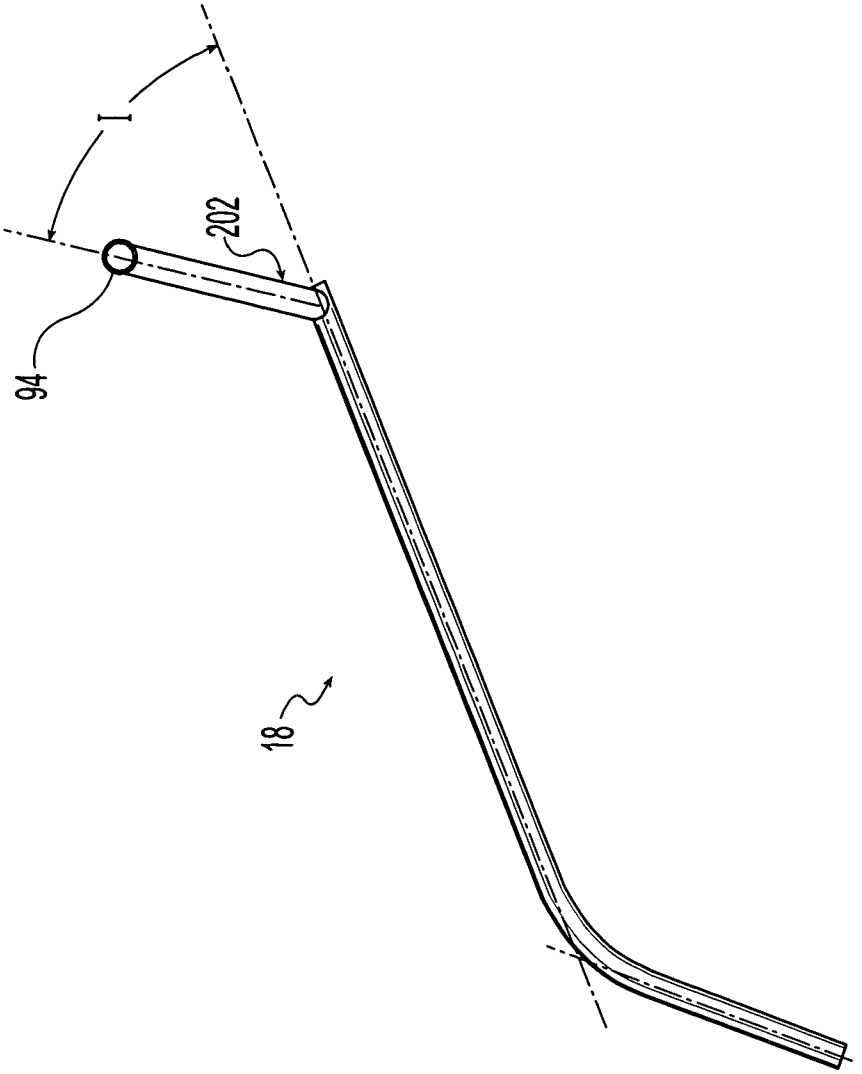

Fig. 18

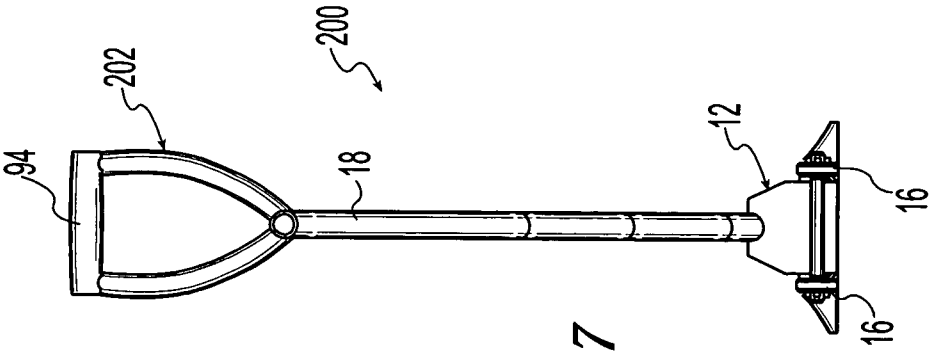

Fig. 17

ROOF RIPPER

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH

[0002] Not Applicable

REFERENCE TO MICROFICHE APPENDIX

[0003] Not Applicable

FIELD OF THE INVENTION

[0004] The present invention generally relates to tools and, more particularly, to roof rippers or tools for removing roofing shingles, tar paper, nails and other like roofing materials.

BACKGROUND OF THE INVENTION

[0005] Roofs of buildings are often covered by shingles. The shingles are generally planar and somewhat soft and flexible The shingles are installed in series one next to the other and overlying, in staggered fashion, a lower coarse of similar shingles. The shingles are typically installed over a layer of roofing felt, tar paper, or the like. The shingles are normally nailed to the roof with roofing nails that have wide, flat heads so that they can securely hold the soft shingle material. The nails of one coarse of shingles are covered by the next overlying coarse of shingles. The nails are unexposed to protect the nails from the elements.

