

Sept. 20, 1960

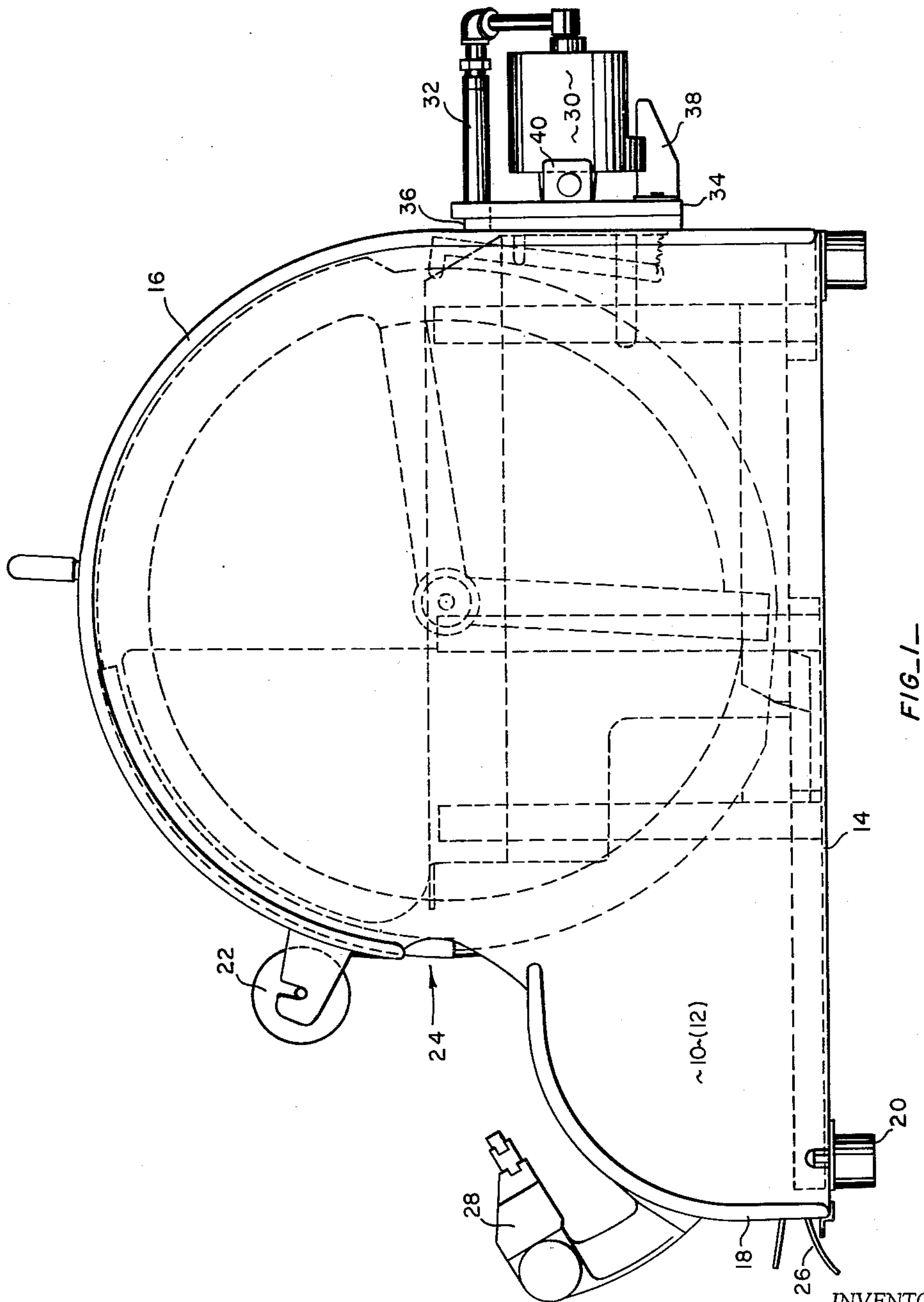
P. N. BRAUN

2,953,086

IDENTIFICATION MARKING MACHINE

Filed April 13, 1959

3 Sheets-Sheet 1



