June 5, 1934. V. J. O'BRIEN 1,961,594

CAN OPENER

Filed May 5, 1930

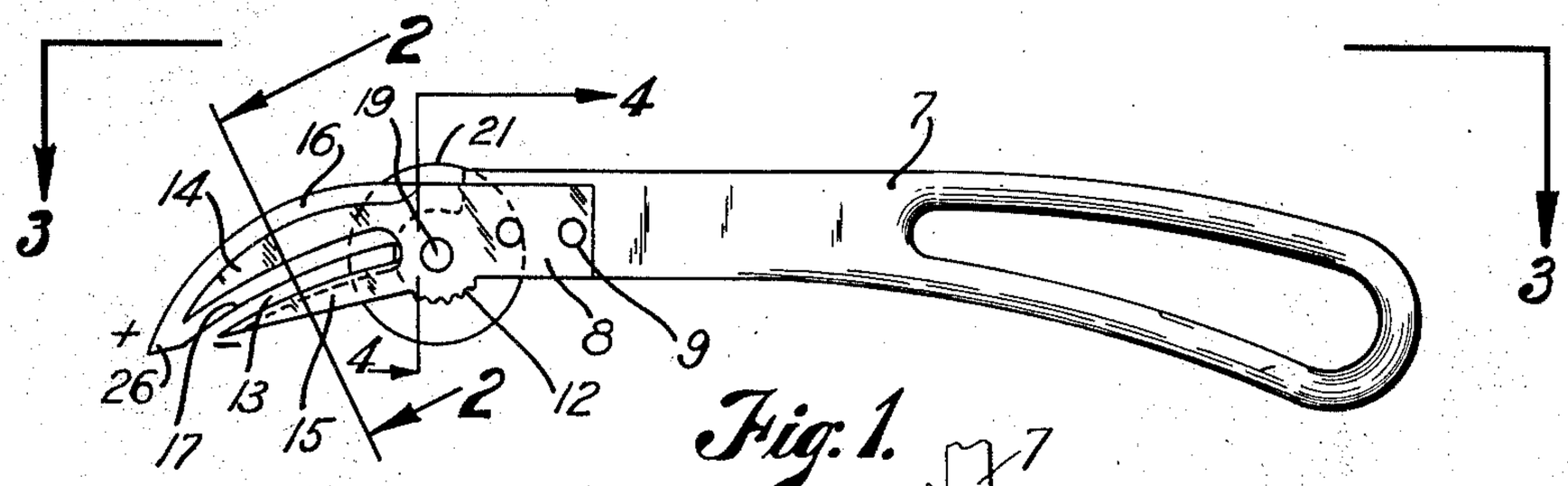

Fig. 1.

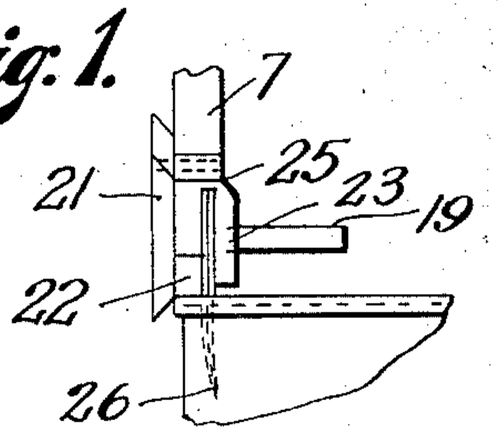

Fig. 8.

