Aug. 22, 1933. C. BALTH 1,924,015

COMPOUND TOOL

Filed April 13, 1932

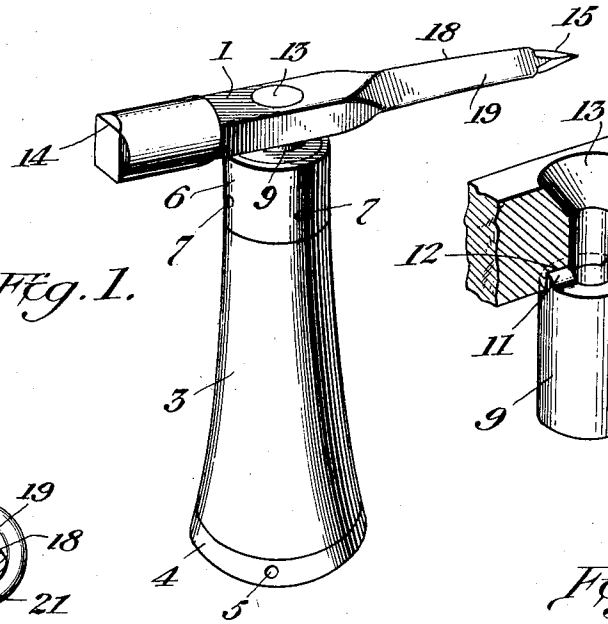


Fig. 1.

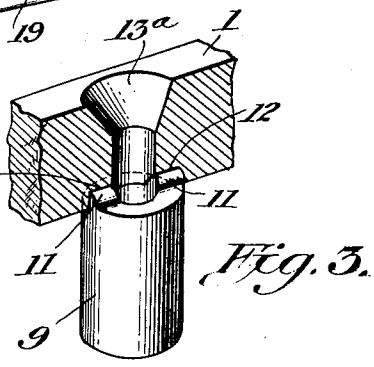


Fig. 3.

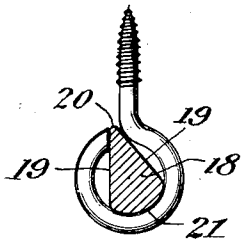


Fig. 6.

Fig. 2.

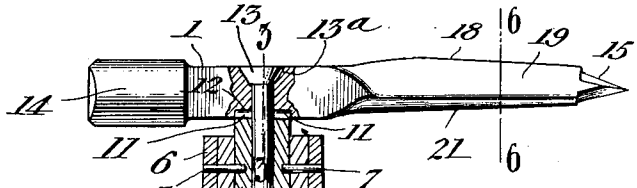
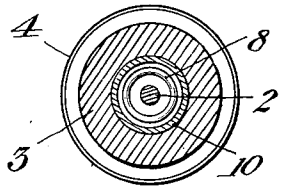


Fig. 4.



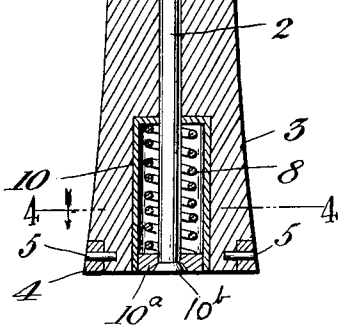
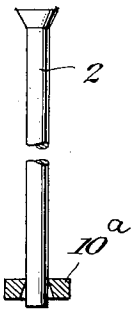


Fig. 5.



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COMPOUND TOOL

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13 Claims. (Cl. 7—8)

The present invention relates generally to improvements in tools and more particularly to a compound tool, capable of use in affixing screw eyes or the like in place.

One object of the present invention is to provide a compound tool that may be used as a hammer, punch, rotatable lever, scriber or line marker, as desired.

Another object of my invention is to provide a compound tool, the head member of which may be rotated around the shaft or resiliently held in a fixed position as desired.

With these and other objects in view the present invention comprises the various features hereinafter more fully described and more particularly defined in the claims.

Referring now to the drawing:

Fig. 1 is a perspective view of my compound tool;

Fig. 2 is a side view, partly in section;

Fig. 3 is a view partly in section taken on the line 3—3 of Fig. 2, on an enlarged scale;

Fig. 4 is a mid-section through the handle;

Fig. 5 is a side view showing the shaft member; and

Fig. 6 is a section taken on the line 6—6 of Fig. 2.

