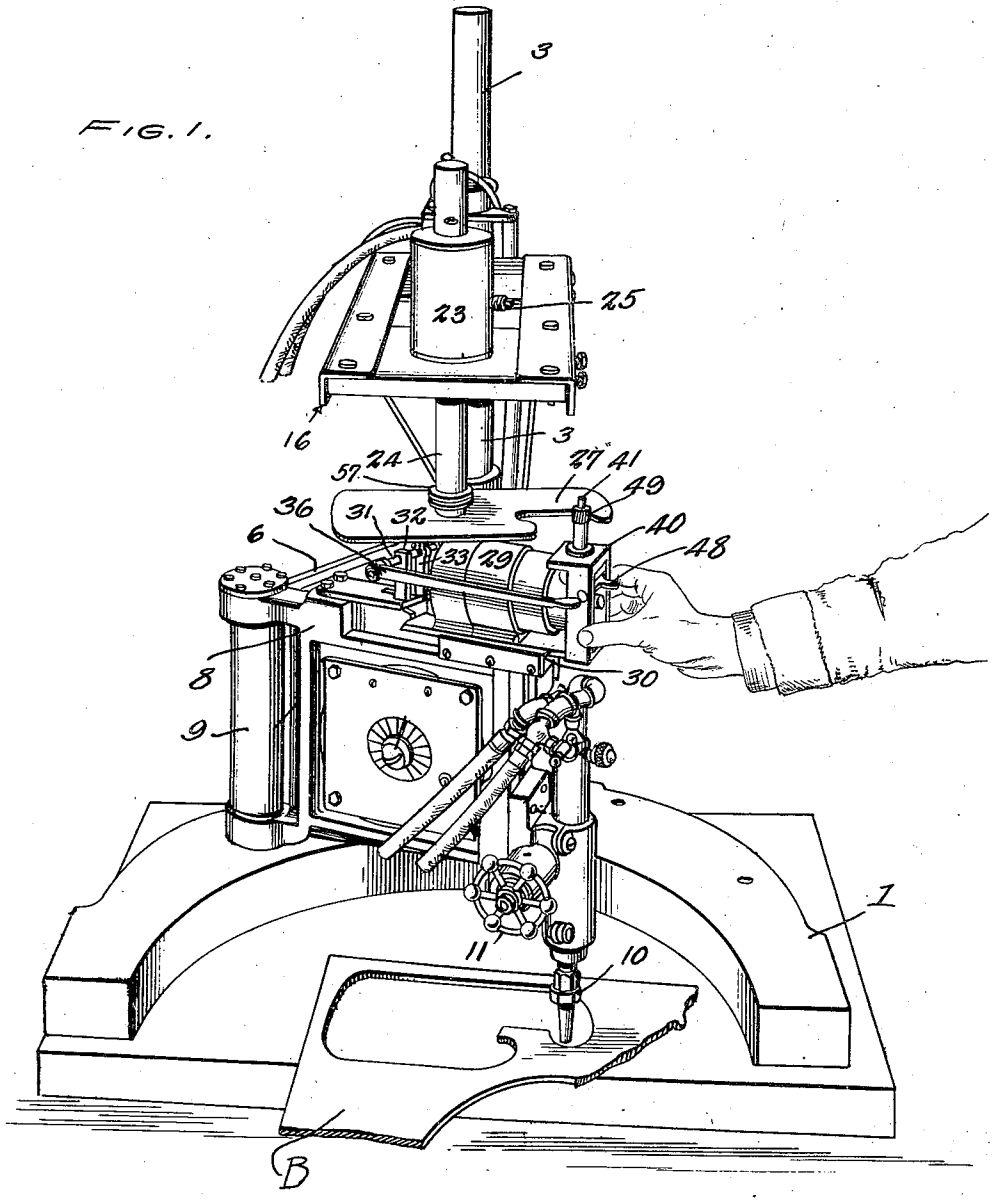
Nov. 7, 1939. A. OHMSTEDE 2,178,938

CUTTING MACHINE

Filed March 30, 1938 4 Sheets-Sheet 1

FIG. 1.