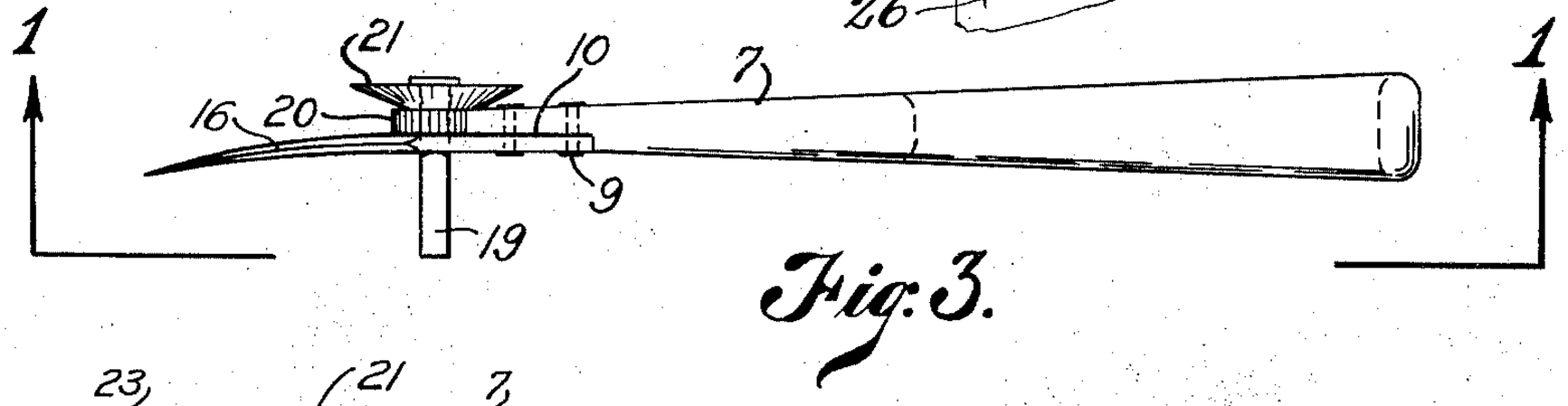

Fig. 3.

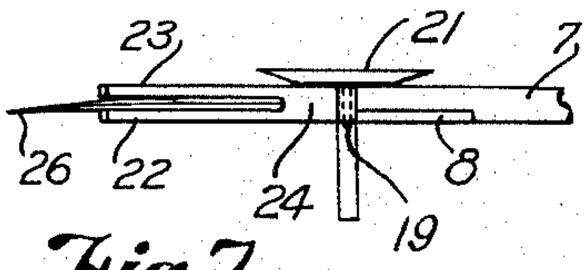

Fig. 7.

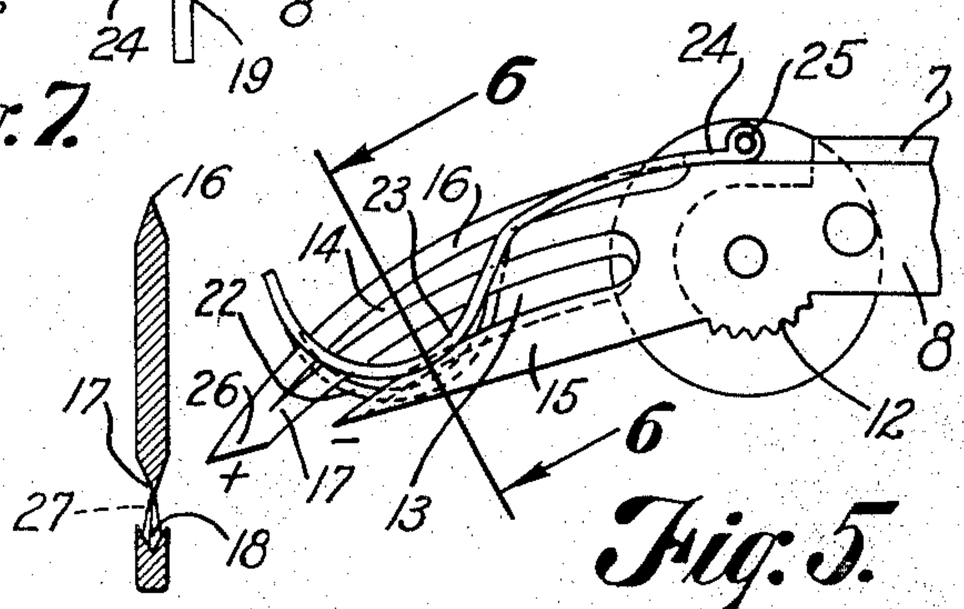

Fig. 5.

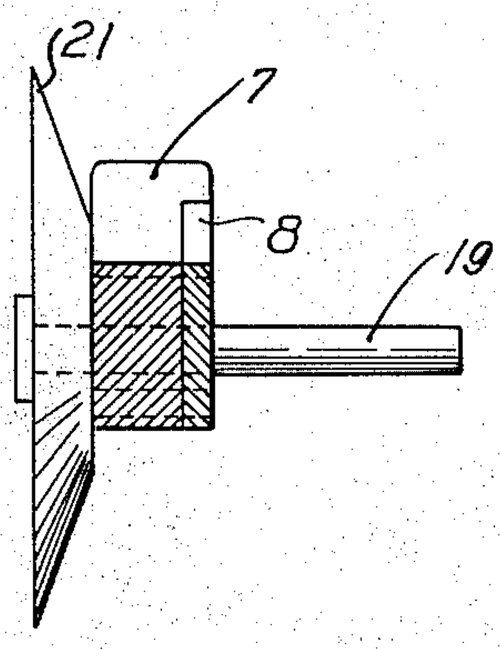

Fig. 2.

