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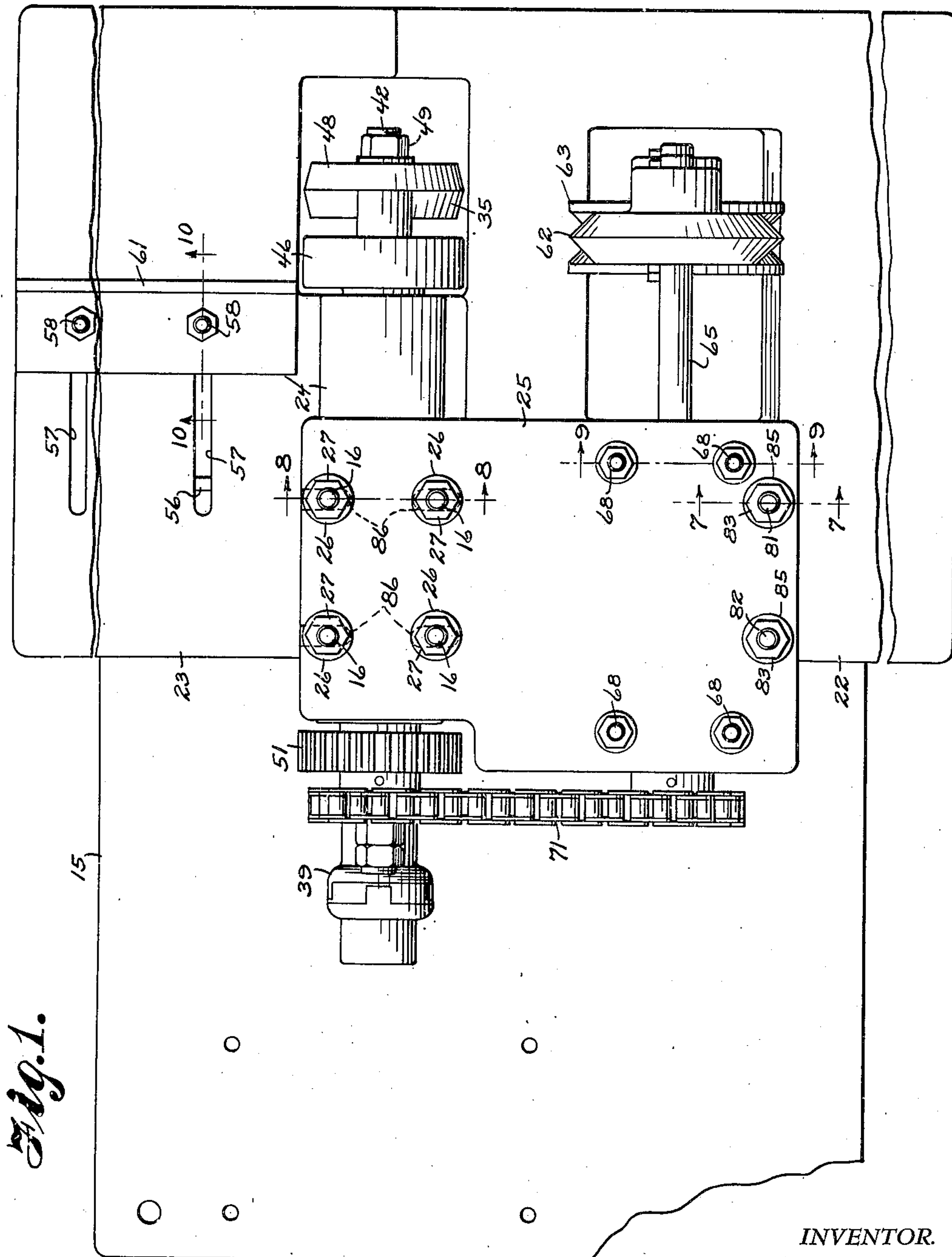
C. F. FULLER

