J. RYAN.

DETACHABLE AX.

APPLICATION FILED APR. 27, 1908.

911,075. Patented Feb. 2, 1909.

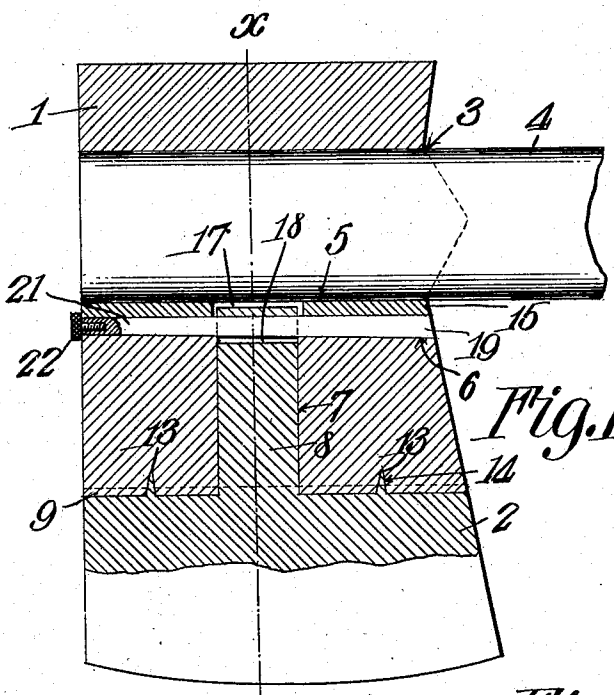


Fig. 1.

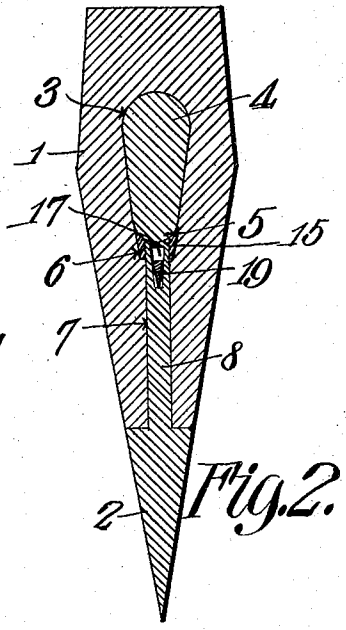


Fig. 2.



Fig. 5.

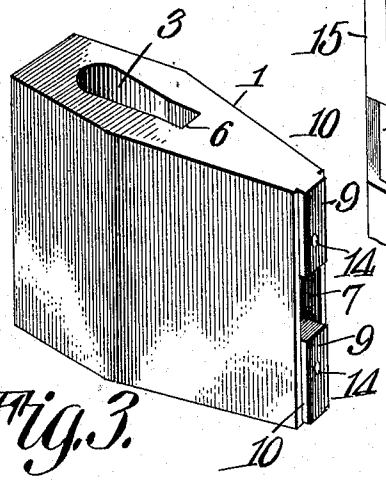


Fig. 3.

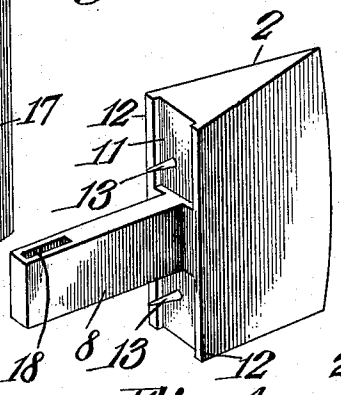


Fig. 4.

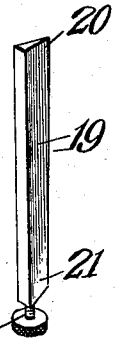


Fig. 6.

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UNITED STATES PATENT OFFICE

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DETACHABLE AX.

No. 911,075. Specification of Letters Patent. Patented Feb. 2, 1909.

Application filed April 27, 1908. Serial No. 429,485.

To all whom it may concern:

Be it known that I, JOSEPH RYAN, a citizen of the United States, residing at Somerville, in the county of Morgan and State of Alabama, have invented a new and useful Detachable Ax, of which the following is a specification.

This invention relates to that class of axes, which are provided with detachable cutting blades or bits, which can be renewed, when destroyed or worn out.

The object of this invention is to provide an improved ax of this kind in which the bit or blade can be readily detached and renewed, and in which the bit or blade is firmly and securely held in place.

The invention consists of an improved ax having a detachable bit or blade and in details thereof, constructed and arranged, as hereinafter set forth and claimed.

Referring to the accompanying drawing: Figure 1 is a side view in vertical section of an ax constructed in accordance with this invention. Fig. 2 is an elevation in cross section on the line X—X Fig. 1. Fig. 3 is a perspective view of the ax head with bit removed. Fig. 4 is a perspective view of the bit detached and Figs. 5 and 6 are perspective views showing the wedges.

In the construction of this invention the body 1, of an ax is provided with a detachable bit or blade 2. The body 1 is formed with the socket 3, in which is inserted the handle 4, the lower edge 5 of the handle projecting into and extending along a "V" shaped recess 6, in the body 1, adjacent to and opening into the socket 3. The body 1, is further formed with a central passageway 7, extending from its lower end and communicating with the recess 6 transverse thereto. The bit or blade 2 is formed with a central projection or member 8, which extends through the passageway 7, and projects into the recess 6. To seat the bit 2 steadily in place on the body 1, the latter is formed with the longitudinal projections or tongues 9, on either side of the opening of the passageway 7, and the shoulders 10, on the sides of the projections 9. The bit 2 is formed with the longitudinal recesses 11, on either side of the projection 8 with the flanges 12 at the sides of the recesses 11. When the bit 2 is in position on the body 1, the projections 9, are located in the recesses 11, and the flanges 12 rest against the shoulders 10, thus forming a snug joint. To further steady the bit, it is provided with pins 13, which engage holes 14 in the body 1.