Fig. 4.

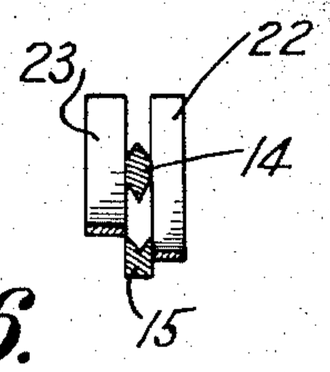

Fig. 6.

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UNITED STATES PATENT OFFICE

1,961,594

CAN OPENER

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Application May 5, 1930, Serial No. 450,027

11 Claims. (Cl. 30—3)

My invention relates generally to can openers of the type shown, described and claimed in my co-pending application Serial No. 393,228, to which reference is made for claims on matter shown but not claimed herein. The principal object of the present invention is to provide a can opener having a magnetized, substantially horseshoe-shaped blade.

Another object of the invention is to provide a keeper for the horseshoe magnet, adapted normally to assume a position connecting the poles of the magnet.

Still another object is to provide in a can opener magnetized means disposed to be above and below the cut portion of the can, whereby to attract particles of metal severed from the can.

A further object of the invention is to arrange the keeper in such a way that it will be moved from an operative position during the cutting operation of the article.

A still further object is to provide means for catching particles of severed metal that are non-magnetizable.

Novel combinations and arrangements of parts and novel details of construction will appear in the course of the following description. It is to be understood that the drawing and the following description only show an embodiment of the present invention and that changes may be made in the construction and arrangements shown, and described, without departing from the spirit of the invention or the scope of the hereunto appended claims.

In the drawing, like reference characters designate similar parts in the several views.

Figure 1 is a side elevation of one embodiment of the present invention.

Figure 2 is an enlarged section taken on the line 2—2 of Figure 1.

Figure 3 is a plan view of said embodiment, taken on the line 3—3 of Figure 1.

Figure 4 is an enlarged section taken on the line 4—4 of Figure 1.

Figure 5 is an enlarged, broken, side elevation of a modification of the present invention.

Figure 6 is a section taken on the line 6—6 of Figure 5.

Figure 7 is a reduced plan view of Figure 5.

Figure 8 is a reduced, broken view, showing the present invention in use.

Referring more specifically to the drawing, the reference numeral 7 designates a handle for the can opener. A magnetized blade for the article is indicated generally by the numeral 8. Rivets 9 fasten the blade in a recess 10 of the handle. The blade has an integral, serrated, arcuate section 12.

The blade has a longitudinal slot 13, providing sections 14 and 15 that provide positive and negative poles in the magnetic circuit. It will be noted that the slot 13 forms the blade into a substantially horseshoe magnet. Since a magnet in the shape of a horseshoe is generally considered to have greater powers of attraction than a bar magnet containing an equal amount of magnetism, the shape of the present can opener blade is an important feature of my invention.

The section 14 of the blade has knife edges 16 and 17 at opposite sides, and the section 15 is longitudinally grooved on the side adjacent to the knife edge 17, as shown at 18.

A pin 19 mounted on the blade carries a knurled washer 20 and a guiding disc 21, both fastened on the pin. The knurled washer is alined with the teeth of the serrated section 12 on the blade. The subject matter of this paragraph is more fully described in my said co-pending case.

In the form shown in Figures 5 to 8, a fork-shaped keeper straddles the magnetized blade 8. The keeper comprises curved fingers 22 and 23 on a body member 24. The keeper is pivotally mounted on a pintle 25 on the disc 21. The keeper itself is a horseshoe magnet disposed to attract particles of metal at the top of the can that is being opened.