2,486,147

CORNER RIGHT, SHEAR AND BENDING MACHINE ASSEMBLY

Filed March 20, 1947

4 Sheets-Sheet 1



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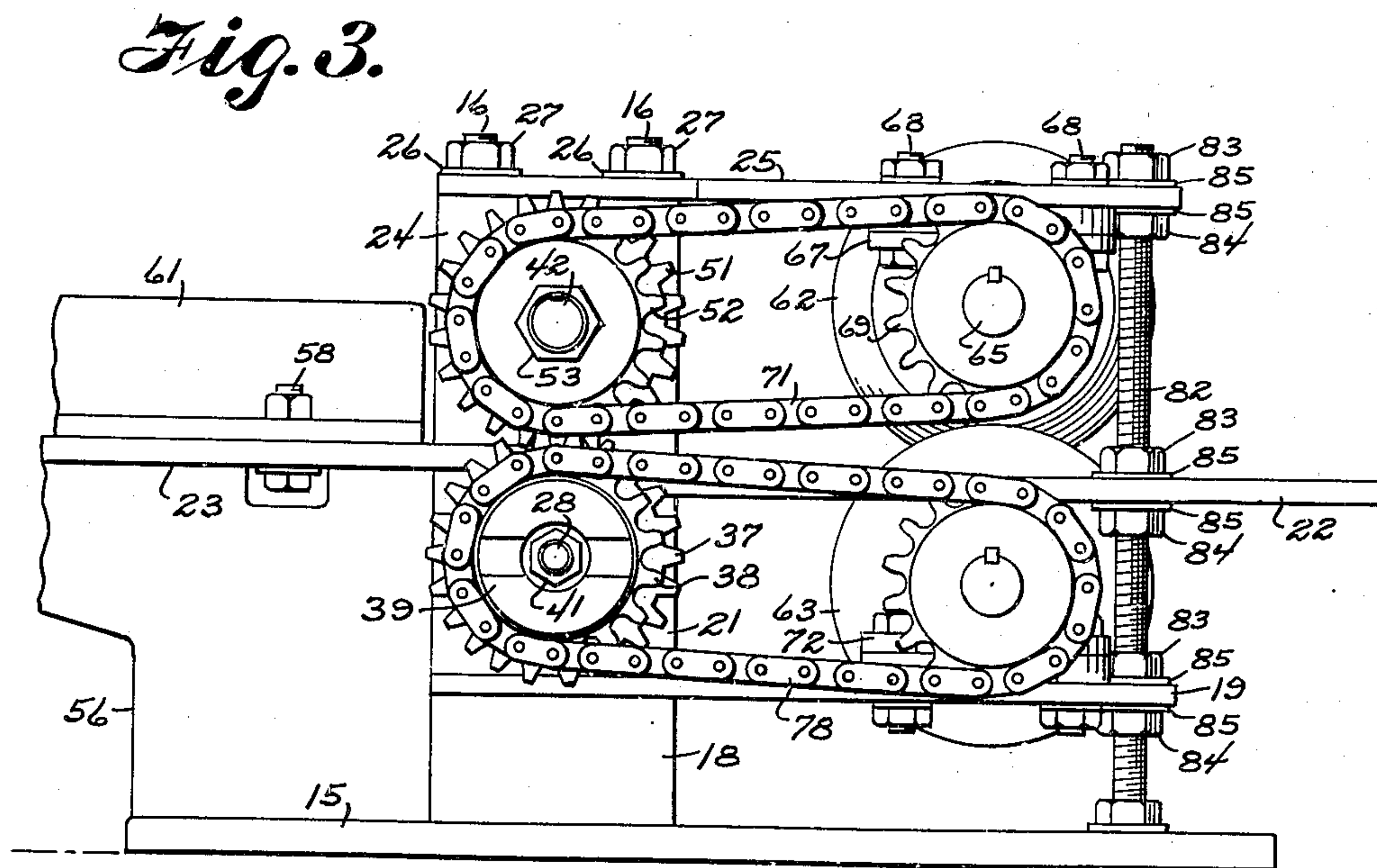
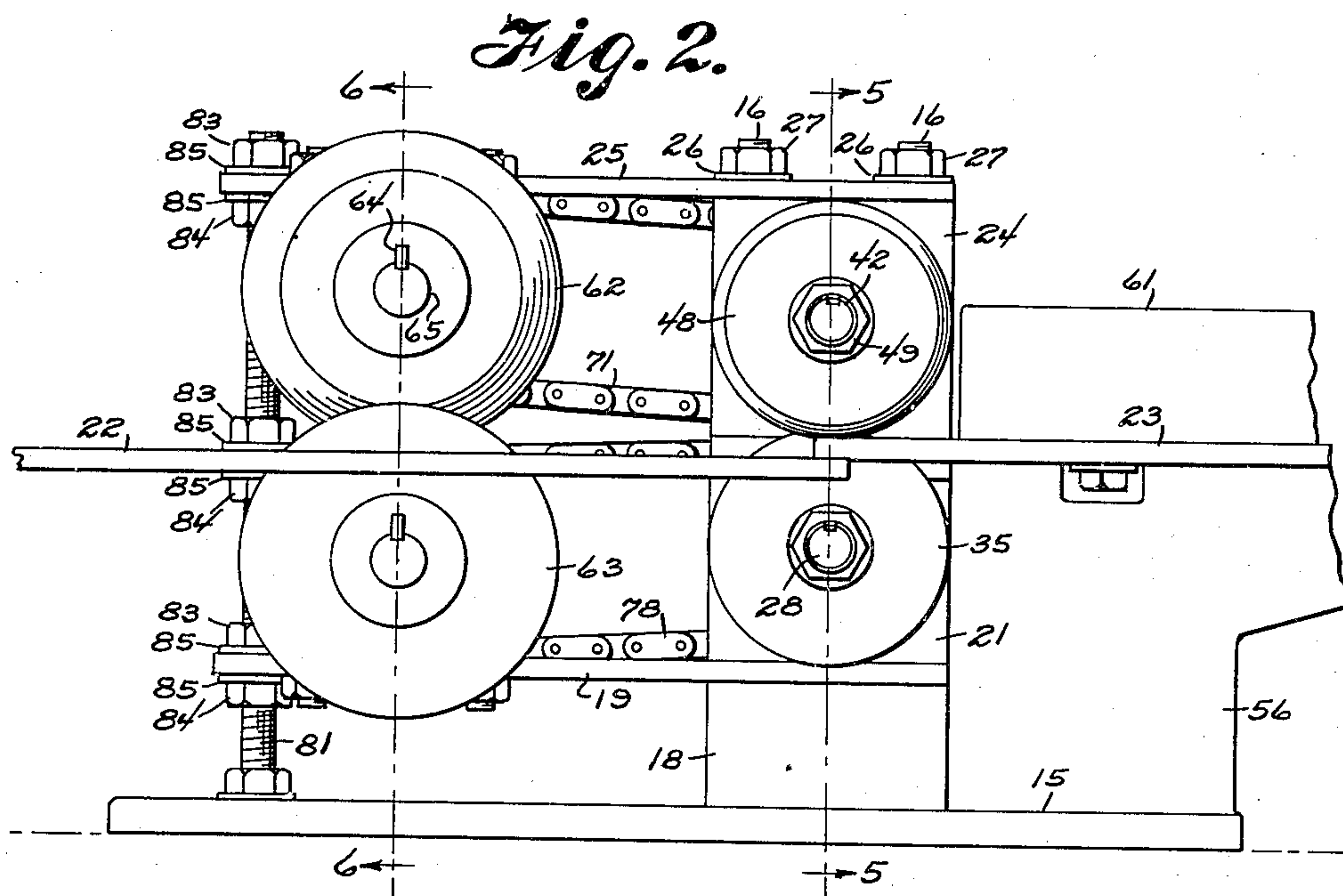
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4 Sheets-Sheet 2



