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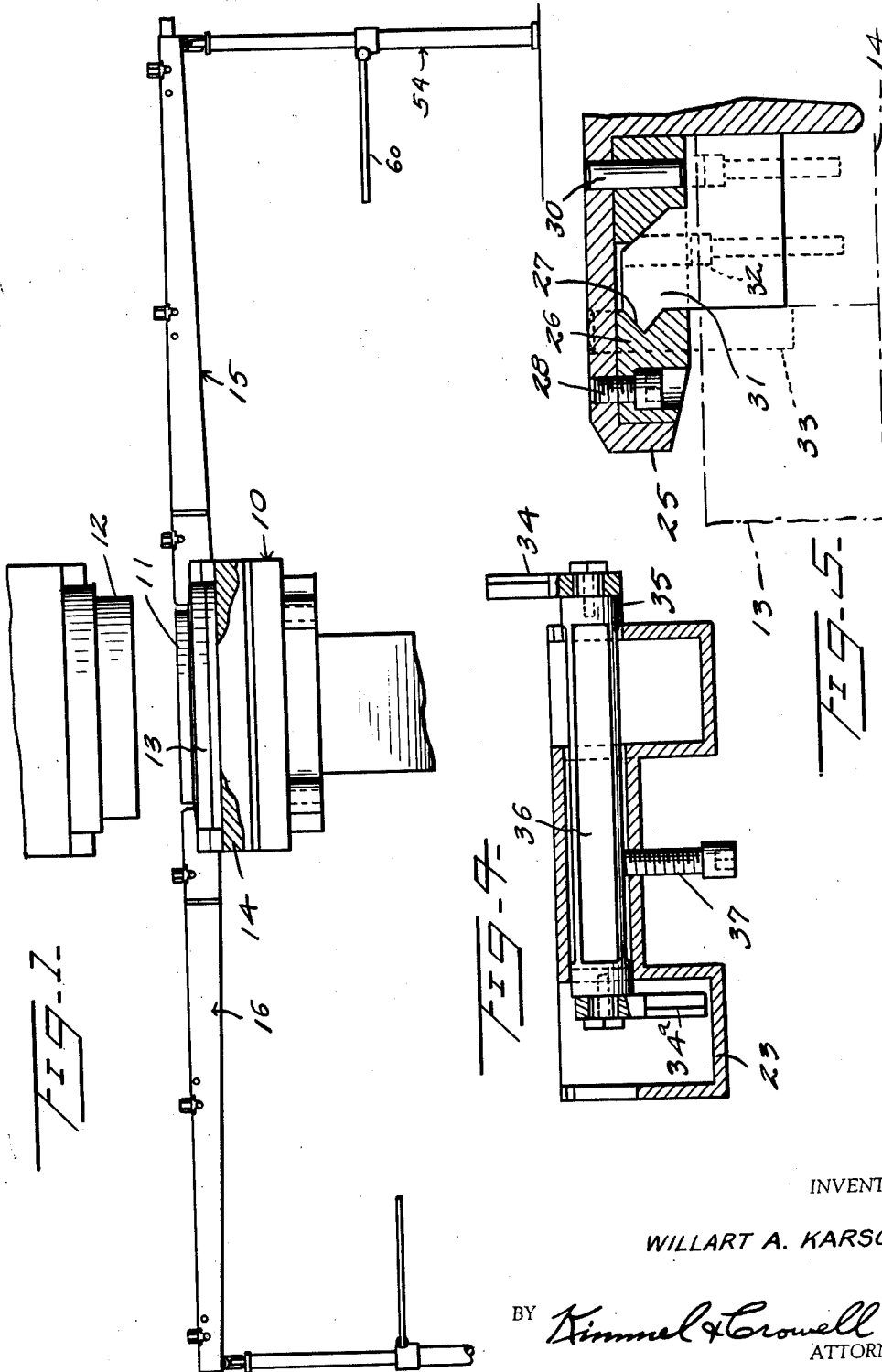
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STAMPING MACHINE WITH SHEET-FEEDING ATTACHMENT