[0006] When the roof needs re-shingled, a second layer of shingles can be placed of the first layer of shingles in some instances but it is usually not possible to add a third or more layer of shingles because the roof structure may not be able to support the added weight of the additional layers of shingles. Therefore, the old layer or layers of shingles must be removed and discarded prior to installing the new shingles. Shingle removal is a labor intensive process and numerous shingle removing tools have been devised for assisting a roofer to remove roofing materials.

[0007] Removing shingles is time-consuming and tedious task at least partly because the shingles cover the nails and it is not usually possible to merely raise the flap of one shingle to gain access to the nails. It is typically difficult and inconvenient to gain access to the nails. Shingle removal tools or pry bars of various designs have been proposed which have a blade which is slid between the shingles and the roof. The blade is often provided with slots or notches to engage the nails so that a nail or group of nails can be pried up from the roofing boards to remove the shingles. While such tools may assist in removing the shingles, the removal process remains a physically demanding operation. Accordingly, there is a need in the art for an improved shingle removal tool which eases removal of the shingles from the roof and/or reduces fatigue of the user.

SUMMARY OF THE INVENTION

[0008] The present invention provides a shingle removal tool which overcomes at least some of the above-noted problems of the related art. According to the present invention, a shingle removal tool includes, in combination, a base and a blade forwardly extending from the base. The blade has a planar portion forming a leading edge. An elongate shaft rearwardly extends from the base. A pair of wheels are rotatably attached to the base rearward of the blade. The wheels are laterally spaced apart and have a common rotational axis.

[0009] According to another aspect of the present invention, a shingle removal tool includes, in combination, a base; a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. At least one wheel is rotatably attached to the base rearward of the blade. The blade has a planar portion forming a leading edge. The shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the at least one wheel and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

[0010] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. The blade forms a leading edge. A rear grip has a passage slidably receiving a rear end of the shaft therein such that the rear grip is axially moveable relative to the shaft. A body of resilient material is located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

[0011] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. The blade forms a leading edge. A rear grip located at a rear end of the shaft and a fore grip is located along the shaft.

[0012] According to yet another aspect of the present invention, a shingle removal tool includes, in combination, a base, a blade forwardly extending from the base, and an elongate shaft rearwardly extending from the base. A pair of laterally spaced apart wheels are rotatable about a laterally extending axis of rotation located rearward of the blade. The blade has a planar portion forming a leading edge and the blade and the wheels are positioned such that a plane formed by the planar portion of the blade is substantially tangent to a radial peripheries of the wheels. The shaft has an obtuse angle forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the wheels and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade. A rear grip is located at a rear end of the shaft.

[0013] From the foregoing disclosure and the following more detailed description of various preferred embodiments it will be apparent to those skilled in the art that the present invention provides a significant advance in the technology of tools for removing roofing materials such as shingles. Particularly significant in this regard is the potential the invention affords for providing a high quality, reliable, easily assembled and disassembled, low cost assembly with improved operational performance. Additional features and advantages of various preferred embodiments will be better understood in view of the detailed description provided below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] These and further features of the present invention will be apparent with reference to the following description and drawings, wherein:

[0015] **FIG. 1** is a left side elevational view of a shingle removal tool according to a first embodiment of the present invention;

[0016] **FIG. 2** is a top plan view of the shingle removal tool of **FIG. 1**;

[0017] **FIG. 3** is a rear elevational view of the shingle removal tool of **FIGS. 1 and 2**;

[0018] **FIG. 4** is a cross-sectional view taken along line **4-4** of **FIG. 2**;

[0019] **FIG. 5** is an enlarged left side elevation view of a base of the shingle removal tool of FIGS. **1** to **4**;

[0020] **FIG. 6** is a top plan view of the base of **FIG. 5**;

[0021] **FIG. 7** is an enlarged left side elevation view of a blade of the shingle removal tool of FIGS. **1** to **4**;

[0022] **FIG. 8** is a top plan view of the blade of **FIG. 7**;

[0023] **FIG. 9** is an enlarged left side elevation view of a shaft of the shingle removal tool of FIGS. **1** to **4**;

[0024] **FIG. 10** is a top plan view of the shaft of **FIG. 9**;

[0025] **FIG. 11** is an enlarged top plan view of a rear grip of the shingle removal tool of FIGS. **1** to **4**;

[0026] **FIG. 12** is a cross-sectional view taken along line **12-12** in **FIG. 11**;

[0027] **FIG. 13** is an enlarged top plan view of a fore grip of the shingle removal tool of FIGS. **1** to **4**;

[0028] **FIG. 14** is a cross-sectional view taken along line **14-14** in **FIG. 13**;

[0029] **FIG. 15** is a left side elevational view of a shingle removal tool according to a second embodiment of the present invention;

[0030] **FIG. 16** is a top plan view of the shingle removal tool of **FIG. 15**;

[0031] **FIG. 17** is a rear elevational view of the shingle removal tool of **FIGS. 15 and 16**; and

[0032] **FIG. 18** is an enlarged left side elevation view of a shaft of the shingle removal tool of FIGS. **15** to **17**.