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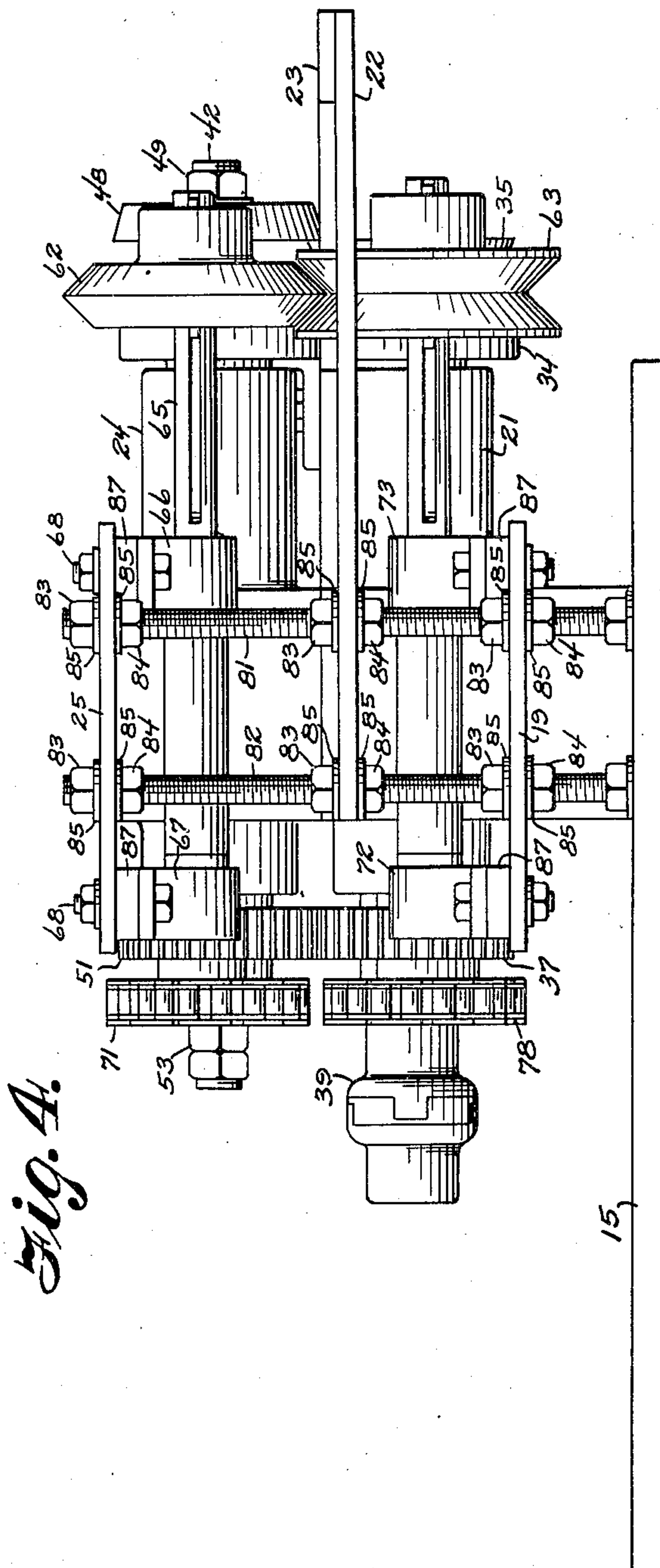


Fig. 10.