Filed Dec. 19, 1949

2 Sheets-Sheet 1



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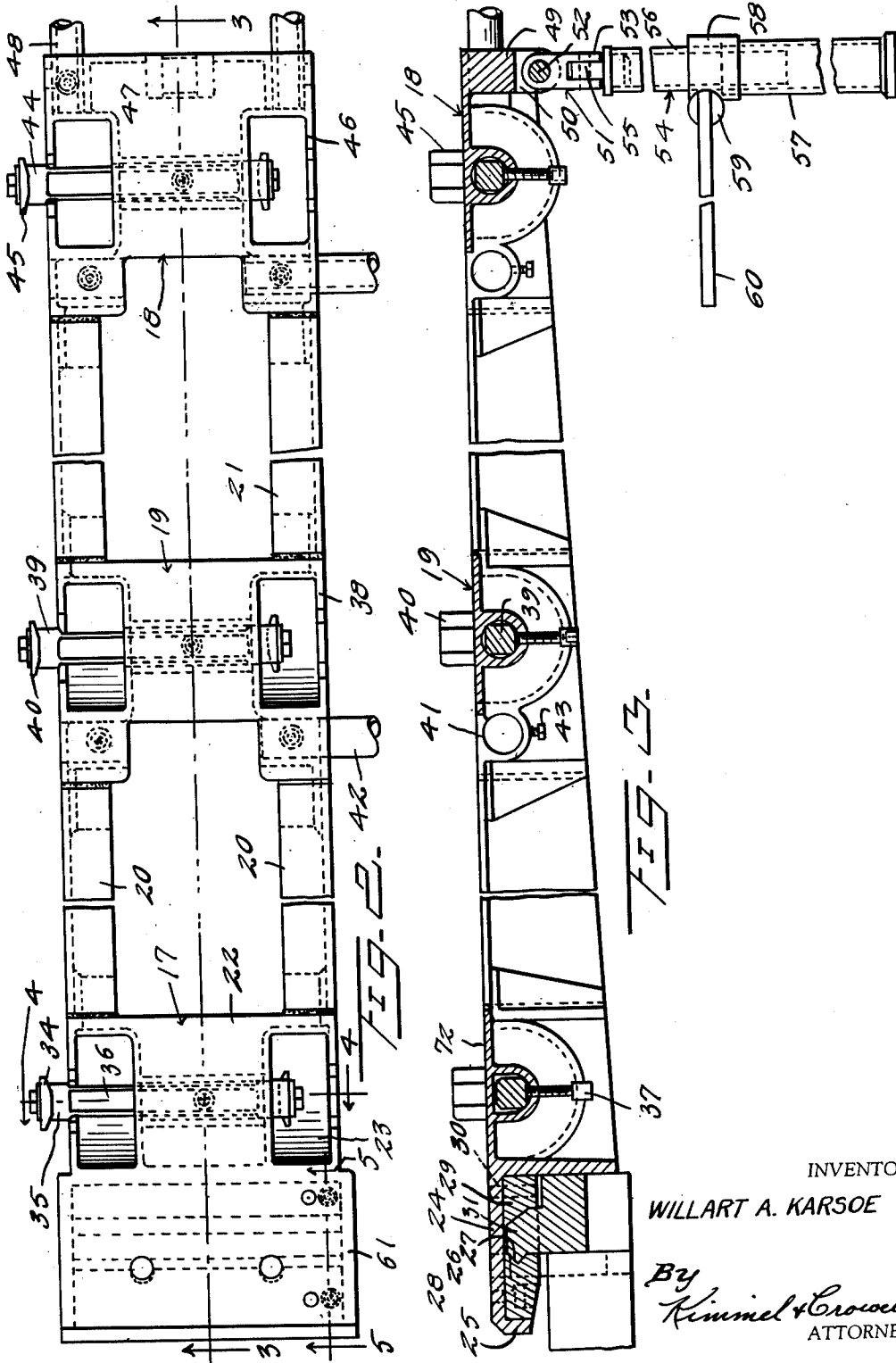
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STAMPING MACHINE WITH SHEET- FEEDING ATTACHMENT

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1 Claim. (Cl. 113—113)

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This invention relates to a sheet supporting rack for stamping machines.

