Nov. 19, 1957 R. O. ANGLE 2,813,710

MAGNETICALLY SUPPORTED GUIDE BAR FOR TORCHES AND THE LIKE

Filed Feb. 4, 1954

Fig. 1

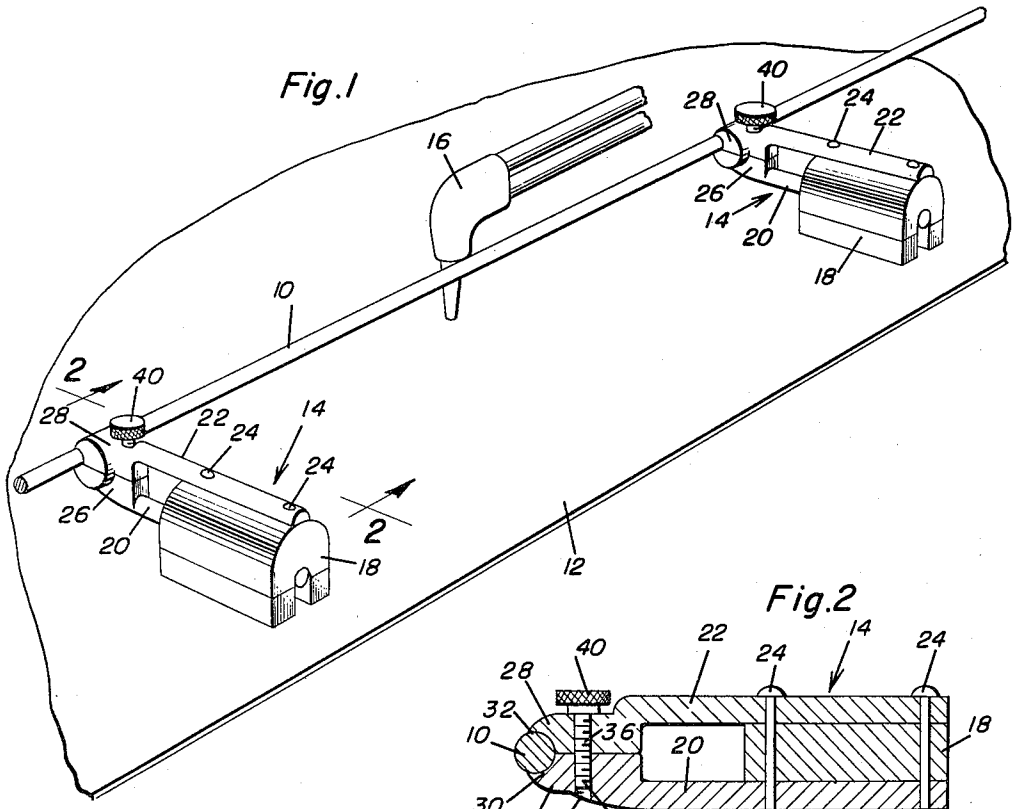
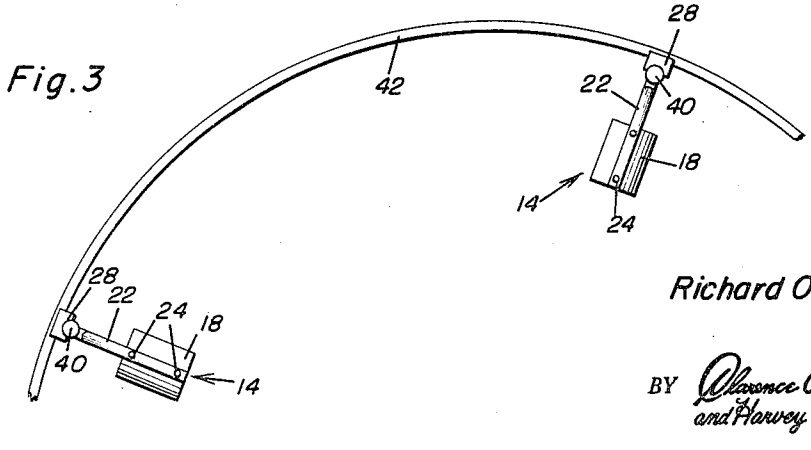


Fig. 2

Fig. 3



Richard O. Angle
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 2,813,710 Patented Nov. 19, 1957

2,813,710

MAGNETICALLY SUPPORTED GUIDE BAR FOR TORCHES AND THE LIKE

Richard O. Angle, Rocky Mount, Va., assignor of twenty-five percent to John H. Ferguson, Wirtz, Va.

Application February 4, 1954, Serial No. 408,261

2 Claims. (Cl. 266—23)

This invention relates to a magnetically supported guide bar for torches and the like and more particularly to a device which may be selectively positioned on a body of magnetic material which is to be severed by a cutting torch or the like for the purpose of guiding the movement of the cutting torch.

An object of this invention is to provide a magnetically supported guide bar for torches and the like wherein a plurality of magnets are provided with means for clampingly engaging a guide bar to position the guide bar on a body of magnetic material.

A further object of this invention is to provide a magnetic support for a guide bar for torches which may be utilized with a straight guide bar or an angular guide bar.

A further object of this invention is to provide a clamp for supporting articles on a body of magnetic material.