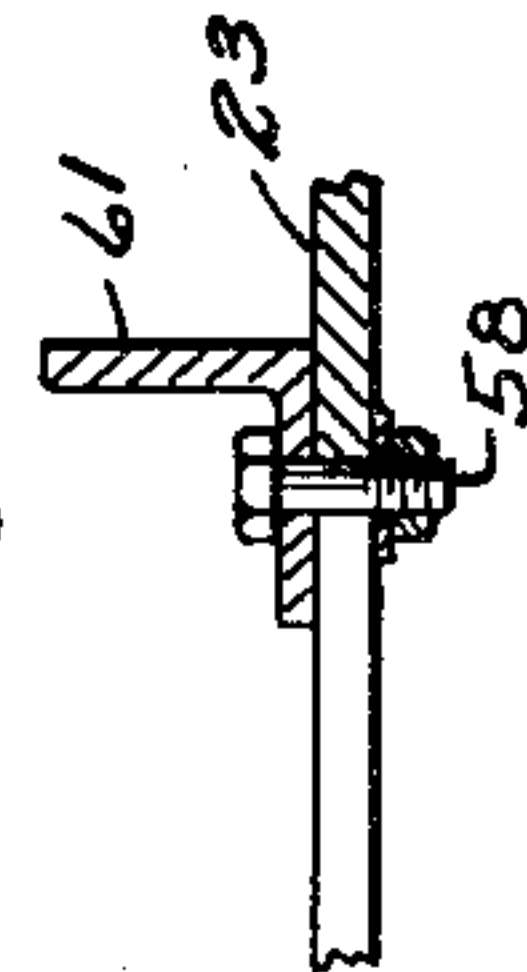
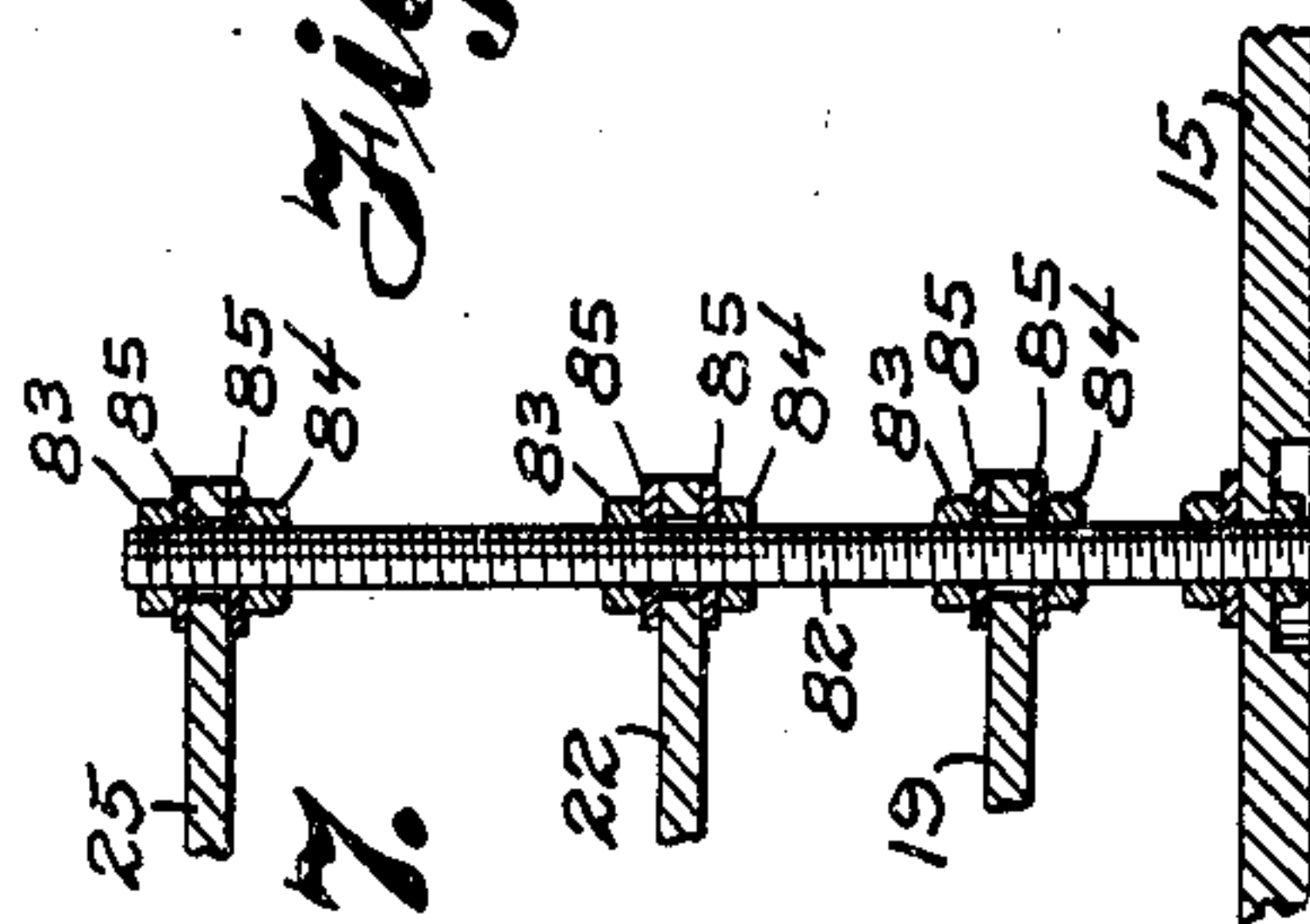