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CUTTING MACHINE

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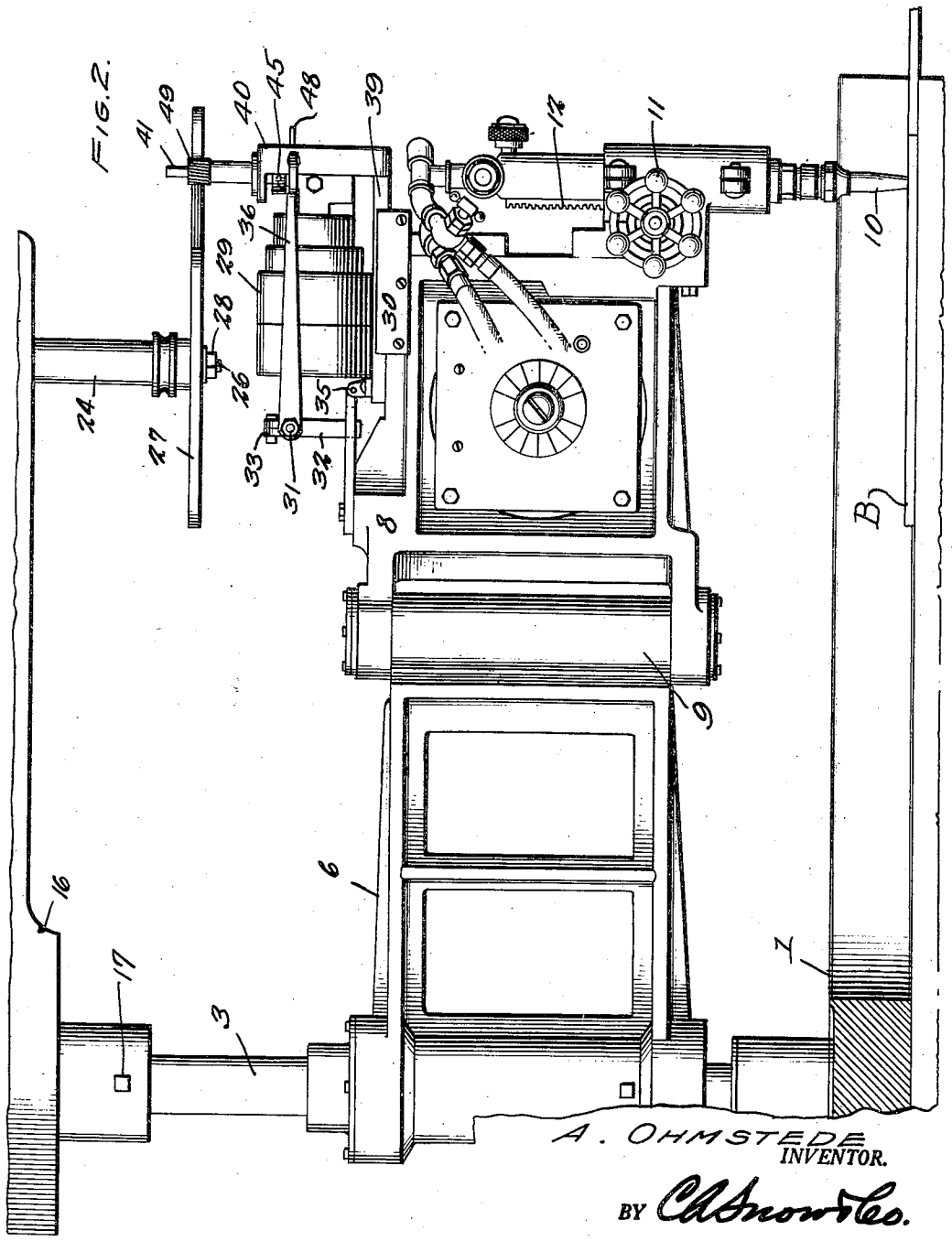
FIG. 2.



