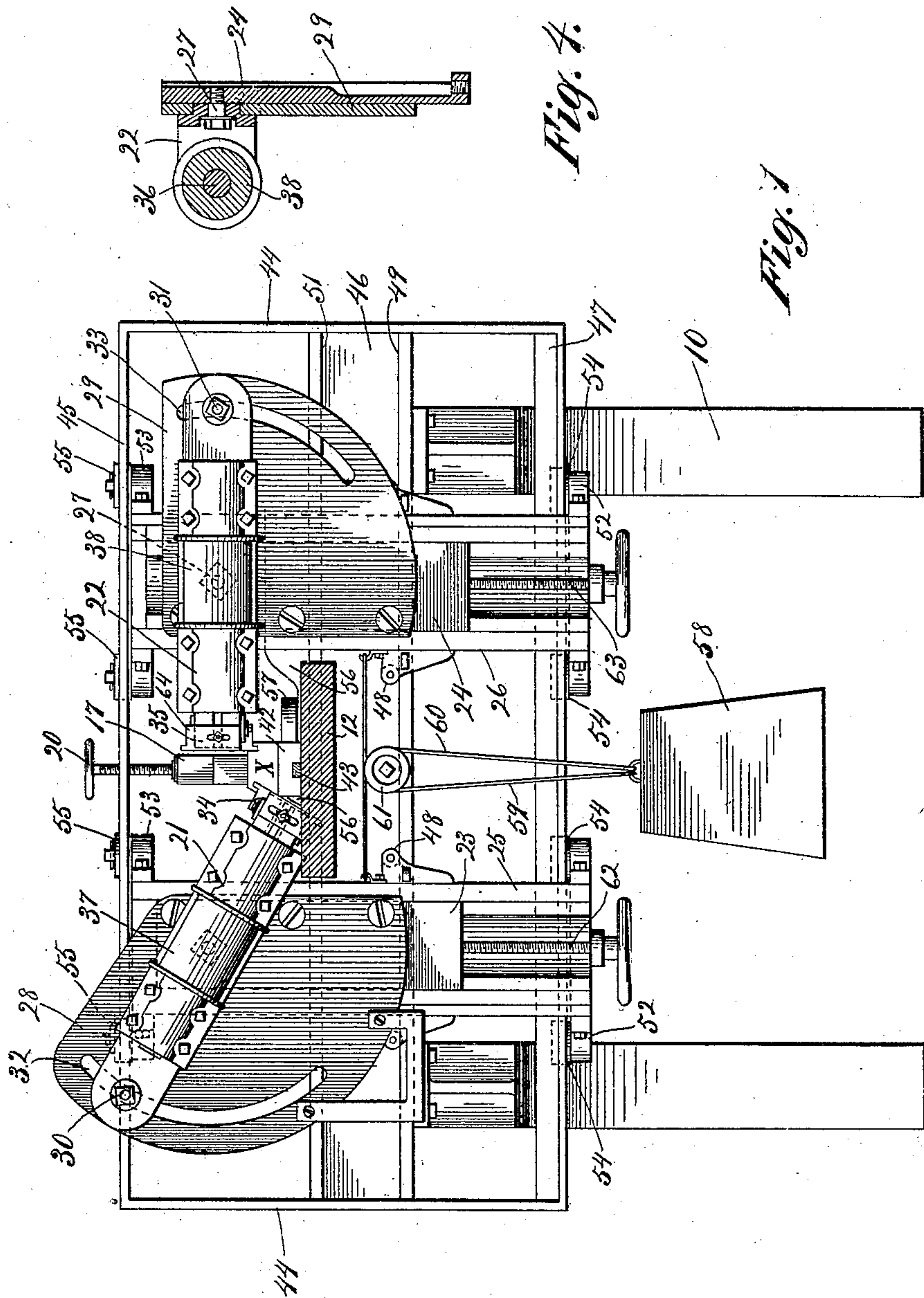


E. KOLL.
MATCHING MACHINE.
APPLICATION FILED AUG. 21, 1905.

915,098.

Patented Mar. 16, 1909.

3 SHEETS—SHEET 1.



Witnesses:
W. H. Cotton.
Charles B. Gilman.

