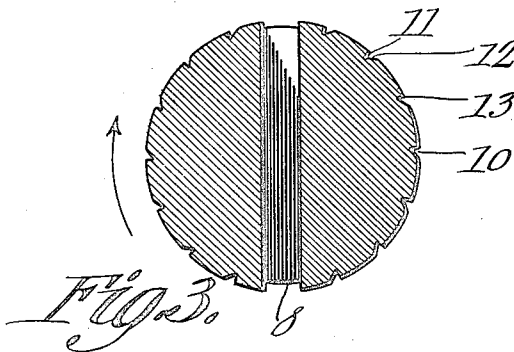
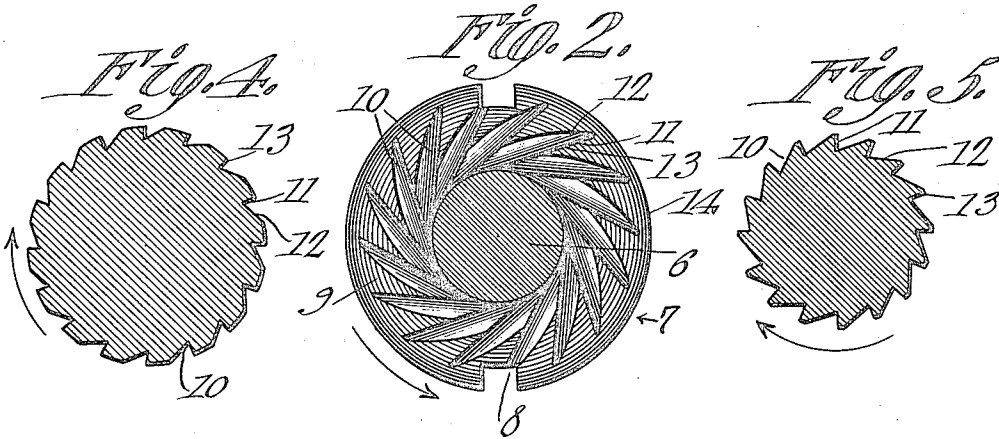
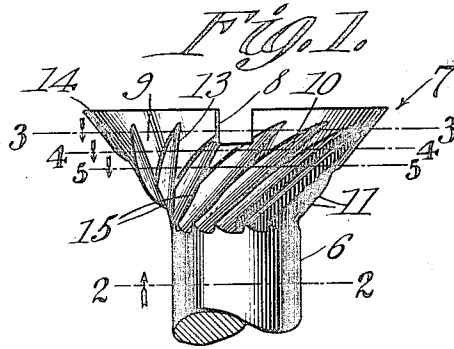


E. M. BRUMBACK.
 COUNTERSINKING SCREW HEAD.
 APPLICATION FILED MAY 23, 1914.

1,151,861.

Patented Aug. 31, 1915.



E. M. Brumback

Inventor

Witnesses

J. R. Tomlin
S. D. Willow

by

C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

ERNEST M. BRUMBACK, OF SILVER CITY, NEW MEXICO.

COUNTERSINKING SCREW-HEAD.

1,151,861.

Specification of Letters Patent. Patented Aug. 31, 1915.

Application filed May 23, 1914. Serial No. 840,579.

To all whom it may concern:

Be it known that I, ERNEST M. BRUMBACK, a citizen of the United States, residing at Silver City, in the county of Grant and State of New Mexico, have invented a new and useful Countersinking Screw-Head, of which the following is a specification.

This invention relates to improvements in screw heads and more particularly to that class which are known as self countersinking.

An object of the present invention is to provide a screw head which in addition to being self countersinking, will exert a continuously increasing tightening action as the screw head is driven in the wood.

A further object is to provide a screw head with a plurality or multiplicity of flutes so arranged and shaped that the head will exert a continually increasing tightening effect as the head is cutting its way into the wood to a countersunk position. The flutes terminate below the upper plane of the head so as to form a continuous unfluted rim portion, preventing the chips and cut material from escaping from the flutes after the head has reached its countersunk position, thus exerting a maximum tightening effect.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the drawings accompanying this specification and forming a part thereof, the preferred embodiment of my invention is illustrated, in which:—

Figure 1 is a view in elevation of a screw head formed along the lines of my invention. Fig. 2 is a cross sectional view taken on the line 2—2, looking in the direction of the arrow. Figs. 3, 4 and 5 are sectional views taken on the lines 3—3, 4—4 and 5—5 respectively, of Fig. 1.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, the screw includes the usual shank 6, of which a portion only has been depicted and above

which extends the beveled head 7. The slot 8 extends transversely of the head and the screw as thus far described is of the conventional construction.

The conical surface 9 of the screw head is provided with a multiplicity of flutes 10. Each flute 10 is in transverse section as illustrated in Figs. 2, 3 and 4, substantially V-shape with the one surface 11 extending substantially radial and with the adjoining surface 12 disposed at an angle thereto, thus defining the cutting edge 13. The flutes gradually taper in depth, diminishing toward their upper extremity and gradually merge into the conical surface at a point below the top surface of the screw head. Thus an unbroken conical surface or rim 14 is defined above the upper extremities of the flutes, as apparent from Figs. 1 and 2. The flutes gradually deepen toward their lower extremities and project a slight distance below the cylindrical surface of the shank 6. The curvature of the flutes is of helical characteristics, winding or twisting about the head in a direction opposite to that of rotation during the insertion of the screw.

With the screw head as thus formed, a continually increasing tightening effect will be obtained as the head is driven into the wood. The lower portion of the beveled head being provided with deep and sharp flutes readily cuts the wood, thus providing for the countersinking of the lower portion of the head. The chips and cut material will be passed upwardly within the flutes and will escape therefrom. As the head is driven into the wood, the opening defined by the flutes and adjacent wall of the wood becomes more restricted and the chips gradually clog. The decreasing depth of the flutes amplifies this clogging action until such time that the upper extremities of the flutes pass below the surface of the wood. At this point a maximum tightening effect will be obtained, preventing the head from passing below the surface of the wood as will be readily apparent. The rim 14, the continuity of whose surface has been preserved, exerts the proper wedging action upon the wood to thus insure a firm purchase thereon and the requisite tightening effect of the screw. The gradual decrease in the depth of the flutes provides for different degrees of tightening or holding effect at intermediate points in the countersinking action of the head. Thus the depth to which the head is countersunk

may be taken as an indication of the tightening action or effect exerted by the screw. Particular attention is called to the fact that the flutes intersect at their lower extremities to form a plurality of knife-like edges 5 which are slightly curved as illustrated in Fig. 1, providing for an efficacious and rapid cutting action at this zone.

Having thus fully described my invention,
10 what I claim is:—

A frusto-conical head for wood screws, comprising a beveled surface provided with a multiplicity of flutes intersecting throughout their extremities adjacent the apex of

the head and diverging at their other extremities to define a multiplicity of inwardly curved thin cutting blades with relatively wide clearing spaces, the amount of unbroken surface of the head increasing toward the top thereof and finishing at an unbroken rim.

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

ERNEST M. BRUMBACK.

Witnesses:

E. WOODHULL,
H. L. OAKES.