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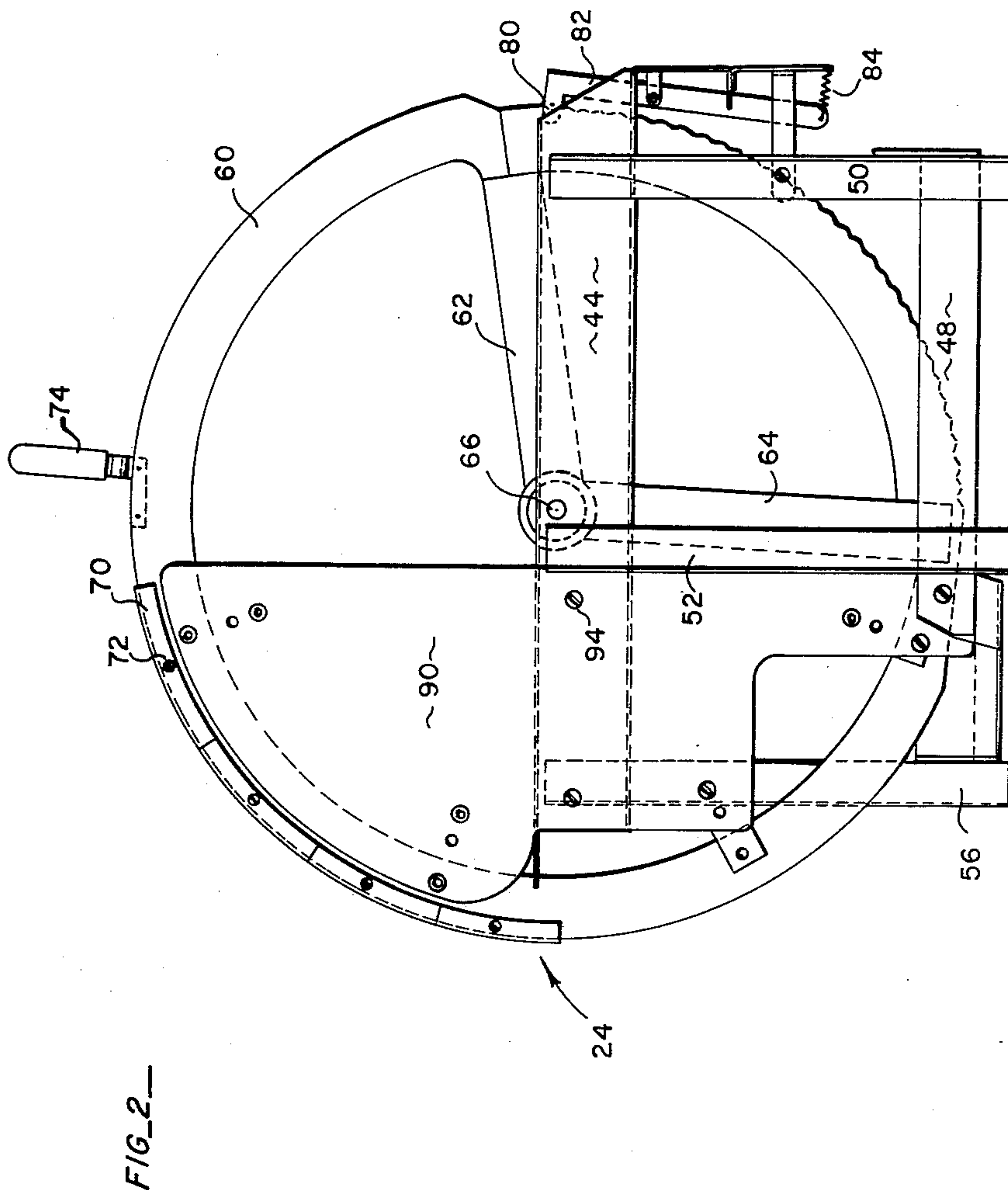
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3 Sheets-Sheet 2