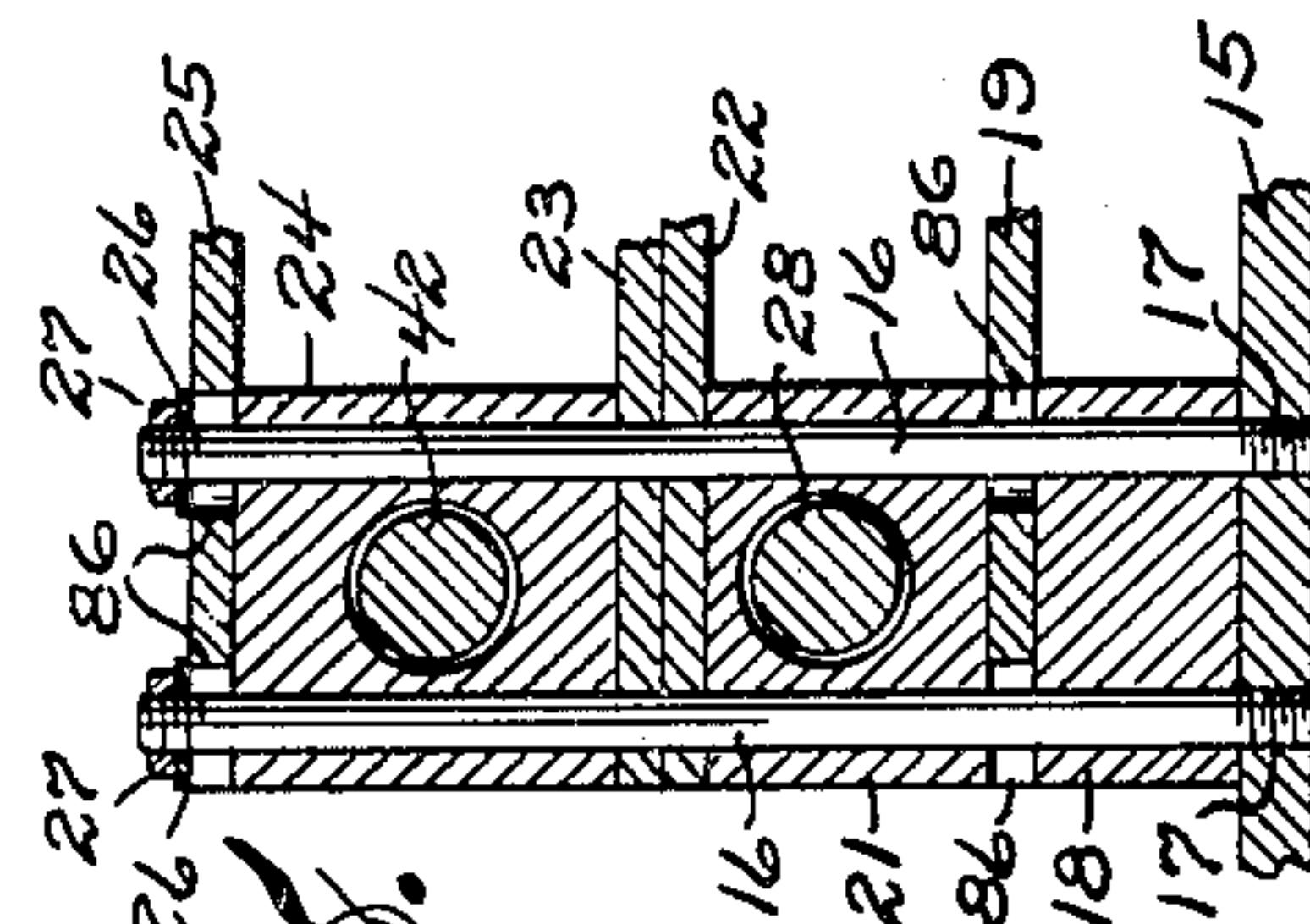
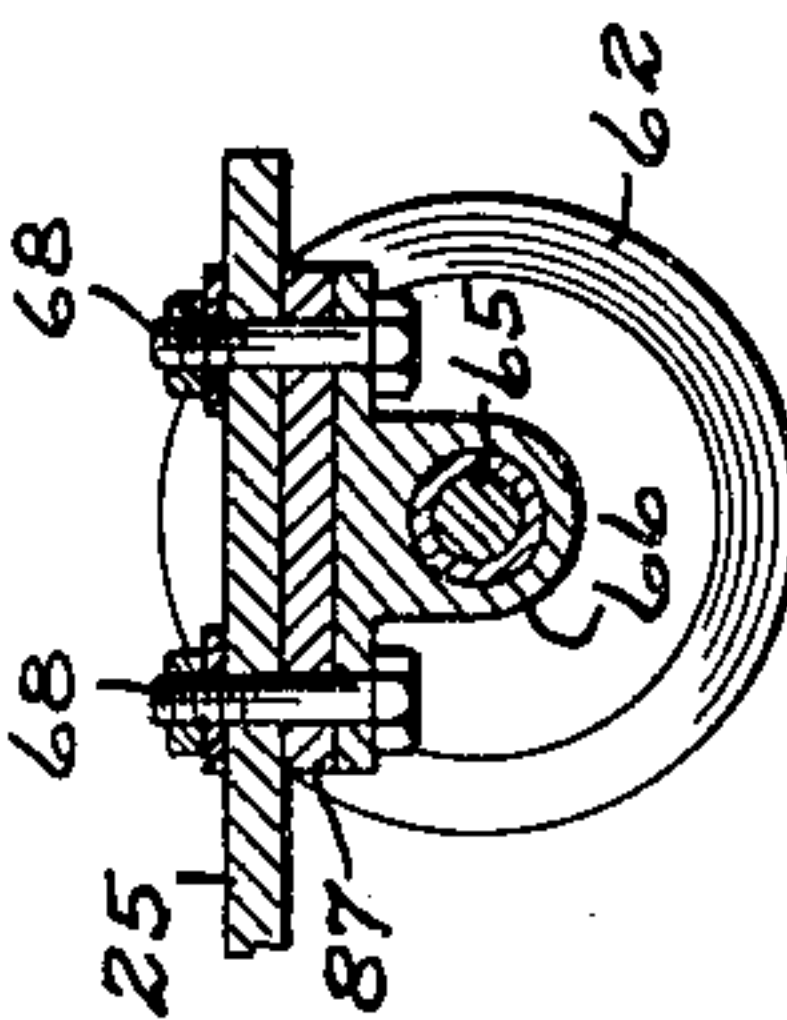