An object of this invention is to provide a supporting rack structure for sheet metal being fed to a stamping machine which will support the blank sheet in the plane of the lower die, the rack structure including an adjustable guide means for the sheet.

Another object of this invention is to provide a rack structure of this kind which includes means whereby extension members may be added to the structure for supporting wide sheets.

A further object of this invention is to provide a rack structure for stamping machines which can be detachably secured to the machine, and includes an extensible and collapsible outer leg for supporting the outer end of the rack.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claim.

In the drawings,

Figure 1 is a detail side elevation, partly broken away and in section, of a sheet metal supporting rack structure for a die stamping machine, constructed according to an embodiment of this invention,

Figure 2 is a plan view of one of the rack members,

Figure 3 is a sectional view, partly broken away, taken on the line 3—3 of Figure 2,

Figure 4 is a sectional view taken on the line 4—4 of Figure 2,

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 2.

Referring to the drawings, the numeral 10 designates generally a stamping machine of conventional construction, which is provided with a lower stationary die member 11, and an upper movable die member 12. The die member 11 is carried by a circular plate 13 which is mounted on a bed or supporting plate 14 carried by the frame of the machine.

In order to provide a means whereby a sheet of metal may be supported for horizontal movement in the plane of the lower die member 11, I have provided a pair of sheet supporting rack members generally designated as 15 and 16.

The rack members 15 and 16 are of like construction and are mounted at diametrically opposed points on the plate 13 and extend from opposite sides of the die member 11, with the upper surfaces thereof co-planar with the upper surface of the die member 11. Rack member 15 is

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formed of an inner cast body 17, an outer cast body 18, and an intermediate cast body 19. The bodies 17 and 19 are fixed together by welding a pair of angle members 20 to the bodies 17 and 19, and the bodies 18 and 19 are connected together by means of a pair of outer angle members 21 which are welded to the bodies 18 and 19.

The body 17 which is the inner body is formed of a top plate 22 having a pair of upwardly opening substantially semi-circular boxes 23 formed at the opposite ends thereof, and the body 17 includes an inner plate 24 co-planar with the plate 22. The plate 24 is formed at its inner end with a depending flange 25, and a slide block 26 formed with a V-shaped keyway 27 is secured by fastening means 28 to the lower side of the plate 24 and in abutting relation to the flange 25.

A second block 29 is secured by fastening means 30 to the lower side of the plate 24 outwardly from the block 26, and a guide or key member 31 is adapted to engage between the blocks 26 and 29 for locking the inner end of the rack member 15 to the stamping machine 10. The key member 31 is adapted to be secured as by fastening means 32 to the plate 14, as shown in Figure 5. When the inner end of the rack member 15 is locked to the stamping machine 10 by engagement of the key or lock 31 in the keyway 27, the inner end of the rack 15 is held against lateral shifting by means of dowel pins 33 or the like, which are extended through the inner end of the rack member 15 and engage in the plate 13.

A sheet guiding member or finger 34 is mounted on a shaft 35 which engages through the block 17, and the shaft 35 is formed with polygonal intermediate faces 36, with one of which a set screw 37 is adapted to engage for holding the shaft 35 against both endwise and rotary movement. Where a relatively large sheet of metal is engaged on the upper side of the rack 15, one of the guide members 34 may be disposed in upwardly extended position, whereas the opposite guide member 34a at the opposite end of the shaft 35 may be disposed oppositely from the guide member 34 and seat within one of the boxes or housings 23, as shown in Figure 4, according to the position of the shaft 35 to permit the opposite finger to move to upright position whereby either side of the table may be used as a guide regardless of the width of the shaft.

The intermediate body 19 is constructed similar to the inner body 17, being formed with a pair of outer boxes or housings 38 and a guide supporting shaft 39 engages in the body 19 and has secured to the opposite ends thereof guides

40 similar to the guides 34 and 34a. Body 19 also includes a bushing 41 within one end of which a bar or tubular supporting member 42 is adapted to be secured by a set screw 43 so that the rack structure may be laterally extended to provide a suitable support for a relatively wide piece of sheet metal.