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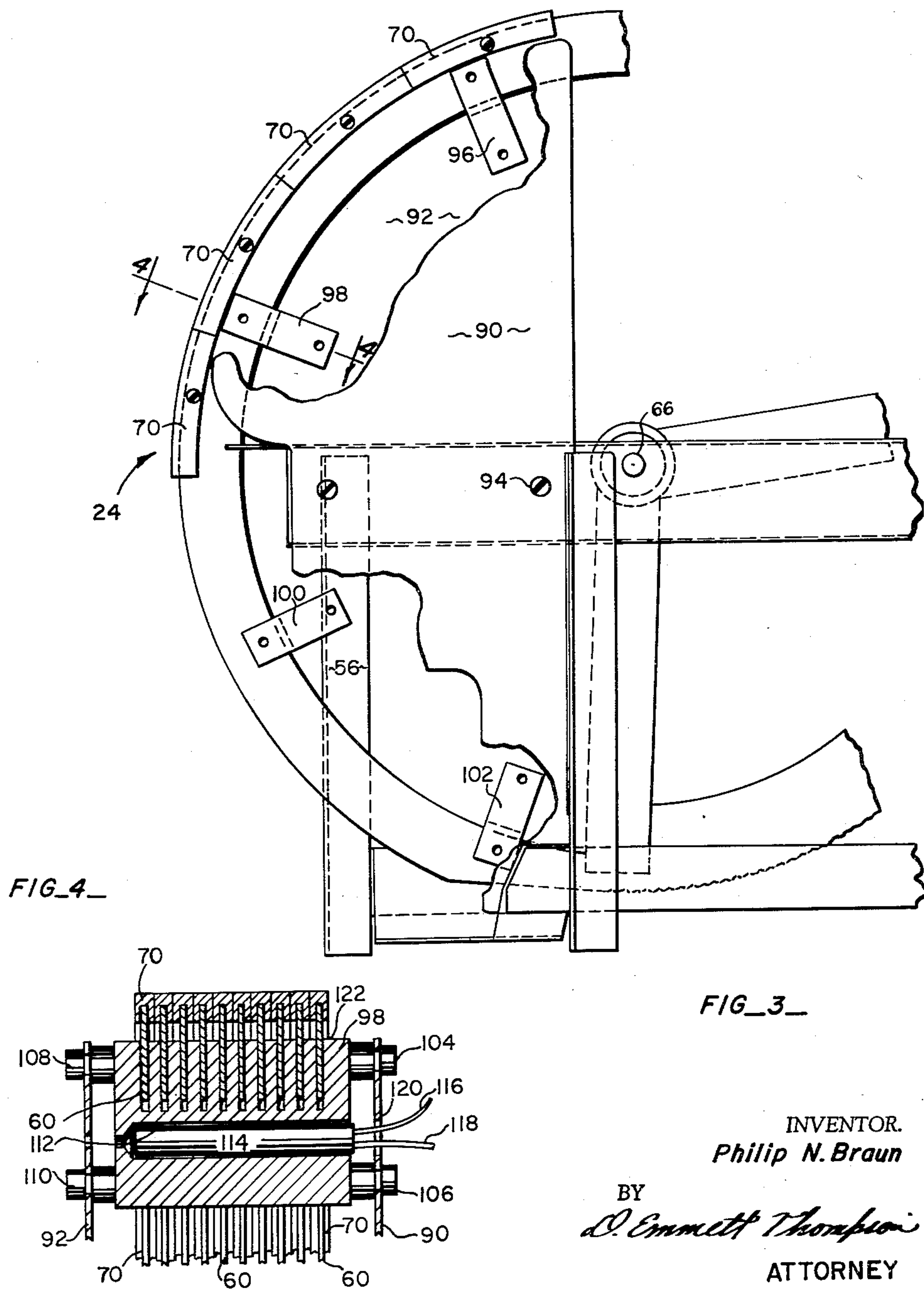
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2,953,086

## IDENTIFICATION MARKING MACHINE

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3 Claims. (Cl. 101—95)

This invention relates to a garment marking machine of the type which utilizes a plurality of heated type segments movable about a common axis to form a print line and cooperable with a thermally responsive printing medium and pressure to permanently mark garments, or the like, with identification indicia. In such machines, it is important in order to readily identify garments as they are being processed through a laundering or dry cleaning plant to clearly and uniformly mark the garments. In order to so clearly and uniformly mark the garments, it is necessary to provide the type segments of the garment marking machine with uniform heating means.

Accordingly, it is an object of this invention to provide a garment marking machine with a new and improved structure for uniformly and continuously heating the type segments.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

In the drawings—

Figure 1 is a side elevational view of a garment marking machine embodying my invention.

Figure 2 is a side elevational view of a sub-assembly of the machine shown in Fig. 1.

Figure 3 is a fragmentary view with parts broken away of the sub-assembly, shown in Figure 2, and

Figure 4 is a fragmentary cross-sectional view taken on line 4—4 of Figure 3.

In Figure 1, the garment marking machine comprises a housing including side plates 10, 12, bottom plate 14, top cover 16 and front cover 18. A plurality of feet 20 are carried by the bottom plate 14 and serve to support the machine. A roll of thermally responsive printing tape 22 is supported on the forward portion of the top cover 16 and is guided over a print line 24 and through the housing and out of the housing as at 26. A garment supporting platen 28 is pivotally mounted in the housing for movement toward and away from the print line 24. A power assist means, including a cylinder 30 supplied with fluid pressure through a line 32 is mounted for reciprocatory movement on a pair of plates 34, 36 carried at the back of the housing. The cylinder movement is guided by the rail 38 and a pair of arms, the rearward portion 40 of one of which is shown in Figure 1, pass through the housing and are positioned to engage the platen 28 whereby when the cylinder 30 is actuated, the garment carried by the platen 28 and the platen will be urged into engagement with the thermally responsive tape, pressing the same against the print line 24 to mark the garment with identification indicia. The machine thus far described is substantially the same as disclosed in my copending application 778,902, filed on December 8, 1958, and comprises no part of this invention.