Fig. 9.



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Fig. 5.

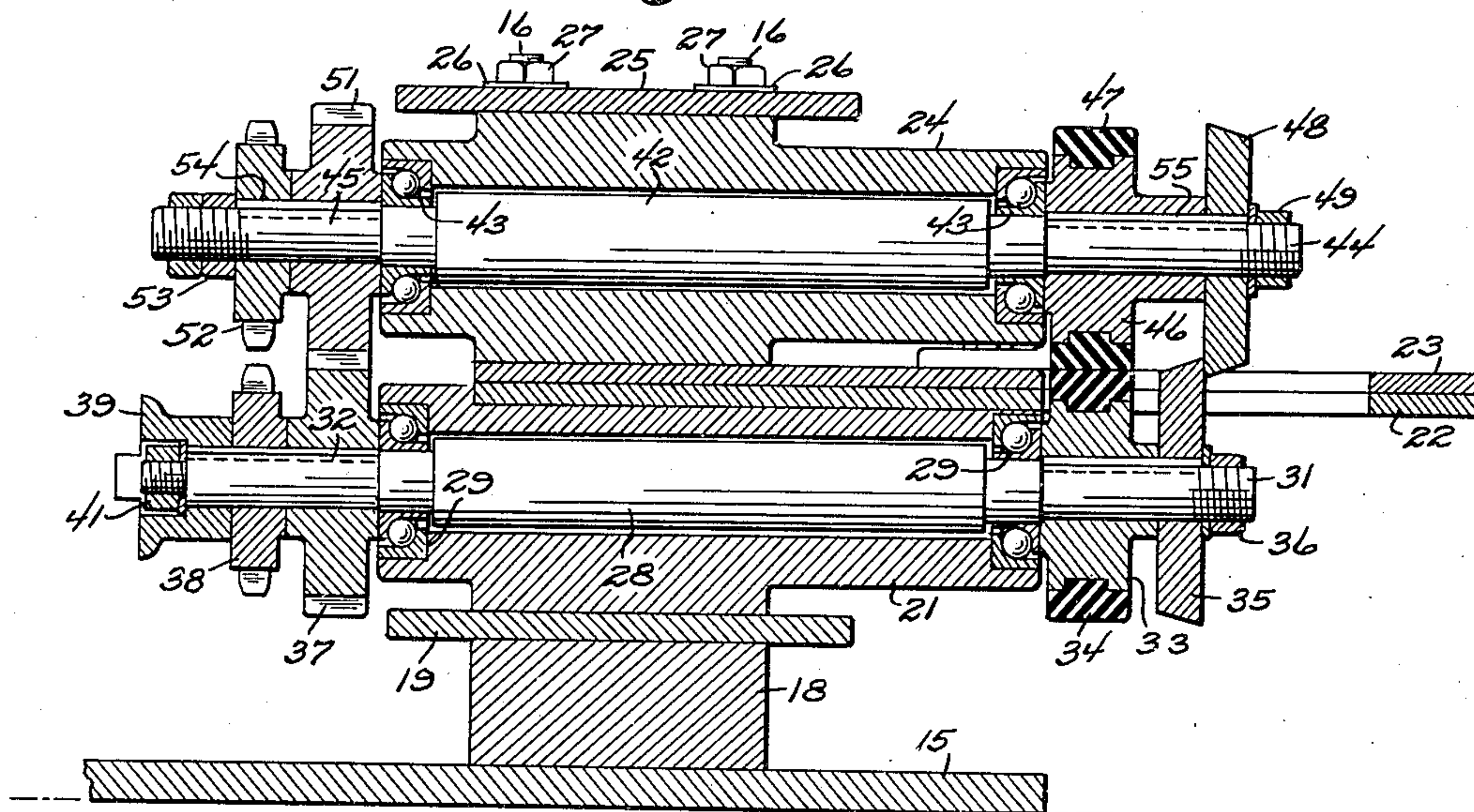
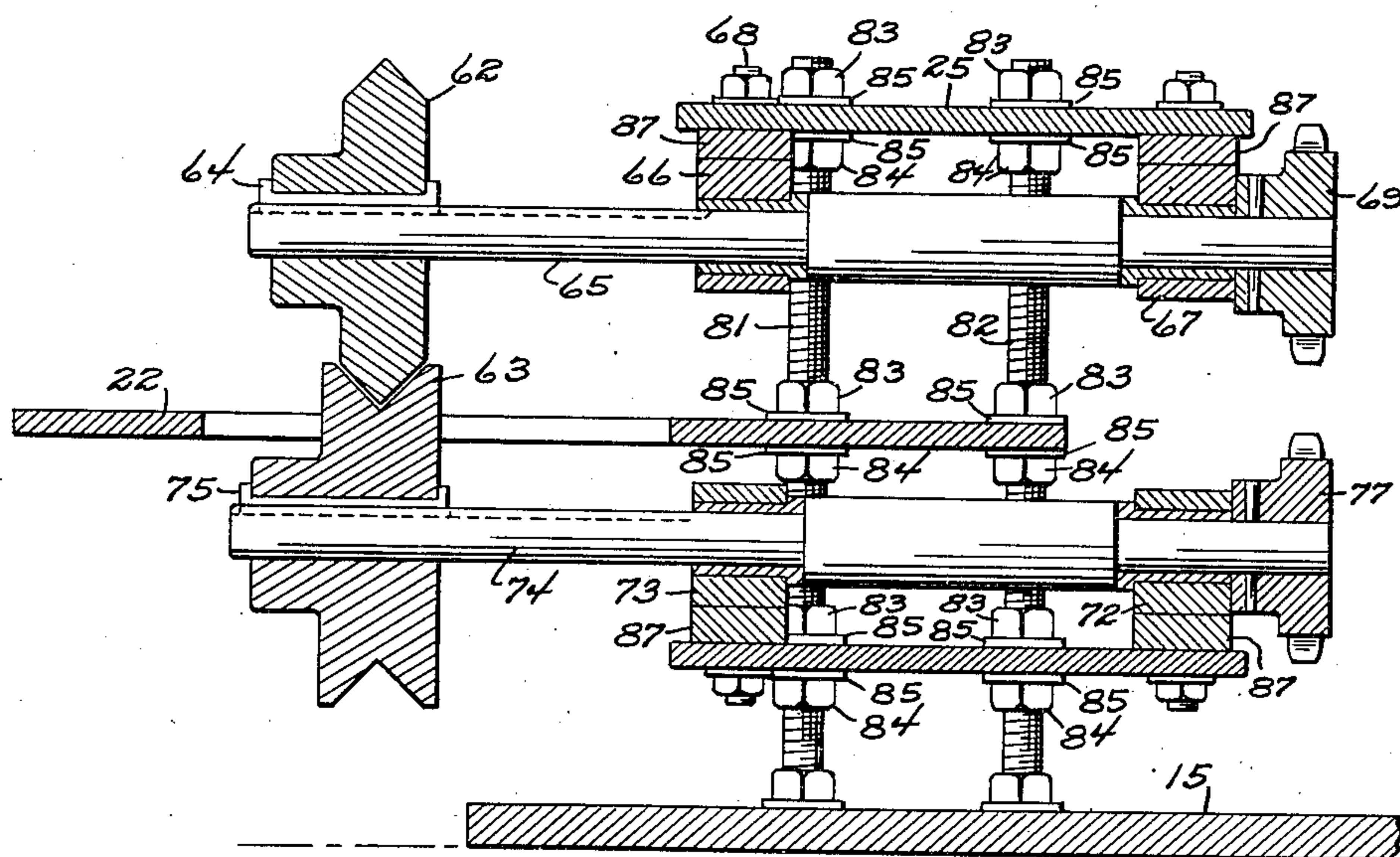