[0033] It should be understood that the appended drawings are not necessarily to scale, presenting a somewhat simplified representation of various preferred features illustrative of the basic principles of the invention. The specific design features of the shingle removal tool as disclosed herein, including, for example, specific dimensions, orientations, and shapes of the various components will be determined in part by the particular intended application and use environment. Certain features of the illustrated embodiments have been enlarged or distorted relative to others to facilitate visualization and clear understanding. In particular, thin features may be thickened, for example, for clarity or illustration. All references to direction and position, unless otherwise indicated, refer to the orientation of the shingle removal tool illustrated in the drawings. In general, up or upward refers to an upward direction within the plane of the paper in **FIG. 1** and down or downward refers to a downward direction within the plane of the paper in **FIG. 1**. Also in general, fore or forward refers to a direction toward the front of the shingle removal tool and a leftward direction within the plane of the paper in **FIG. 1**. Furthermore in general, aft, rear or rearward refers to a direction toward the rear of the shingle removal tool and a rightward direction within the plane of the paper in **FIG. 1**.

DETAILED DESCRIPTION OF CERTAIN PREFERRED EMBODIMENTS

[0034] It will be apparent to those skilled in the art, that is, to those who have knowledge or experience in this area of technology, that many uses and design variations are possible for the improved tools disclosed herein. The following detailed discussion of various alternative and preferred embodiments will illustrate the general principles of the invention with reference to a tool for removing shingles. Other embodiments suitable for other applications will be apparent to those skilled in the art given the benefit of this disclosure.

[0035] The term "unitary" is used herein and in the claims to mean a member made of a single continuous material such as, for example, a single cast or molded part. The term "integral" is used herein and in the claims to mean members that are secured together such as, for example, two members connected by welding or bolts. The term "acute angle" is used herein and in the claims to mean an angle which is greater than 0 degrees and less than 90 degrees. The term "obtuse angle" is used herein and in the claims to mean an angle which is greater than 90 degrees and less than 180 degrees.

[0036] Referring now to the drawings, FIGS. **1** to **4** show a shingle removal tool **10** according to a preferred embodiment of the present invention. The illustrated shingle removal tool **10** includes a base **12**, a blade, **14** a pair of wheels **16**, a shaft or handle **18**, a rear grip **20**, and a fore grip **22**.

[0037] As best shown in **FIGS. 5 and 6**, the base **12** includes a frame **24**, a shaft support or connector **26**, and an axle **28**. The illustrated frame **24** includes unitary front, central and rear generally planar portions **30**, **32**, **34** which are formed by bending a generally flat plate. The front portion **30** is disposed at an acute angle A relative to horizontal such that it slopes upward in a rearward direction from a free or forward edge to a rearward edge. The illustrated front portion **30** is disposed at an acute angle A of about 35 degrees relative to horizontal but other suitable angles can be utilized. The front portion **30** is sized and shaped, provided with a plurality of openings **36**, **38** and formed at an angle which cooperates with the blade **14** for attachment and positioning of the blade **14** as discussed in more detail hereinafter. The central portion **32** extends rearwardly from the rearward edge of the front portion **30** and is disposed at an acute angle B relative to horizontal such that it slopes downward in a rearward direction from a forward edge to a rearward edge. The illustrated central portion **32** is disposed at an acute angle B of about 20 degrees relative to horizontal but other suitable angles can be utilized. The central portion **32** is provided with a notch or cut-out **40** at its free edge for receiving the shaft connector