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CUTTING MACHINE

Filed March 30, 1938 4 Sheets-Sheet 3

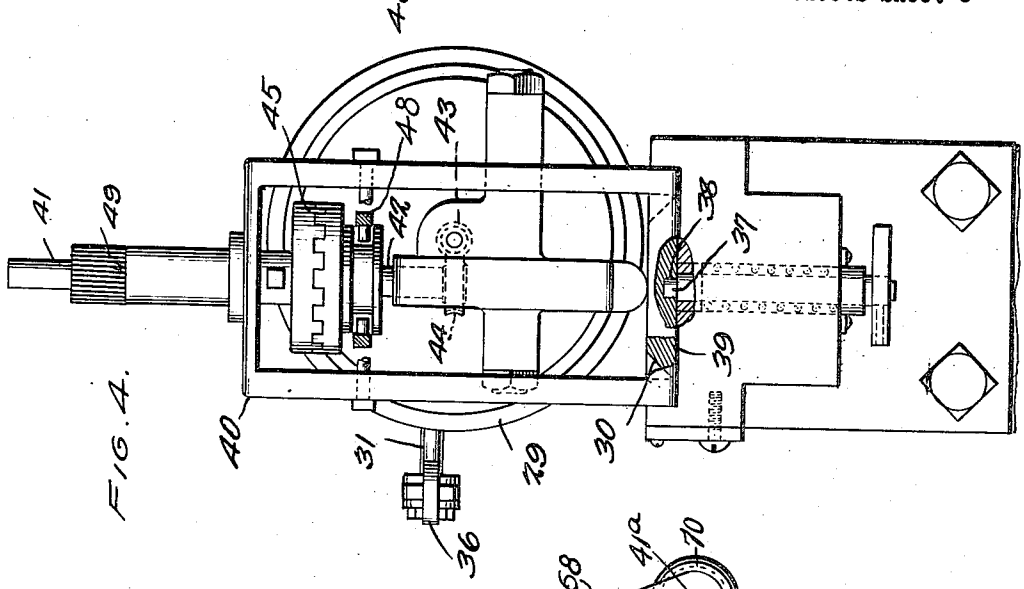

FIG. 4.

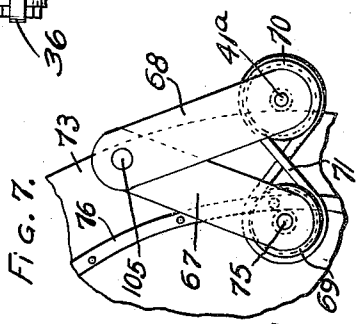

FIG. 7.

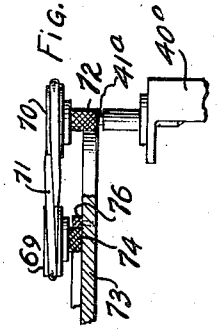

FIG. 8.

FIG. 3.