Body 18 is also constructed similar to body 17 and includes a shaft 44 having secured to the opposite ends thereof guides 45, with one of the guides engaging within one of the two housings or boxes 46 formed at the opposite sides of the body 18. The body 18 also includes a pair of end bushings 47 within which lengthwise extending bars or tubes 48 are adapted to be secured for extending the length of the support beyond the end of the rack 15. The body 18 has secured to the outer end thereof a block 49, having a pair of ears 50 between which a connector 51 is rockably mounted. The connector 51 is mounted on a pivot member 52 which extends through the ears 50, and the connector 51 includes a pair of ears 53.

An extensible leg member generally designated as 54 is pivotally secured to the connector 51 and includes an ear 55 secured to the upper end of an inner leg member 56. The leg member 56 telescopes into a lower tubular leg member 57 and is fixed in vertically adjusted position by means of a split clamp 58 which is carried by the upper end of the lower leg member 57.

A clamping screw 59 is carried by the clamp 58 and has an elongated handle 60 secured thereto so that the screw or bolt 59 may be conveniently rotated to either a clamping or released position. The plate 24 at the forward end of the plate 22 has secured to the opposite sides thereof, depending flanges 61 which are adapted to engage at the opposite ends of the key or lock 31 to thereby hold the rack member 15 against lateral movement. The dowel pins 33 not only provide a means for holding the inner end of the rack member 15 against lateral movement, but also provide a means whereby the rack member 15 will be disposed in a horizontal plane.

In the use of this rack structure, the key members or locks 31 are secured to the plate or head 13 in parallel relation on opposite sides of the die 11. Each rack structure is engaged with the key or lock 31 by placing the slide block 26 inwardly of the key member 31 and in an overlaid position relative thereto. The outer end of the rack 15 is then raised to allow the keyway 27 to align with the key member 31, and the rack 15 is moved outwardly with the keeper or keyway block 26 sliding onto the key member 31. The outer end of the rack 15 is gradually lowered as the rack is moved outwardly and downwardly into engagement with the lock or key 31, and the extensible supporting leg 54 is then adjusted so that the rack structure 15 is in a true horizontal position co-planar with the upper side of the lower die 11.

With a rack structure as hereinbefore described, a firm and relatively solid guiding means is provided for the sheet metal which is being passed into the stamping machine, and the guides 34, 40 and 45 are accurately adjustable so that the stamping will take place at the desired point on the sheet metal. Where the metal is relatively wide or long, the laterally extendable extension members 42 may be secured to the rack member 15 or the endwise extending members 48 may be secured to the outer end of the rack member 15. This rack structure provides a means whereby the rack may be removed and subsequently replaced without changing the original set position.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claim.

What I claim is:

20 A stamping machine having a lower stationary die, a table having a horizontal top portion adjacent and at the same level as the top of the die, a transverse portion forming a channel at a lower level transverse to the direction of the sheet feed to the die, semicircular boxes at each end of said channel open on their outer sides, a shaft member having a polygonal intermediate section rotatably and slidably mounted in said channel, lock means engaging said section for releasably securing said shaft against rotation and transverse movement whereby said shaft may be locked in a selected transverse or rotative position of said shaft, and a single work engaging finger extending radially at each end of said shaft member, the fingers at opposite ends extending in diametrically opposite directions, said fingers being of a length substantially equal to the radius of said boxes, whereby one of said fingers may seat in a box when the other is vertically upright.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
348,462	Hall	Aug. 31, 1886
440,969	Smith	Nov. 18, 1890
664,148	Herpel	Dec. 18, 1900
723,383	Harben	Mar. 24, 1903
743,650	Mancha	Nov. 10, 1903
751,121	Tidey	Feb. 2, 1904
1,029,159	Westerbeck	June 11, 1912
1,031,605	Wing	July 2, 1912
1,066,528	Randolph	July 8, 1913
1,127,975	Elwing	Feb. 9, 1915
1,267,379	Cook	May 28, 1918
1,460,344	Kager	June 26, 1923
1,578,855	Schoendelen	Mar. 30, 1926
1,940,581	Carter	Dec. 19, 1933
2,156,015	Greiner	Apr. 25, 1939
2,495,275	Miller	Jan. 24, 1950
2,500,196	Metzner	Mar. 14, 1950
2,579,922	Goldsworthy	Dec. 25, 1951