Finger 22 is depressed with relation to the other finger. The purpose of such an arrangement is that since the finger 22 will ride on the rim of the can, the other finger 23 will not contact with either of the sections of the blade 8. This is due to the shape of the fingers which causes them to extend forward of the blade in the cutting operation. The blade 8 also acts as a keeper for the magnetized keeper. Since the power of a horseshoe magnet to attract is materially reduced when the keeper is in place, it is desirable to so arrange the magnets that the poles of neither magnet will be magnetically connected during the cutting operation.

It will be noted that the keeper is so arranged that it will fall by gravity into a position of engagement with both sections of a magnetic blade, when the device is held up in the position shown in Figure 5. In this position, the circuit of each magnet is closed.

In the use of the article, the point 26 of the blade is inserted near the edge of the end of a can in the usual manner. The edge 16 of the blade is then used to progressively cut out the end of the can. Loose particles of metal are brushed

toward the edge 17 of the blade and into the groove 18. Particles of metal 27 are held between the edge 17 and the groove 18. The groove is also advantageous in catching non-magnetizable particles of metal. Due to the beveled edge 17 of the blade, the tendency is to brush particles of metal into the space between the blade sections and into the groove, as shown at 27.

The use of the modified form is similar, except that during the can opening operation, the finger 22 of the keeper rides on the rim of the can and prevents either finger of the keeper from being in engagement with both sections of the blade 8, and prevents the blade 8 from magnetically connecting the poles of the keeper magnet, as shown in Figure 8. Since the fingers 22 and 23 of the keeper are turned up, as shown, they are pushed away from the blade in the normal use of the can opener when the blade is inserted in the can, the fingers 22 and 23 of the keeper are not in engagement with the blade 14, for the blade is inside the can and the fingers of the keeper rest forward of the blade, on top of the can and ride along the rim thereof during the cutting operation.

What I claim and desire to secure by Letters Patent is:

1. In a can opener, a substantially horseshoe-shaped, magnetized blade having magnetic poles, and a substantially horseshoe-shaped keeper straddling the blade and disposed to connect magnetically the poles of the blade.

2. In a can opener, a substantially horseshoe-shaped, magnetized blade having magnetic poles, and a substantially horseshoe-shaped, magnetized keeper having magnetic poles, the blade and the keeper being disposed to connect the poles of one another magnetically.

3. A can opener comprising a handle and a magnetized blade of substantially horseshoe-shape having opposite poles, said blade being rigidly mounted on said handle, and a keeper normally straddling the blade whereby to magnetically connect the poles.

4. A can opener comprising a handle, a magnetized blade of substantially horseshoe-shape having opposite poles, a pivoted keeper normally engaging said poles, the keeper having two fingers to respectively engage the rim and the top of the can in the operation of the can opener, the last-mentioned finger being depressed with relation to the other finger.

5. A can opener comprising a handle, a magnetized blade of substantially horseshoe-shape having opposite poles, a pivoted keeper normally engaging said poles, both keeper and blade being magnetized to render same a permanent magnet, and adapted to attract and hold metallic particles.

6. In a can opener, a blade magnetized to render same a permanent magnet and having opposite poles, and a keeper normally connecting the poles, and pivotal for movement to an inoperative position in the operation of the can opener.

7. In a can opener, a blade magnetized to render same a permanent magnet and having opposite poles, and a keeper normally connecting the poles, and movable for movement to an inoperative position in the operation of the can opener.

8. A can opener comprising a substantially horseshoe-shaped cutting blade, the blade being magnetized and having opposite magnetic poles, one of the legs of the horseshoe having its edge, that is farthest away from the other leg, sharpened and providing a magnetized cutting edge.

9. A can opener comprising a handle and a substantially horseshoe-shaped, magnetized blade permanently mounted on the handle in fixed relation thereto, the mounting preventing movement of the blade in all directions relative to the handle, one of the legs of the horseshoe having its edge, that is farthest away from the other leg, sharpened and providing a magnetized cutting edge.

10. A can opener comprising a substantially horseshoe-shaped, magnetized blade, one leg of the horseshoe being grooved on the edge facing an edge of the other leg, the latter leg being sharpened at opposite edges, the outer one of the last-mentioned edges providing a cutting edge and the other edge facing the groove.

11. A can opener comprising a handle, a substantially horseshoe-shaped, magnetized blade having a shank on the handle, and spaced pins permanently mounting the shank on the handle, one of the legs of the horseshoe having its edge, that is farthest away from the other leg, sharpened and providing a magnetized cutting edge.

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