Fig. 6.



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UNITED STATES PATENT OFFICE

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CORNER RIGHT, SHEAR AND BENDING
MACHINE ASSEMBLY

Carl F. Fuller, Sacramento, Calif.

Application March 20, 1947, Serial No. 735,921

1 Claim. (Cl. 153—28)

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This invention relates to a combined shearing and bending machine for lath metal.

It is an object of the present invention to provide a combined shearing and bending machine by which straps of large sheet material can be cut and while upon the same pass of the large sheet material the cut straps will be bent into angle section.

Other objects of the present invention are to provide a combined shearing and bending machine which can be fabricated from stock pieces of material, which will be compact, easy to construct and assemble, and efficient in operation.

For a better understanding of the invention reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a top plan view of my shearing and bending machine,

Fig. 2 is a front elevation view of the machine looking upon the cutting and crimping rolls,

Fig. 3 is a rear elevational view looking upon the drive connections to the roll shafts,

Fig. 4 is an end elevational view of the machine looking at the end of the same which has the crimping or bending rolls,

Fig. 5 is a transverse cross-sectional view taken on line 5—5 of Fig. 2 and looking in the direction of the arrows thereof,

Fig. 6 is a cross-sectional view, in elevation, taken on line 6—6 of Fig. 2 and looking in the direction of the arrows thereof and through the crimping or bending rolls,

Fig. 7 is a fragmentary cross-sectional view taken upon one of the threaded posts and as viewed on line 7—7 of Fig. 1 and looking in the direction of the arrows thereof,

Fig. 8 is a cross-sectional view, in elevation, taken on line 8—8 of Fig. 1 and looking in the direction of the arrows thereof and through the cutting roll shaft housings,

Fig. 9 is a cross-sectional view taken through one of the bearings and the top crimping roll shaft and as viewed on line 9—9 of Fig. 1,

Fig. 10 is a fragmentary and detailed cross-sectional view taken through the guide plate on the table and as viewed on line 10—10 of Fig. 1 and looking in the direction of the arrows thereof.

Referring now to the figures, 15 represents a base plate from which there is extended upwardly to the cutting roll side of the same four posts 16 which are threaded into the base as shown at 17, Fig. 8. Upon these posts 16 there is mounted a spacing block 18, a plate 19, a lower cutting shaft housing 21, plates 22 and 23, upper cutting roll

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housing 24 and a top plate 25. All of these parts are secured tightly to the base by a clamping washer 26 and a nut 27 on each of the posts 16.