This invention is directed to the printing assembly and

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means for heating the print assembly shown and disclosed in Figures 2, 3 and 4. In Figure 2, the printing assembly comprises two pairs of horizontally disposed frame members 44 and 48 interconnected with three pairs of upstanding supporting members 50, 52 and 56. A plurality of arcuate type carrying members 60 are mounted between the pairs of vertical and horizontal frame members and each member 60 is carried by a pair of angularly extending spiders 62 and 64 for rotation about a common axis on a central shaft 66. A plurality of type arcuate plates 70, carrying identification indicia, are mounted by any suitable means such as the screws 72 on the forward peripheral portion of each type carrying member 60.

Each of the type carrying members 60 is provided with an upwardly extending handle 74 to facilitate rotation of the members 60 in order to position the desired identification indicia at the print line 24. Suitable detent apparatus, including a detent roller 80 mounted on the end of a pivotally mounted detent arm, and urged into engagement with the notched rearward portion of the segments 60 by means of a tension spring 84 functions to properly position the adjacent segments 60 so as to form the print line.

Referring to Figures 2 and 3, a pair of side plates 90, 92 are mounted on opposite sides of the type assembly frame by means of the screws 94. Carried between the side plates 90 and 92 in circumferentially spaced positions are a plurality of comb-like heater elements 96 and 98, 100 and 102. Each of the heaters is supported between the plates 90 and 92 by means of outwardly extending pins 104, 106, 108 and 110, carried by each of the heaters. As best seen in Figure 4, the pins extend through suitable apertures formed in the plates 90 and 92 and have enlarged heads to retain the heaters between the plates 90 and 92.

Each of the heaters is provided with an aperture 112, extending transversely of the heater length in which a heating element 114 is received. Each of the heating elements has lead wires 116 and 118 extending through an aligned aperture 120 formed in the side plate 90. Each of the heaters is formed with a plurality of slots, or notches positioned in close adjacency across the face 122 of the heaters. Received within the slots are the type bearing segments 60 on which the identification indicia 70 are mounted. As will be obvious, when the heaters 96, 98, 100 and 102 are heated by the heating elements 114, the heat will be conducted to the type carrying segments 60 received within the notches and, in turn, to the identification indicia 70, carried by the segments 60.

Due to the equal spacing of the heaters in the printing assembly, as best seen in Figure 3, each of the type carrying segments 60 will be uniformly and continuously heated throughout the circumferential portion of the segment carrying the type 70 so that a uniform printing operation will be effected when the garment platen 28 moves a garment into engagement with the thermally responsive printing tape 22 at the print line 24. As will also be obvious, the notches in the heaters serve to guide and support the type carrying segments 60 as they are rotated about the shaft 66 to form different type lines. Finally, by reason of the positioning of the heaters in the printing assembly, the circumferential portion of the type segments 60 which carry the identification indicia 70 will at all positions of the type segments be received within at least two of the heaters so as to at all times maintain the segments 60 at proper printing temperature. With this arrangement the type segments 70 are always ready for the printing operation when moved to the print line 24.

While only four heaters have been shown, it is to be



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understood that as many, or as few, heating elements as are necessary may be utilized in order to effect a uniform printing operation. Similarly, the type elements 70 may be formed integrally with the type carrying segment 60 if so desired.

What I claim is:

1. In a garment marking machine having a plurality of arcuate type carrying segments movable in close adjacency about a common axis to form a print line, a garment platen movable to and from the print line and thermally responsive printing tape mounted for movement over said print line, the improvement comprising a plurality of segment heaters positioned in circumferentially spaced relation along the path of movement of said type segments to uniformly and continuously heat the type carrying portion of said segments, portions of said segments being received in and guided by a plurality of closely adjacent notches formed in said heaters and means for heating said heaters.

2. Claim 1, wherein said heaters are so positioned along the path of movement of said segments that at least two of said heaters are in heat exchanging relation with said segments in all positions of said segments in order to uniformly heat and properly guide said segments.

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3. In a garment marking machine having a plurality of arcuate shaped type carrying segments, print type affixed to a portion of the periphery of each segment, said segments being individually movable in close adjacency about a common axis to position the type at a print line, a garment platen movable toward and from the print line, and a thermally responsive printing tape mounted for movement over said print line, the improvement comprising a plurality of segment heaters positioned in circumferentially spaced relation along the path of movement of said type segments, each of said heaters being formed with a plurality of closely adjacent notches to receive said segments, respectively, and an electric heater element positioned in each of said heaters.

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