26 therein. The central portion **32** is sized and shaped and formed at an angle which cooperates with the shaft connector **26** for attachment and positioning of the shaft **18** as discussed in more detail hereinafter. The rear portion **34** extends upwardly from the rearward edge of the central portion **32** and is disposed at an acute angle C relative to horizontal such that it slopes downward in a rearward direction from a free edge to a rearward edge connected to the rearward edge of the central portion **32**. The illustrated rear portion **34** is disposed at an acute angle C of about 70 degrees relative to horizontal but other suitable angles can be utilized. The rear portion **34** is provided with a pair of tabs **42** which rearwardly extend form opposite lateral edges of the rear portion **34** and are sized and shaped for attaching and supporting the axle **28** as described in more detail hereinafter. The rear portion **34** is sized and shaped and formed at an angle which supports the shaft connector **26** and the axle **28** as discussed in more detail hereinafter. The frame **24** is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred frame **24** is described in detail herein, the frame **24** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0038**] The illustrated shaft connector **26** is in the from of a tube having a central passage **44** sized for closely receiving a forward end of the shaft **18** as described in more detail hereinafter. The shaft connector **26** is rigidly secured to and extends from the upper surface of the frame central portion **32** with a central axis **46** extending at an acute angle D relative to horizontal such that it slopes upward in a rearward direction from a closed or forward end at the frame central portion **32** to a rearward or open end. The illustrated shaft connector **26** is disposed at an acute angle D of about 70 degrees relative to horizontal but other suitable angles can be utilized. The shaft connector **26** is formed of any suitable material such as, for example, a metal such as steel. The shaft connector **26** is rigidly secured to the frame **24** in any suitable manner such as, for example, welding. It is noted that while a preferred shaft connector **26** is described in detail herein, the shaft connector **26** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0039**] The illustrated axle **28** is a laterally extending rod or tube sized for rotatably attaching the wheels **16** to the frame **24** as described in more detail hereinafter. The axle **28** forms a horizontal and laterally extending rotational axis **48** for the wheels **16**. The opposed ends of the axle **28** are each provided with an opening **50** sized and shaped to receive a fastener **52**. See **FIGS. 1 and 2**) such as, for example, a cotter pin for retaining the wheels **16** on the axle **28**. Preferably, washers are provided between the wheels **16** and the fasteners **52**. The illustrated axle **28** is rigidly secured to the frame **24** at the rear surface of the frame rear portion **34** and below and engaging the tabs **42**. The axle **28** is formed of any suitable material such as, for example, a metal such as steel. The axle **28** is rigidly secured to the frame **24** in any suitable manner such as, for example, welding. It is noted that while a preferred axle **28** is described in detail herein, the axle **28** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention. For example, the axle **28** can alternatively be rotatable secured to the frame **24** with the wheels **16** rigidly secured to the axle **28**.

[**0040**] As best shown in **FIGS. 7 and 8**, the illustrated blade **14** includes unitary front or scraping and rear or connecting portions **54**, **56** which are each generally planar and formed by bending a generally flat plate. The scraping portion **54** extends horizontally from a forward or leading edge **58** to a rearward edge. The leading edge **58** of the scraping portion **54** is provided with a plurality of laterally spaced apart slots or notches **60** sized and shaped to receive the shanks of nails therein. The lower surface **62** of the illustrated scraping portion **54** is substantially flat. The upper surface **64** of the scraping portion **54** is also substantially flat except for a taper **66** at the leading edge **58** to form a relatively sharp leading edge **58** which slips under the shingles more easily. The connecting portion **56** extends rearwardly from the rearward edge of the scraping portion **54** and is disposed at an acute angle E relative to horizontal such that it slopes upward in a rearward direction from a forward edge connected to the scraping portion **54** to a free or rearward edge. The illustrated connecting portion **56** is disposed at an acute angle E of about 35 degrees relative to horizontal but other suitable angles can be utilized. The connecting portion **56** is sized and shaped to cooperate with the forward portion of the base frame **24** in order to rigidly connect the blade **14** to the base **12**. The connecting portion **56** is provided with a pair of openings **68** and a pair of downwardly extending positioning tabs **70** which respectively cooperate with the openings **36**, **38** in the front portion **30** of the base frame **24**. The blade **14** is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred blade **14** is described in detail herein, the blade **14** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0041**] As best shown in **FIGS. 1 and 2**, the illustrated blade **14** is removably and rigidly attached to the base **12** by a pair of fasteners **72** in the form of bolts with associated lock nuts. The blade **14** is positioned with the connecting portion **56** located above and engaging the front portion **30** of the base frame **24** with the fasteners **72** extending through the openings **36**, **68** in both the base frame **24** and the blade **14**. The tabs **70** of the blade **14** downwardly extend into the other openings **38** in the frame **24** to locate the desired position of the blade **14** relative to the frame **24** and to provide additional strength. The blade **14** is preferably removably attached to the base **12** so that the blade **14** can be replaced by the user whenever the blade **14** is damaged or worn out. It is noted that while the illustrated blade **14** is removably attached to the base frame **24** by the fasteners **72**, the blade **14** can alternatively be unitary with the base frame **24**, attached by suitable non-removable means, or attached by other suitable types of removable means within the scope of the present invention.

[**0042**] As best shown in FIGS. **1** to **3**, the illustrated pair wheels **16** are located on the opposed ends of the axle **28** and are rotatable about the rotational axis **48** formed by the longitudinal axis of the axle **28**. The illustrated wheels **16** are retained on the axle **28** by removable cotter pins **52** extending through the openings **50** in the axle **28**. It is noted that while the illustrated wheels **16** are removably retained to the axle **28** by the cotter pins **52**, the wheels **16** can alternatively be retained by suitable non-removable means or retained by other suitable types of removable means within the scope of the present invention. The wheels **16** are preferably removably mounted so that they can be easily replaced when