The compound tool consists of a handle carrying a shaft projecting from one end thereof, on which shaft a head member is mounted. Relative rotary or swiveling movement is provided between the head and handle members, preferably by mounting the head member rotatably on the shaft. The head member, however, is not freely rotatable on the shaft, but cooperating cam and groove elements, pressed into resilient engagement, serve to hold the head member, with what might be termed a soft clutch effect, in definite positions with respect to the shaft when the cam and groove elements are in engagement. In the embodiment shown, there are two such definite positions. However, when a force tending to rotate the head is applied thereto, the cam elements move out of the grooves and so permit swiveling or rotating movement of the head.

The head member has a relatively long, triangular shaped shank terminating in a sharp point, one face of the shank being rounded to correspond to the curve of the hook eyes or the like, while the other two faces of the shank intersect at an acute angle, which acute angle is adapted to engage in the notch in the loop of the hook eye, the other end of the head member serving as a hammer.

Referring now to the drawing, illustrating the preferred embodiment of the invention, in which similar reference characters represent similar parts, the head member 1 is mounted, preferably rotatably, on a shaft 2, which shaft is resiliently mounted in the handle 3, which is preferably made of wood. A metallic band 4, placed around the butt of the handle to prevent wear, is held in place by pins or rivets 5. Likewise a similar metallic band 6 is placed around the helve end of the handle, held in place by pins or rivets 7. Within the handle 3 and around the shaft 2 is a compression spring 8. The spring 8 surrounds the lower end of the shaft 2 and is placed in a cylindrical cup 10, set in a suitable recess in the handle, the upper end of the spring bearing against the upper end of the cylindrical cup, while the lower end of the spring bears against a washer 10^a. The lower end of the shaft 2 passes through the washer 10^a and is upset, as shown at 10^b in a suitable countersunk hole in the washer to hold it in place on the lower end of the shaft. The effect, therefore, of the spring 8 is to push the shaft 2 downwardly and so to resiliently urge the head member 1 toward the handle.

Diametrically positioned on the upper or outer end of the metal bushing 9 are cams 11 adapted to fit into cooperating grooves or recesses 12 on the underside of the head portion, so that the head member may be resiliently held in a definite position. The cams 11 and grooves 12 are somewhat rounded, so as to come out of engagement when a twisting movement is applied to the handle or head member. When the cams 11 are seated in grooves 12, the head member 1 is definitely held in that position by the action of spring 8. However, when sufficient twisting force is applied, the clutch effect due to the action of the spring and the cams and grooves is overcome, the cams come out of engagement with the grooves, and head member 1 can be rotated with respect to the handle. When the cams and grooves come into registry again, they engage as before, and are clutched together with a soft clutch effect.

The clutch effect of the cams 11 and cooperating grooves 12 may be achieved in other ways, as by securing head member 1 to shaft 2, and then providing shaft 2 and part of the handle with cooperating cams and grooves, but the preferred way is as illustrated.

The end of the shaft 2 to which the head member 1 is attached is expanded at the extreme end as shown at 13, to hold the head member in position, the head member being correspondingly countersunk, as at 13^a, Fig. 3. The head member 1 rotates with respect to shaft 2, when a light

lateral force is applied sufficient to overcome the clutch effect of spring 8, cams 11 and grooves 12.

One end of the head member 1 has a hammer portion 14, while the other end consists of a substantially triangular shank member 18 having a rounded bottom portion. The shank is tapered to a sharp pyramidal point 15. The triangular shaped shank member 18 has a rounded face 21, while the other two faces 19 are substantially flat and intersect at an acute angle on the line 20 as shown in Fig. 6.