Extending through the housing 21 is a lower cutting roll shaft 28 mounted in ball bearing elements 29 at opposite ends of the housing 21 and having extensions 31 and 32 extending from the opposite ends of the same. On the extensions 31 is a feed roll 33 having a rubber ring portion 34. Also on the extension 31 is a lower cutting roll 35. These rolls are secured upon the extension by a clamping nut 36. On the other extension 32 is a gear 37, a sprocket 38 and a drive coupling element 39. These parts are retained upon the extension by a nut 41.

In the upper housing 24 is upper cutting roll shaft 42 journaled in ball bearing elements 43 in opposite ends of the housing, Fig. 5. This shaft has at opposite ends of the same extensions 44 and 45. On the extension 44 is a feed roll 46 having its rubber ring portion 47 engaging with the rubber ring portion 34 of the feed roll 33. Also upon the extension 44 is upper cutting roll 48 cooperating with the lower cutting roll 35 to effect a shearing action of any sheet material extended between these cutting rolls. A nut 49 retains the upper feed roll and the cutting roll 48 upon the extension 44.

On the extension 45 is a driving gear 51 meshing with the gear 37 of the lower cutter shaft 28 so as to be driven thereby and to cause the rotation of the cutting roll 48. There is also on the extension a sprocket 52 and the gear 51 and the sprocket 52 are retained upon extension against axial displacement by a clamping nut 53. A key 54 fixes the gear 51 and the sprocket 52 to the extension 45 against rotational displacement. A similar key 55 is provided on extension 44 for the feed roller 46 and the cutter 48. Likewise the part on the extensions of shaft 28 are keyed thereto.

Plate 23 serves as a table on which the sheet material is extended when passing the same through the cutting rolls 35 and 48. This plate 23 is supported externally of the housings 21 and 24 by a vertically extending plate 56 which may be welded to the same and to the base 15. In the plate 23 are elongated slots 57 through which bolts 58 may extend for clamping the angle guide 61 in any of its adjusted positions. The sheet material is rested upon the table top or plate 23 and slid toward the cutting rolls 35 and 48 and upon being engaged by the feed rolls 33 and 46 will be drawn into the machine. Metal laths will be cut anywhere from a small fraction of an inch

to six inches depending on the lateral adjustment of the guide or gauge 61.

The severed metal lath will automatically pass to top and bottom crimping or bending rolls 62 and 63. The top roll 62 is keyed as indicated at 64 to a shaft 65 journaled in bearing brackets 66 and 67, Fig. 6, secured by bolts 68 to top plate 25. On the opposite end of the shaft 65 there is fixed a sprocket 69 which is connected by a chain 71 to sprocket 52 of the cutter roll shaft 42 so that the crimping roll shaft 65 will be driven by the same.

To the plate 19 there is connected bearing brackets 72 and 73 through which extends a lower crimping roll shaft 74 having the crimping roll 63 thereon. A key 75 fixes the roll 63 upon the shaft 74 against rotation relative thereto. On the opposite end of the shaft there is fixed a sprocket 77 which is connected by a lower chain 78 to sprocket 38 of the lower cutting roll shaft 28. It will thus be seen that power is delivered to the crimping or bending rolls 62 and 63 by means of chains 71 and 78.

Plate 22 extends laterally from the cutting roll housings 21 and 24 to support the severed lath upon being passed through the crimping or bending rolls 62 and 63. The plates 19, 22 and 25 are all supported on the output end of the machine by threaded posts 81 and 82. These posts have threads extending throughout their entire heights and the plates can be adjusted along them by turning upper and lower retaining nuts 83 and 84. Spring washers 85 may be disposed between the nuts 83 and 84.

Within the plates 19 and 25 which support the lower and upper bearing rolls there are provided at their connection with the post 16 elongated slots 86. This will permit the plates to be laterally adjusted so as to release the chains 71 and 78 or permit the connection of the chains with the sprockets. The bearing brackets for the crimping roll shafts may be connected at different distances from the mounting plates by replacing shim plates 87 disposed between the brackets and the plates. By using shims of different thicknesses different size and shape crimping rolls 62 and 63 can be used.

While various changes may be made in the detailed construction it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claim.

I claim:

In a bending machine having a base, posts secured to and extending upwardly from the base in vertical relation thereto, an apertured spacing block on said posts, an apertured plate on the posts above said spacing block, an apertured lower shaft housing on the posts above said plate, elongated upper and lower apertured plates on said posts above said shaft housing, an apertured upper shaft housing on the posts above said upper and lower apertured plates, a top apertured plate on said posts above said upper shaft housing, means on said posts to retain said block plates and housings in fixed relation to each other, the improvement comprising threaded posts carried by said base in vertical relation thereto and passing through the outer ends of said plates, bearing brackets carried by said first plate and said top plate, crimping roll shafts extending through said bearing brackets, crimping rolls carried on said shafts, the lower plate of said upper and lower plate having an opening therein to receive the rolls and forming a table on which material to be crimped can be fed to said crimping rolls, sprockets on the ends of said crimping roll shafts, opposite to said crimping rolls, chain drive connections on said sprockets for the rotation of said crimping roll shafts, means on said threaded posts adapted to engage said plates whereby said plates may be leveled or adjusted to proper height of operation and to permit the loosening or tightening of the chain drive for lost motion adjustment.

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