A still further object of this invention is to provide a magnetically supported guide bar for cutting torches and the like which is simple and efficient in construction and durable and lasting in use.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings hereof wherein like numerals refer to like parts throughout and in which:

Figure 1 is a perspective view showing the magnetically supported clamps used in conjunction with a straight guide bar;

Figure 2 is a sectional view taken substantially along section line 2—2 of Figure 1; and

Figure 3 is a top plan view showing the magnetically supported clamps used in conjunction with a curved guide bar.

Referring now more specifically to the accompanying drawings it will be seen that the improved magnetically supported guide bar for torches and the like includes, an elongated bar **10** supported on a plate of magnetic material **12** by means of supporting clamps **14**. The bar **10** is to be positioned on the plate **12** along the line which it is desired to cut with a cutting torch **16**. Then the operator of the cutting torch **16** can slide the torch along the bar **10** to provide an even cut on the plate **12**.

The supporting clamps **14** each comprise a magnet **18** of any suitable configuration, the configuration shown being for the purposes of illustration only. Fixedly secured to each of the magnets **18** is a first arm **20** which extends from one side of the magnet. Also fixedly secured to the magnet **18** is a second arm **22** which extends from the same side of the magnet **18** as arm **20** and is spaced from and parallel to the arm **20**. Suitable fasteners **24** may extend through the arms **20**, **22** and the magnet **18** for securing the arms **20** and **22** in position thereon. The arms **20** and **22** are formed of a non-magnetic material.

The other end of the arm **20** is provided with a jaw portion **26** and the other end of arm **22** is provided with a jaw portion **28**. The jaw portions **26** and **28** oppose each other and are provided with cut-outs **30** and **32** respectively which cut-outs engage the rod **10**. The jaw portion **26** is provided with an internally threaded bore **34** extending therethrough and the jaw portion **28** is provided with a bore **36** aligned with the bore **34**. A set screw **38** having a knurled knob **40** at one end thereof extends through the bore **36** and is threadedly engaged in the bore **34**. By tightening the set screw **38** the jaws **26** and **28** will be urged toward one another to frictionally clamp the rod **10** in the cut-out portions **30** and **32**.

Figure 3 discloses the use of supporting clamps **14** in conjunction with a curved rod **42**. The supporting clamps **14** engage the rod **42** in the same manner as they engage the rod **10**.

In practical use of the device when it is desired to cut a plate of magnetic material by using a cutting torch or the like the appropriate bar **10** or **42** or any other suitable configuration is provided with a pair of supporting clamps **14**. Then, the magnets **18** are placed into engagement with the plate **12** so that the bar extends along the line to be cut, the cutting torch is allowed to slide along the bar thereby providing a cut corresponding to the configuration of the bar.

The supporting clamps **14** may also be used for supporting articles on a body of magnetic material. In such an instance the article is placed between the jaw portions **26** and **28** and the set screw **40** tightened to retain the article in position. Then, the magnet is merely placed against the body of magnetic material to retain the clamp in position thereon.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and changes may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. As a new article of manufacture, a readily applicable and removable support device for a rigid elongated cutting torch guide bar comprising, in combination, a permanent magnet of channel-shaped cross-section, a first arm having one end portion fitted and secured to said magnet in the channel portion, a second arm having one end portion superimposed upon and affixed to the crest of the magnet, the other end portions of said arms projecting beyond one vertical end of said magnet in spaced parallelism and terminating in opposed cooperating guide bar embracing and gripping jaws, and manually regulable means accessibly, separably and adjustably interconnecting the jaw-equipped end portions of said arms.

2. For use as a mechanical aid when using a cutting torch, in combination; an elongated rigid guide bar cylindrical in cross-section and of non-magnetic material, the surfaces of said bar being uninterruptedly smooth; elevating, supporting and temporary anchoring means for said bar characterized by a plurality of manually applicable and removable permanent magnets, said magnets being magnetically applicable to a body of magnetizable material for securing said bar in a prescribed workable position atop said material; securing means embodying clamps of non-magnetic material fixedly secured to said magnets, there being at least two magnets and two clamps and said clamps having jaws which grippingly but do not wholly encircle and embrace said bar, whereby lengthwise surface portions of said bar project and occupy a position beyond the adjacent tip ends of the jaws and so

that the embracing and gripping action of the jaws does not cover and obstruct that surface of the bar along which the torch is dragged and by which it is guided; each clamp comprising a pair of arms fixedly secured to a companion magnet and extending horizontally and at right angles beyond one vertical end of said magnet, said arms being in spaced parallel relationship, each of said arms being provided with a jaw member adjacent the outer end thereof and said jaw members being opposed in operative relation, and means interconnecting the arms of each pair and urging the jaw members to frictionally grip said bar.

References Cited in the file of this patent

UNITED STATES PATENTS

1,285,554	Boehm	Nov. 18, 1918
1,856,439	Sommer et al.	May 3, 1932
1,915,631	Truba et al.	June 27, 1933
2,323,528	Faulkaber	July 6, 1943
2,578,132	Garrett	Dec. 11, 1951

FOREIGN PATENTS

474,519	Germany	Apr. 4, 1929
546,009	Great Britain	June 23, 1942