In the preferred manner of using the tool of the present invention for placing hook eyes and the like in wood or similar material, the handle 3 is grasped by the user and the point 15 of the head member 1 is inserted in the wood at the desired point by manual pressure when the wood is soft or by striking the hammer portion 14 with an ordinary hammer or similar striking tool when the wood is hard. The tool is then withdrawn from the wood work, leaving the opening for the insertion of the hook eye. The hook eye is then inserted in the opening and the tool used as a hammer to lightly tap the hook eye to give it a temporary hold in the wood work. The shank member 18 is then inserted through the hook eye, with the handle 3 at right angles to the wall. By thus inserting the shank member it will be seen that the rounded face 21 of the shank fits the curve of the hook eye, while the acute angle 20 formed by the intersection of the two flat faces of the shank engages in the notch in the loop of the hook eye, thus firmly holding the shaft in engagement with the hook eye. By rotating the handle through a circle the radius of which is the perpendicular distance between the axis of shaft 2 and the axis of the screw eye, the screw eye is rapidly driven into place, the swiveled mounting for member 1 readily permitting such relative rotary movement between the member 1 and the handle.

When the tool is being used as a hammer, or as a scriber, punch, line marker, etc., the head member is held relatively fixed by the clutch effect of the cams 11, grooves 12 and the spring. It will be apparent that the head member has two such relatively fixed positions 180° apart.

While I have shown and described the preferred embodiment of my invention, it is to be understood that various changes or modifications may be made in the invention which has been described without departing from the spirit or scope thereof as claimed.

I claim as my invention:—

1. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a sharp point at the other end thereof whereby a blow on the hammer portion will serve to drive the point for making a hole.

2. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a triangular shank on the other end, tapered to a sharp, pyramidal point, the hammer portion acting as a counterweight to the triangular shank and sharp point.

3. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, and cooperating means carried by the handle and head member for resiliently holding the head member in a definite position.

4. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a sharp point at the other end, said hammer portion acting as a counterweight for the other end of the head member and cooperating means carried by the handle and head member for resiliently holding the head member in a definite position.

5. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a triangular shank on the other end, tapering to a sharp, pyramidal point, whereby a blow on the hammer portion will serve to drive the point for making a hole, and cooperating means carried by the shaft and head member for resiliently holding the head member in a definite position.

6. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a sharp point at the other end, whereby a blow on the hammer portion will serve to drive the point for making a hole and cooperating cam, groove and spring means whereby the head member may be resiliently held in a definite position.

7. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a hammer portion at one end and a triangular shank on the other end, tapered to a sharp, pyramidal point, whereby a blow on the hammer portion will serve to drive the point for making a hole and cooperating cam, groove and spring means whereby the head member may be resiliently held in a definite position.

8. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member swiveled with respect thereto, provided with a sharpened point, and a shank portion, mounted on and engageable with said shaft between the head and shank, the hammer portion serving to counterbalance the shank, cooperating cam and groove elements carried by the head member and handle, and spring means for holding the cooperating cam and groove elements in engagement.

9. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member swiveled with respect to said shaft, provided with a hammer portion and a shank portion terminating in a sharp point the hammer portion acting as a counterweight to the shank and sharp point, mounted on said shaft cooperating cam and groove elements carried by the head member and the handle, and spring means for holding the cam and groove elements in engagement.

10. A tool of the character described, comprising in combination, a hollow handle, a shaft extending entirely through the handle and projecting from one end thereof, a head member rotatably, carried by the shaft, cooperating cam and groove elements carried by the head member and handle said cam and groove elements readily going into and out of engagement, thereby permitting rotary movement of the head member, and a spring, positioned in the handle and surrounding said shaft and engageable therewith, for resilient holding said cam and groove elements in engagement.

11. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, cooperating cam, groove and spring means whereby the head member may be resiliently held in a definite position, the head member being provided with a substantially triangular shank, one face of which is rounded, while the other two faces are substantially flat.

12. A tool of the character described, comprising a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, cooperating cam, groove and spring means whereby the head member may be resiliently held in a definite position, the head member being provided with a substantially triangular shank, one face of which is rounded, while the other two faces are substantially flat, said triangular shank terminating in a sharpened point, the head also being provided with a hammer portion at the end opposite the shank point the hammer portion acting as a counterweight to the triangular shank and sharp point.

13. A tool of the character described, comprising in combination, a handle, a shaft carried in the handle and projecting from one end thereof, a head member mounted on said shaft and swiveled with respect to the handle, said head member being provided with a triangular shank having a rounded bottom portion adapted to correspond to the curve of hook eyes or the like, the sharp top or triangular portion being adapted to fit the opening in the loop of hook eyes or the like, thus securely holding the tool in position for affixing the hook eye.

CHARLES BALTH.