damaged or worn out. Mounted in this location the illustrated wheels **16** are laterally spaced apart and located rearward of the blade **14** and base frame **24** and above the lower surface **62** of the blade **14**. The wheels **16** are preferably laterally spaced apart a distance adequate to provide some lateral stability but less than the lateral width of the blade leading edge **58**. The wheels **16** are preferably positioned such that the lower surface **62** of the blade **14** is substantially tangent to the outer radial periphery or contacting surface **74** of the wheels **16**. Positioned in this manner the lower surface **62** of the blade scraping portion **54** is generally parallel to the support surface when the wheels **16** are engaging the support surface and the support surface is planar or flat which allows the wheels **16** to roll along the support surface as the blade **14** slides or scrapes along the support surface. The wheels **16** are formed of any suitable material such as, for example, a metal such as steel or a polymer such as Urethane. The wheels **16** are preferably formed of a material which is softer than the material of the axle **28** so that the wheels **16** rather than the axle **28** wears upon rotation of the wheels **16** on the axle **28**. It is noted that while preferred wheels **16** and wheel locations are described in detail herein, the wheels **16** can alternatively have other suitable sizes, locations, shapes, and materials within the scope of the present invention. It is also noted that more than two wheels **16** can be utilized, only one wheel **16** can be utilized, or the wheels **16** can be removed within the scope of the invention.

[**0043**] As best shown in **FIGS. 9 and 10**, the illustrated shaft **18** is in the form of a tube having a central passage **76** extending between open forward and rearward ends. The shaft **18** preferably has a bend at an obtuse angle F connecting forward and rearward portions **78**, **80**. The bend is preferably sized to facilitate clearance for the user's legs when using the tool **10** in a sitting position as well as improving ergonomics of the user. The illustrated shaft **18** has a bend with an obtuse angle F of about 145 degrees but other suitable obtuse angles can be utilized. The bend has an obtuse angle preferably in the range of about 115 to about 175 degrees and more preferably in the range of about 130 to about 160 degrees. The rearward portion **80** is preferably longer than the forward portion **78** and more preferably has a length about twice the length of the forward portion **78**. The illustrated shaft **18** is provided with an opening **82** in the rearward portion **80** near the rearward end for attaching the rear grip **20** as described in more detail hereinafter. The illustrated shaft **18** is also provided with a plurality of axially spaced apart openings **84** in the rearward portion near the bend for attaching the fore grip **22** as described in more detail hereinafter. The shaft **18** is formed of any suitable material such as, for example, a metal such as steel. It is noted that while a preferred shaft **18** is described in detail herein, the shaft **18** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0044**] As best shown in FIGS. **1** to **3**, the illustrated shaft **18**, is rigidly secured to the base **12**. The forward end of the shaft **18** is located within the base shaft connector **26**. Positioned in this manner, the forward portion **78** of the shaft **18** forms an obtuse angle G relative to the scraping portion **54** of the blade **14**. The illustrated obtuse angle G is about 110 degrees but other suitable angles can be utilized. The rearward portion **80** of the shaft **18** also forms an obtuse angle H relative to the scraping portion **54** of the blade **14**. The illustrated obtuse angle H is about 145 degrees but other suitable angles can be utilized. Thus the central axis of the forward portion **78** of the shaft **18** intersects the plane formed by the blade scraping portion **54** at a point to the rear of the blade **14** and forward of the wheels **16** while the rearward portion **80** of the shaft **18** is at a larger obtuse angle such that the central axis of the rearward portion **80** of the shaft **18** intersects the intersects the plane formed by the blade scraping portion **54** at a point forward of the blade **14**. The illustrated shaft **18** is secured to the base **12** by welding. It is noted that while the illustrated shaft **18** is non-removably attached to the base frame **24** by welding, the shaft **18** can alternatively be unitary with the base frame **24**, attached by suitable removable means, or attached by other suitable types of non-removable means within the scope of the present invention.

[**0045**] As best shown in **FIGS. 11 and 12**, the rear grip **20** includes a tubular connecting portion **86** and a D-shaped grasping portion **88**. The connecting portion **86** is generally tubular shaped forming a central passage **90** sized and shaped for slidably receiving the rearward end of the shaft **18** therein as described in more detail hereinafter. The passage **90** has an open or forward end and a closed or rearward end at the grasping portion **88**. A pair of opposed slots **92** are provided on opposite sides of the passage **90** for attaching the rear grip **20** to the shaft **18** as described in more detail hereinafter. The grasping portion **88** extends rearwardly from the reward end of the connecting portion **86** and has a cylindrical-shaped gripping surface **94**. The illustrated gripping surface **94** horizontally and laterally extends substantially perpendicular to the longitudinal axis of the shaft **18**. The illustrated gripping surface **94** is also rearwardly spaced from the rearward end of the connecting portion **86**. The rear grip **20** is formed of any suitable material such as, for example, a plastic such as polypropylene. It is noted that while a preferred rear grip **20** is described in detail herein, the rear grip **20** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0046**] As best shown in FIGS. **1** to **4**, the illustrated rear grip **20** is attached to the shaft **18** in an axially slidable manner. The rearward end of the shaft **18** is slidably received in the passage **90** of the connecting portion **86** such that the rear grip **20** can axially move relative to the shaft **18**. Axial movement of the rear grip **20** is limited by a pin or fastener **96** engaging ends of the slots **92**. The illustrated fastener **96** is a cotter pin secured by a washer and retaining ring but any other suitable fastener or pin **96** can be utilized within the scope of the present invention. The illustrated fastener **96** extends through the opening **82** in the shaft and through the slots **92** in the rear grip **20**. The fastener **96** stays in a fixed position relative to the shaft **18** and engages ends of the slots **92** to limit axial movement as the rear grip **20** slides relative to the shaft **18** and fastener **96**. It is noted that while a preferred attachment arrangement is described in detail herein, the rear grip **20** can alternatively be slidably attached in other suitable manners and/or have other suitable means for limiting axial movement of the rear grip **20** within the scope of the present invention.