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CUTTING MACHINE

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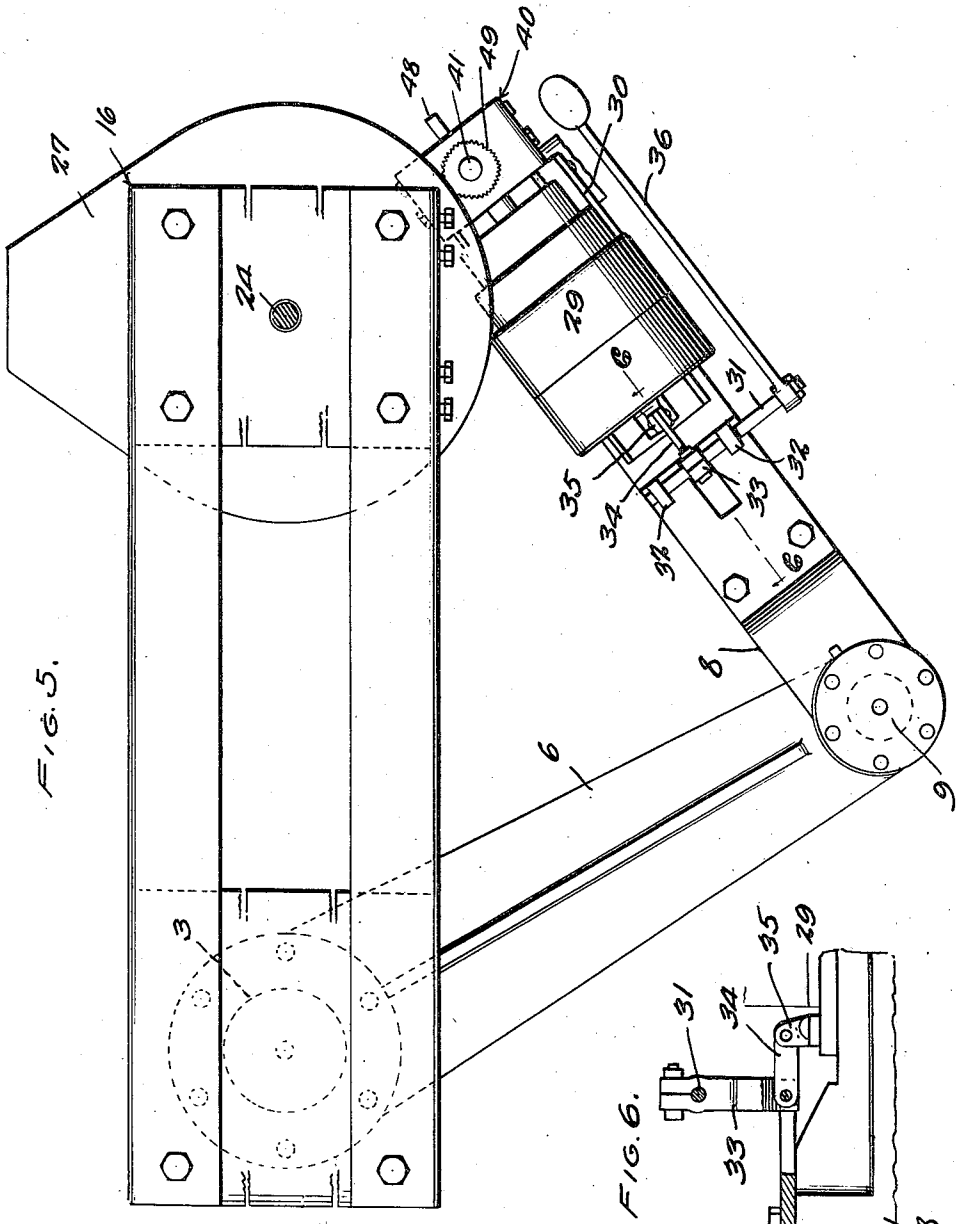

FIG. 5.

FIG. 6.

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Patented Nov. 7, 1939

2,178,938

UNITED STATES PATENT OFFICE

2,178,938

CUTTING MACHINE

August Ohmstede, Beaumont, Tex.

Application March 30, 1938, Serial No. 198,984

2 Claims. (Cl. 266—23)

This invention discloses, in a cutting machine of the torch type, novel means whereby the machine can be operated conveniently, and novel means for constraining the torch to follow a pattern.

In the accompanying drawings:

Figure 1 is a perspective view of a cutting machine wherein the invention is embodied;

Figure 2 is a side elevation of the machine;

Figure 3 is a side elevation showing a portion of the motor and attendant parts;

Figure 4 is an end elevation of the structure depicted in Fig. 3;

Figure 5 is a top plan wherein superior parts are sectioned away and inferior parts omitted;

Figure 6 is a section on the line 6—6 of Figure 5;

Figure 7 is a side elevation partly in section showing a means for holding the guide roller in contact with the edge of the pattern;

Figure 8 is a top plan of the mechanism illustrated in Figure 7.

In carrying out the invention there is provided an arcuate supporting base 1, on which is mounted a vertical pedestal 3. An inner arm 6 is mounted on the pedestal 3 for horizontal swinging adjustment. The numeral 8 designates an outer arm, hingedly connected at 9 to the inner arm 6 for horizontal swinging adjustment.

