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G. W. JOHNSON

2,466,898

CUTTING INSTRUMENT

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Fig. 1.

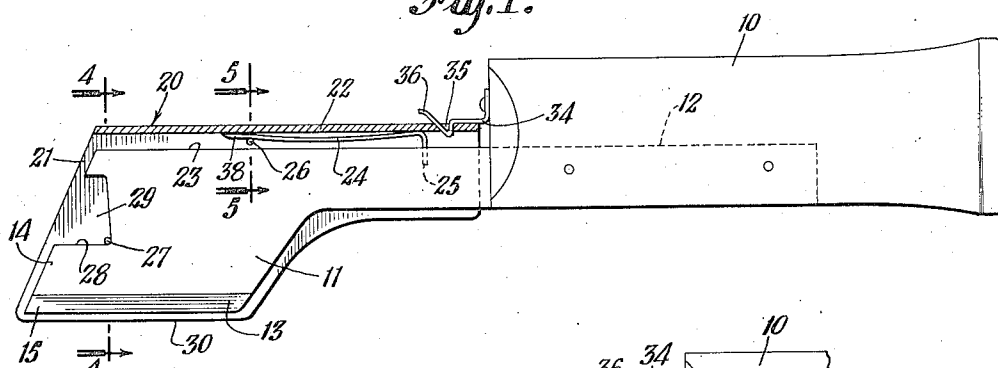


Fig. 2.

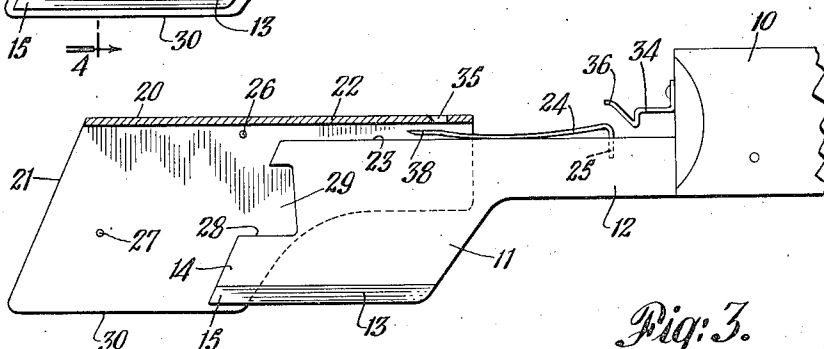


Fig. 3.

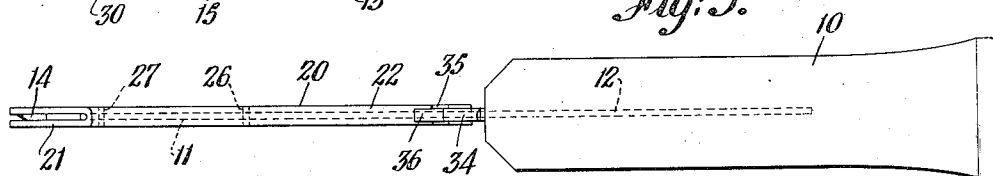


Fig. 7.

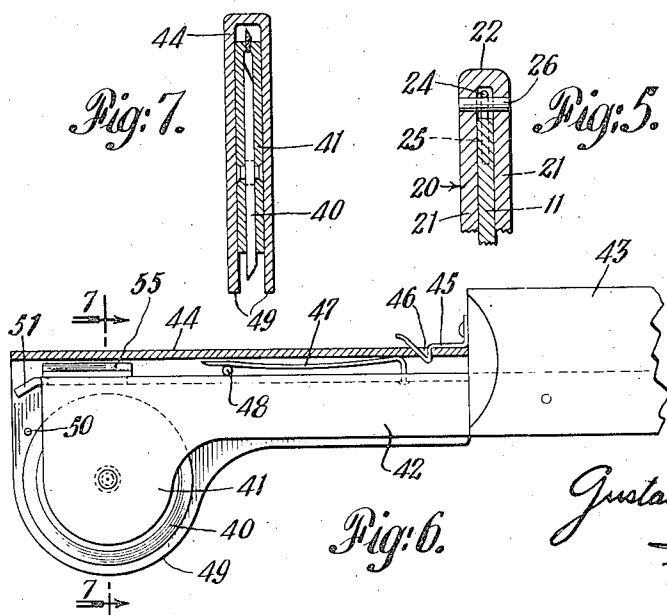


Fig. 5.

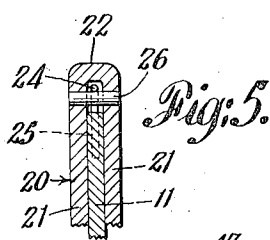


Fig. 4.

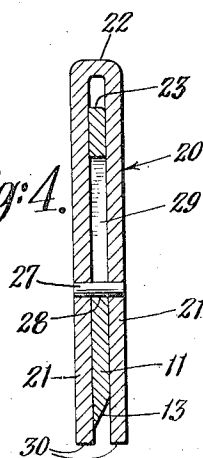


Fig. 6.

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CUTTING INSTRUMENT

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4 Claims. (Cl. 30—286)

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This invention relates to cutting devices, and particularly to hand-cutting tools for cutting, grooving and marking paper and the like.