[**0047**] As best shown in **FIG. 4**, a body of resilient and impact resistant material or shock absorber **98** is located within the connecting portion **86** between the rearward end of the shaft **18** and the closed end of the passage **90**. In this

position, the material **98** is in coaxial alignment between the shaft **18** and the rear grip **20**. The body **98** preferably substantially fills the passage **90** when the rear grip **20** is in its full rearward position and biases the rear grip **20** to its full rearward position. During use of the tool **10**, the body **98** resiliently permits axial movement between the rear grip **20** and the shaft **18** to at least partially absorb impacts transmitted through the shaft **18**. The illustrated body **98** is disk shaped and sized and shaped to be closely received within the passage **90** of the rear grip connecting portion **86**. The rearward end of the illustrated shaft **18** is provided with a plug **100** to fill the opening and provide a planar engagement surface for the body **98** which is the size of the rearward end of the shaft **18**. The body **98** is formed of any suitable impact absorbing material such as, for example, a foam such as polyurethane foam. It is noted that while a preferred impact absorbing body **98** is described in detail herein, the body **98** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention. When in use, energy is transferred from the shaft **18** to the material **98** whereby the material **98** is compressed between the shaft **18** and the rear grip **20** to absorb some of the energy.

[**0048**] As best shown in **FIGS. 13 and 14**, the illustrated fore grip **22** is generally tubular-shaped having a central passage **102** sided and shaped to slidably receive the shaft **18** therethrough so that the grip **22** is coaxially adjustable along the shaft **18**. The illustrated fore grip **22** is provided with a flange **104** near the forward end which radially extends about the circumference of the fore grip **22**. Rearward of the flange **104**, a cylindrically shaped gripping surface **106** is provided which is coaxial with the shaft **18**. The illustrated fore grip **22** also includes a pair of openings **108** located on opposite sides of the passage **102** near the forward end of the fore grip **22**. The openings **108** are sized and shaped to receive a fastener **110** such as the illustrated bolt washer and lock nut. The fastener **110** extends through one of the openings **84** in the shaft **18** and the opposed openings **108** in the fore grip **22** to rigidly and removably secure the fore grip **22** to the shaft **18**. The position of the fore grip **22** can be axially adjusted along the length of the shaft **18** to a plurality of predetermined fixed positions by moving the fastener **110** to one of the other openings **84**. By adjusting the grip **22** to a position suitable for a particular user, the grip **22** is more likely to keep the user's hand from slipping off of the shaft **18**. The illustrated fore grip **22** can be moved to any one of three predetermined and fixed axial positions but alternatively there can be a greater or lesser number of fixed positions within the scope of the present invention. It is noted that while a preferred fore grip position adjusting means is described in detail herein, the fore grip **22** can alternatively have other types of position adjusting means. It is also noted that while the preferred fore grip **22** is movable between predetermined fixed axial positions described in detail above, the fore grip **22** can alternatively be in a permanent fixed axial position or be infinitely axially adjustable within the scope of the present invention. The fore grip **22** can also be eliminated if desired.

[**0049**] During operation of the tool **10**, the operator places one hand on the fore grip **22** and their other hand on the rear grip **20**. The fore grip **22** is adjusted to an axial position along the shaft **18** which is the most comfortable and/or provides the best leverage for the user to prevent the user's hand from slipping off of the shaft **18** during use. Both the lower surface **62** of the blade scraping portion **54** and the wheels **16** contact and support the tool **10** on the roof. The laterally spaced-apart wheels **16** provide lateral stability of the tool **10** and reduce friction so that the user has improved control of the tool **10**. The bent shaft **18** enables the user to sit on a sloping roof with the shaft **18** located above their legs. The operator provides a forward force to the grips **20**, **22** so that the blade scraping portion **54** slides under a shingle or shingles. The wheels **16** and the ergonomically shaped shaft **18** reduce the force required to produce the forward motion of the tool **10**. When the leading edge of the blade **14** contacts a nail or nails, the rear grip **20** axially slides forward relative to the shaft **18** as the body **98** compresses and at least partially absorbs the impact. It is noted that the shape of the shaft **18** and rear grip **20** also lessons any impact on the user. The nails are received in the slots **60** in the blade **14** and the operator provides a downward force on the rear grip **20** to pivot the tool about a fulcrum **112** formed by the wheels to raise the blade **14** and pry out the nails. The shingle is then loose from the roof and can be discarded. The process is continued until all of the shingles have been removed from the roof.