The numeral 10 designates a cutting torch mounted in the outer end of the arm 8 for vertical adjustment through the instrumentality of a rack and pinion mechanism 11—12, whereby the torch may be moved to and from the blank B to be cut.

A pattern supporting frame 16 is mounted for horizontal swinging movement on the upper end of the pedestal 3, and is held in adjusted position by a set screw 17. The frame 16 carries a collar 23 in which a depending, vertically-adjustable standard 24 is mounted, and the standard is held in adjusted position by a locking mechanism 25 on the collar 23. The lower end of the standard 24 has a reduced stem 26, on which a pattern 27 may be held by a lock nut 28.

An electric motor 29 is adjustable inwardly and outwardly upon tracks 30 on the arm 8. The motor 29 is adjusted inwardly and outwardly by means of a shaft 31 rotatably mounted in ears 32 on the arm 8, the shaft being connected by a crank arm 33 and a link 34 to a bracket 35 on the base 39 of the motor 29. An elongated operating handle 36 is secured to one end of the shaft 31, and extends forwardly beyond the electric motor 29. By means of the handle 36 and associated parts, the motor 29 may be adjusted in or out on the arm 8. A locking device 37, carried by the arm 8, cooperates with notches 38 in the base 39 of the motor 29, to hold the motor in adjusted position.

Mounted upon the motor base 39, is a clutch housing 40, in which alined shafts 41 and 42 are journaled. The shaft 42 is driven by the motor 29, through a worm 43 on the motor shaft and a pinion 44 on the shaft 42. A clutch mechanism 45 connects the shafts 41 and 42. The lower member of the clutch mechanism 45 is shifted into and out of engagement with its fellow by a common means, including a short lever 48 fulcrumed intermediate its ends on the housing 40. A knurled follower roller 49 is secured to the shaft 41 and is adapted to engage the edge of the pattern 27. When the motor 29 is operated, the roller 49, following the pattern 27, will cause the torch 10 to cut a corresponding outline in the blank B, the roller being kept manually in connect with the pattern.

In Figures 7 and 8, parts hereinbefore described are designated by numerals already used, with the suffix *a*. Figures 7 and 8 show a mechanism for holding the roller 72 in contact with the pattern 73. Arms 67 and 68 are pivotally connected at 105 and pulleys 69 and 70 are connected by a resilient belt 71. The pulley 70 is mounted upon the shaft 41*a*, and the shaft carries the aforesaid roller 72, which is adapted to engage the edge of the pattern 73. A second roller 74 is mounted upon the shaft 75 of the pulley 69, the shaft being carried by the arm 67. The roller 74 engages a track 76 secured to the pattern 73, the roller 74 rotating with the pulley 69.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a cutting machine of the class described, a base, a pedestal carried by the base, pivotally connected inner and outer arms, the inner arm being mounted for swinging movement on the pedestal, a supporting frame mounted on the pedestal above the arms, a pattern holder carried by the frame, near the outer end thereof and below the frame, in spaced relation to the pedestal, a motor mounted on the outer portion of the outer arm for sliding movement longitudinally of said arm, a clutch housing carried by the motor and disposed outwardly of the motor, upper and lower shafts journaled in the clutch housing, a driving connection between the motor and the lower shaft, a follower carried by the upper shaft and traversing the edge of a pat-

tern carried by the pattern holder, a clutch in the clutch housing and connecting the shafts, means for sliding the motor and means for actuating the clutch, each of said means including a part under the immediate control of an operator, both of said parts extending outwardly to places closely adjacent to the outer end of the outer arm, the pattern holder being located accessibly adjacent to the outer end of the outer arm, whereby both of said parts, and the pattern holder, may be reached conveniently by an operator at the outer end of the outer arm.

2. In a cutting machine of the class described, a frame, a pattern mounted on the frame and having a track spaced from its periphery, diverging inner and outer arms, means for pivotally connecting the arms together, pulleys journaled on the arms, a resilient belt connecting the pulleys, means associated with the pulleys for traversing the track and the edge of the pattern respectively, and means for holding a cutting torch for movement with the outer arm and for supporting the arms for movement circumferentially of the pattern.

AUGUST OHMSTEDE.