The object of the invention is to provide a hand-cutting tool which will be simple in structure and efficient and safe in operation with a resiliently held shield automatically yielding to expose the cutting edge only when in position against the surface of the material to be cut or marked.

Further objects of the invention, particularly in the formation of the shield device for easy removal and replacement will appear from the following specification taken in connection with the accompanying drawing in which

Fig. 1 is a side view of a typical cutting tool embodying the invention with the shield portion shown cut away on one side;

Fig. 2 is a view similar to Fig. 1 showing the removal or replacement of the shield;

Fig. 3 is a plan view of the device shown in Fig. 1;

Figs. 4 and 5 are transverse sectional views taken on the line 4—4 and line 5—5, respectively, of Fig. 1;

Fig. 6 is a view similar to Fig. 1 showing a modification; and

Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 6.

In the embodiment of the invention shown in Fig. 1 a handle portion 10 is provided with a cutter blade 11, the shank 12 of which is rigidly fixed in the handle. The blade 11 has an offset cutting edge 13 and an inclined front edge 14 forming a sharp point 15. Such a blade may be used, for instance, in the cutting and trimming of wall paper, wrapping paper, cloth, etc.

To protect the user against accidental contact with the cutting edge or point, a shield 20 is provided of folded sheet metal shaped with two sides enclosing the blade 11 and extending beyond the edges of the blade in the normally inoperative position shown in Fig. 1. This shield has the side portions 21 connected by the bend 22 which in normal position of the shield runs substantially parallel to the upper edge 23 of the cutting blade. The shield is pressed downward by the spring 24 anchored in the blade shank at 25 and engaging above the pin 26 which bridges across between the sides of the shield near the upper portion thereof as shown. A cooperating pin 27 transverse of the shield at the front portion thereof engages against the seat edge 28 of the front recess 29 of the blade and holds the shield 20 in place with its lower edge 30 below the cutting edge 13 of the blade.

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This shield 20 is removable and replaceable as illustrated in Fig. 2 by simply sliding it endwise over the blade and is held in place by the latch spring 34 engaging in the recess 35 of the shield in the assembled position (Fig. 1). In positioning of the shield on the blade, the inner end slides under the inclined finger piece 36 of the spring lifting the spring, which then automatically snaps back into the recess 35, and to release the shield it is only necessary to lift the finger piece 36 to clear the recess. During the assembly of the shield the upturned end 38 of the spring 24 slips over the top of the pin 26 in the position shown in Fig. 1.

A simple release and pull of the shield thus releases the cutting blade for inspection and sharpening, and the shield is easily replaced by a simple return movement.

Various forms of blades and cutting edges may be used, and in Figs. 6 and 7 the cutting wheel 40 is mounted in the holder 41 of folded sheet metal having a shank portion 42 fastened in place in the handle 43. The shield 44 is similar to the shield 20 being latched in place by a spring 45 engaging recess 46. The shield is resiliently pressed downward by spring 47 anchored in the shank 42 and engaging the pin 48 which in turn engages the top of the shank 42 to limit the downward movement of the shield and bring its edge 49 somewhat below the cutting edge of the wheel 40. A pin 50 across the end of the shield limits the upward movement of the shield by engagement with the projection 51 of the holder 41.

The shield 44 is removable and replaceable in the same manner as the shield 20, and similarly resiliently encases the cutting edge against accidental injury to user and marking of parts of articles with which the tool comes in contact when not in use. An extra blade 55 may be pressed in place in a slot in holder 42 as shown, to be available for straight edge cutting on removal of the shield 44.

While the application of the shield has been illustrated in connection with a straight edge blade and a cutting wheel, the principle of the invention is applicable to other cutting or marking tools, for instance, a cutting wheel similar to that shown in Figs. 6 and 7 may have a perforating instead of a cutting edge, and other modifications of the cutting device corresponding to the shape of the shield may be made within the scope of this invention as defined in the appended claims.

I claim:

1. The combination with a hand cutting tool

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comprising a handle and a blade member carrying an operative cutting edge, of a shield movably mounted on said blade member and having protective side edges adapted to extend beyond said operative edge of said blade member, an engageable and releasable latch means between the rear end of said shield and said tool comprising a projection and a mating recess automatically interlocked by movement of said shield along said blade toward said handle and detachably retaining said shield for pivotal movement on said blade, and engageable and releasable spring means between said shield and said tool comprising a longitudinally extending spring and a cooperating member automatically interengaged by said movement of said shield along said blade toward said handle and acting to resiliently hold said shield in predetermined position with its protective side edges protruding beyond the said edge of said blade member and adapted to yieldingly shift with the said material and expose said edge of said blade member.

2. A hand-cutting tool as set forth in claim 1 in which there are cooperating parts on the shield and blade members limiting the shifting move-

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ment of the shield with respect to the blade member in each direction.

3. A hand-cutting tool as set forth in claim 1 in which the blade member comprises an end portion having a cutting edge and a relatively narrow shaped portion connecting said end portion to the handle of the tool.

4. A hand-cutting tool as set forth in claim 1 in which the blade member carries at its end a separate relatively movable cutting member.

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