[**0050**] FIGS. **15** to **17** show a shingle removal tool **200** according to a second preferred embodiment of the present invention. The shingle removal tool **200** is substantially the same as the shingle removal tool **10** described in detail hereinabove except that the fore grip **22** is eliminated and a rear grip **202** is rigidly mounted and integral with the shaft **18**. It is noted that like reference numbers are utilized to identify like structure between the embodiments. It is also noted that the fore grip **22** can be included if desired.

[**0051**] As best shown in **FIG. 18**, the illustrated rear grip **202** is rigidly mounted to the rearward end of the shaft **18**. The rearward grip **202** is generally D-shaped and upwardly extends forming an acute angle I with the axis of the shaft **18**. The illustrated acute angle I is about 55 degrees but other suitable acute angles can be utilized within the scope of the present invention. The acute angle I is preferably in the range of about 45 to about 90 degrees and more preferably in the range of about 45 to about 65 degrees. The rear grip **202** forms a cylindrical-shaped gripping surface **94**. The illustrated gripping surface **94** horizontally and laterally extends substantially perpendicular to the longitudinal axis of the shaft **18**. The illustrated gripping surface **94** is also rearwardly and upwardly spaced from the rearward end of the shaft **18**. Positioned in this manner, impact loads transmitted through the shaft **18** to the user are reduced. Also, this configuration improves ergonomics of the user in a sitting position because the user can grab the sides of the grip **202** instead of the rear gripping surface. The rear grip **202** is formed of any suitable material such as, for example, a metal such as steel. The illustrated rear grip **202** is integral with the shaft **18** and secured by welding but other suitable attachment means can be utilized. It is noted that while a preferred rear grip **202** is described in detail herein, the rear grip **202** can alternatively have other suitable sizes, structures, shapes, and materials within the scope of the present invention.

[**0052**] It is apparent from the foregoing disclosure that the tools **10**, **200** according of the present invention not only ease removal of the shingles from the roof, but also reduces fatigue to the user.

[0053] It is noted that each of the features of the various embodiments of the present invention can be used in any combination. For example, the fixed handle of the second embodiment can be alternatively used the first embodiment and the adjustable fore grip of the first embodiment can alternatively be used with the second embodiment.

[0054] From the foregoing disclosure and detailed description of certain preferred embodiments, it will be apparent that various modifications, additions and other alternative embodiments are possible without departing from the true scope and spirit of the present invention. The embodiments discussed were chosen and described to provide the best illustration of the principles of the present invention and its practical application to thereby enable one of ordinary skill in the art to utilize the invention in various embodiments and with various modifications as are suited to the particular use contemplated. All such modifications and variations are within the scope of the present invention as determined by the appended claims when interpreted in accordance with the benefit to which they are fairly, legally, and equitably entitled.

What is claimed is:

1. A shingle removal tool comprising, in combination:

a base;

a blade forwardly extending from the base;

wherein the blade has a planar portion forming a leading edge an elongate shaft rearwardly extending from the base;

a pair of wheels rotatably attached to the base rearward of the blade; and

wherein the wheels are laterally spaced apart and have a common rotational axis.

2. The shingle removal tool according to claim 1, wherein the blade removably mounted to the base.

3. The shingle removal tool according to claim 1, wherein the blade and the wheels are positioned such that a plane formed by the planar portion of the blade is substantially tangent to a radial periphery of at least one of the wheels.

4. The shingle removal tool according to claim 1, wherein the shaft extends from the base at a location forward of the wheels.

5. The shingle removal tool according to claim 1, wherein the shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the wheels and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

6. The shingle removal tool according to claim 5, further comprising a rear grip having a passage slidably receiving a rear end of the rearward portion of shaft therein such that the rear grip is axially moveable relative to the shaft and a body of resilient material located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

7. The shingle removal tool according to claim 5, further comprising a rear grip rigidly secured to the rearward portion of the shaft and forming an acute angle with a central axis of the rearward portion of the shaft.

8. The shingle removal tool according to claim 1, wherein the wheels are rotatable about a laterally extending axle rigidly secured to the base.

9. The shingle removal tool according to claim 1, further comprising a rear grip located at a rearward end of the shaft and a fore grip located along the shaft.

10. The shingle removal tool according to claim 1, further comprising a rear grip having a passage slidably receiving a rear end of the shaft therein such that the rear grip is axially moveable relative to the shaft and a body of resilient material located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

11. The shingle removal tool according to claim 1, further comprising a fore grip located along the shaft and axially adjustable along the length of the shaft.