To firmly and securely hold the bit 2 to the body 1 a trough shaped strip 15 is inserted lengthwise in the upper part of the "V" shaped recess 6, the strip 15 being formed with a longitudinal recess 16 having tapering sides in which rests the lower edge 5, of the handle 4. The strip 15 is also formed with the central opening 17, which is in alinement with, and is located at the upper end of the passageway 7. The projection 8 is formed at its end with the transverse hole 18, and extends through the opening 17 into the recesses 16. A tapering wedge 19, which also tapers from its end 20 to its end 21, is inserted lengthwise through the bottom of the "V" shaped recess 6, and through the hole 18, and locks the bit 2 to the body 1. The wedge 19 is held in place preferably by a set screw 22 in the end of wedge 19, the head of the set screw 22 bearing against the body of the ax. The strip 15 is firmly wedged in the recess 6, with the lower edge 5 of the ax handle wedged in the recess 16, and the wedge 19 is in turn wedged against the bottom of strip 15.

By means of the construction hereinbefore set forth, the bit is firmly seated against the head of the ax, and is securely locked thereto. The wedging parts in the recess adjacent to the handle socket of the ax, serve, in addition to securing the bit to the body of the ax, to firmly and securely hold the ax handle in its socket.

Having described the invention, I claim:—

1. The combination in an ax, of an ax head or body having a handle socket, a handle fitting therein, a removable bit, and a locking means for holding the bit to the head and serving also to wedge the handle in its socket.

2. An ax formed with a body and detachable bit, the body having a transverse passageway opening into the handle socket, and a longitudinal passageway opening into the transverse passageway; the bit having a projection extending through said longitudinal passageway, and into the transverse passageway an ax handle, and means for locking said projection at its end in said transverse passageway which also wedges said handle in its socket.

3. An ax formed with a body and detachable bit, the body having a transverse recess adjacent to the handle socket, and a longitudinal passageway opening into said

transverse recess; an ax handle, and a bit having a projection extending through said longitudinal passageway, and into the transverse recess with a recessed end located in said recess, and means for locking said end in said recess which also wedges said handle in its socket.

4. An ax having a detachable bit, the body of the ax head being formed with a "V" shaped recess opening into and in alinement with the handle socket, and a longitudinal passageway opening into said "V" shaped recess, a bit having a projection extending through said longitudinal passageway and into the "V" shaped passageway, an ax handle, and means for locking the bit projection, the body and handle together.

5. An ax with a detachable bit, the ax head having a recess opening into and in alinement with its handle socket, and a longitudinal passageway opening into said recess, a bit having a projection in said passageway and extending into said recess, an ax handle projecting laterally into said recess and means for wedging and locking the handle, the head and bit together.

6. An ax with a detachable bit, the ax having a recess opening into, and in alinement with its handle socket and a longitudinal passageway opening into said recess, a bit having a projection in said passageway and extending into said recess, an ax handle projecting laterally into said recess, and wedges, wedging said handle, and locking said bit projection.

7. An ax with a detachable bit, the ax having a "V" shaped recess opening into, and in alinement with the handle socket, and a longitudinal passageway opening into said recess, a trough shaped wedge with tapering sides and central opening, located in said recess, a bit having a projection extending through the longitudinal passageway and into the trough shaped wedge, an ax handle wedge in said wedge, and engaging the bit projection.

8. An ax with a detachable bit, the ax having a "V" shaped recess opening into and in alinement with the handle socket, and a longitudinal passageway, opening into said recess, a trough shaped wedge with tapering sides and central opening, located in said recess, a bit having a projection, with a perforated end, extending through said longitudinal passageway, and into the trough shaped wedge, a wedge located in the "V" shaped recess and extending through the perforated end, and an ax handle wedge engaging said trough shaped wedge and said perforation.

9. An ax with a passageway opening into and in alinement with its handle socket, and a longitudinal passageway, opening into said passageway, a slotted and recessed wedge located in the first named passageway, an ax handle seated in said recessed wedge, a detachable bit, with a projection having a transverse perforation at its end, extending into the slotted recessed wedge, a wedge extending through the first named passageway, and through the perforated end, and means for locking said wedge to the ax head.

10. An ax having a recess extending lengthwise of, and opening into the handle socket, and a passageway transversely to and opening into said recess, an ax handle, a wedge in said recess engaging the ax handle, a detachable bit having a projection with a transverse perforation at its end, engaging said wedge, a tapering wedge extending through said perforation and wedging the projection to the first named wedge, and a locking device on the end of the tapering wedge.

11. An ax consisting of a body formed with a "V" shaped passageway, opening into the handle socket, a longitudinal passageway opening into the "V" shaped passageway; and shouldered projections or tongues with holes on its lower end, a detachable bit having a projection with an opening through its end, and flange walled recesses with pins adjacent to said projection in which the said shouldered projections are seated; the bit projection extending through the body and into the "V" shaped passageway: a trough shaped wedge with central opening, located in said "V" shaped passageway, an ax handle resting in said wedge; and a tapering wedge located in said "V" shaped passageway, and extending through the opening in the end of the bit projection.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOSEPH RYAN.

Witnesses:

ETHEN LEETT,

STEWART THOMPSON.