12. The shingle removal tool according to claim 11, wherein the position of the fore grip is axially adjustable along the length of the shaft to a plurality of predetermined positions.

13. A shingle removal tool comprising, in combination:

a base;

a blade forwardly extending from the base;

an elongate shaft rearwardly extending from the base;

at least one wheel rotatably attached to the base rearward of the blade;

wherein the blade has a planar portion forming a leading edge; and

wherein the shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the at least one wheel and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

14. The shingle removal tool according to claim 13, further comprising a rear grip having a passage slidably receiving a rear end of the rearward portion of shaft therein such that the rear grip is axially moveable relative to the shaft and a body of resilient material located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

15. The shingle removal tool according to claim 13, further comprising a rear grip rigidly secured to the rearward portion of the shaft and forming an acute angle with a central axis of the rearward portion of the shaft.

16. The shingle removal tool according to claim 13, wherein the shaft is a tube.

17. The shingle removal tool according to claim 13, further comprising a fore grip located along the rearward portion of the shaft and a rear grip located at a rear end of the rearward portion of the shaft.

18. The shingle removal tool according to claim 13, further comprising a fore grip located along rearward portion of the shaft and axially adjustable along the length of the rearward portion of the shaft.

19. The shingle removal tool according to claim 18, wherein the position of the fore grip is axially adjustable along the length of the shaft to a plurality of predetermined positions.

20. A shingle removal tool comprising, in combination:

a base;

a blade forwardly extending from the base;

an elongate shaft rearwardly extending from the base;

wherein the blade forms a leading edge;

a rear grip having a passage slidably receiving a rear end of the shaft therein such that the rear grip is axially moveable relative to the shaft; and

a body of resilient material located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

21. The shingle removal tool according to claim 20, wherein the body comprises plastic.

22. The shingle removal tool according to claim 21, wherein the body comprises polyurethane foam.

23. The shingle removal tool according to claim 20, further comprising at least one wheel rotatably attached to the base rearward of the blade.

24. The shingle removal tool according to claim 20, wherein the blade has a planar portion forming the leading edge and the shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the at least one wheel and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

25. The shingle removal tool according to claim 20, further comprising a fore grip located along the shaft.

26. The shingle removal tool according to claim 20, further comprising a fore grip located along the shaft and axially adjustable along the length of the shaft.

27. The shingle removal tool according to claim 26, wherein the position of the fore grip is axially adjustable along the length of the shaft to a plurality of predetermined positions.

28. A shingle removal tool comprising, in combination:

a base;

a blade forwardly extending from the base;

an elongate shaft rearwardly extending from the base;

wherein the blade forms a leading edge;

a rear grip located at a rear end of the shaft; and

a fore grip located along the shaft.

29. The shingle removal tool according to claim 28, wherein the fore grip is axially adjustable along the length of the shaft.

30. The shingle removal tool according to claim 29, wherein the position of the fore grip is axially adjustable along the length of the shaft to a plurality of predetermined positions.

31. The shingle removal tool according to claim 28, wherein the shaft is provided with a plurality of axially spaced apart openings for receiving a fastener to secure the fore grip at a plurality of alternative positions.

32. The shingle removal tool according to claim 28, further comprising at least one wheel rotatably attached to the base rearward of the blade.

33. The shingle removal tool according to claim 32, wherein the blade has a planar portion which forms the leading edge and the shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the at least one wheel and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade.

34. The shingle removal tool according to claim 28, wherein the rear grip has a passage slidably receiving a rear end of the shaft therein such that the rear grip is axially moveable relative to the shaft and a body of resilient material is located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

35. A shingle removal tool comprising, in combination:

a base;

a blade forwardly extending from the base;

an elongate shaft rearwardly extending from the base;

a pair of laterally spaced apart wheels rotatably about a laterally extending axis of rotation located rearward of the blade;

wherein the blade has a planar portion forming a leading edge;

wherein the shaft has an obtuse angle therein forming a forward portion having a central axis which intersects the plane formed by the planar portion of the blade between the planar portion of the blade and the wheels and a rearward portion which intersects the plane formed by the planar portion of the blade forward of the planar portion of the blade; and

a rear grip located at a rear end of the shaft.

36. The shingle removal tool according to claim 35, wherein the rear grip has a passage slidably receiving a rear end of the rearward portion of shaft therein such that the rear grip is axially moveable relative to the shaft and a body of resilient material is located between the rear grip and the shaft to absorb impacts as the rear grip axially moves forward relative to the shaft.

37. The shingle removal tool according to claim 35, wherein the rear grip is rigidly secured to the rearward portion of the shaft and forms an acute angle with a central axis of the rearward portion of the shaft.

38. The shingle removal tool according to claim 35, further comprising a fore grip located along the shaft and axially adjustable along the length of the shaft.

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