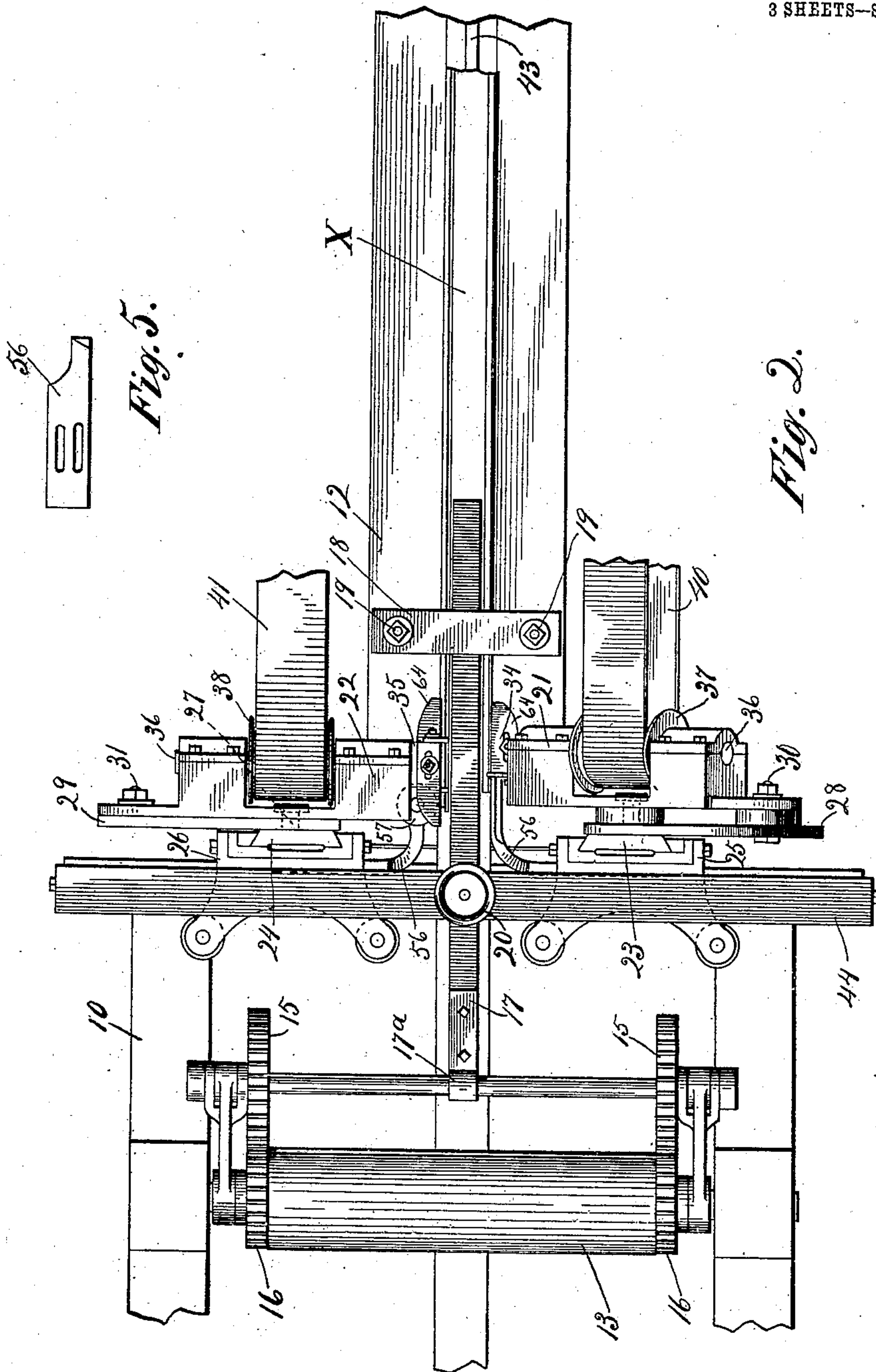
Inventor
Ernst Koll.
By Louis A. Gilman
Atty.

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3 SHEETS—SHEET 2.



Witnesses:
W. H. Cotton
Charles B. Gibson

Inventor:
Ernst Koll.
By Louis G. Gage
Att'y.

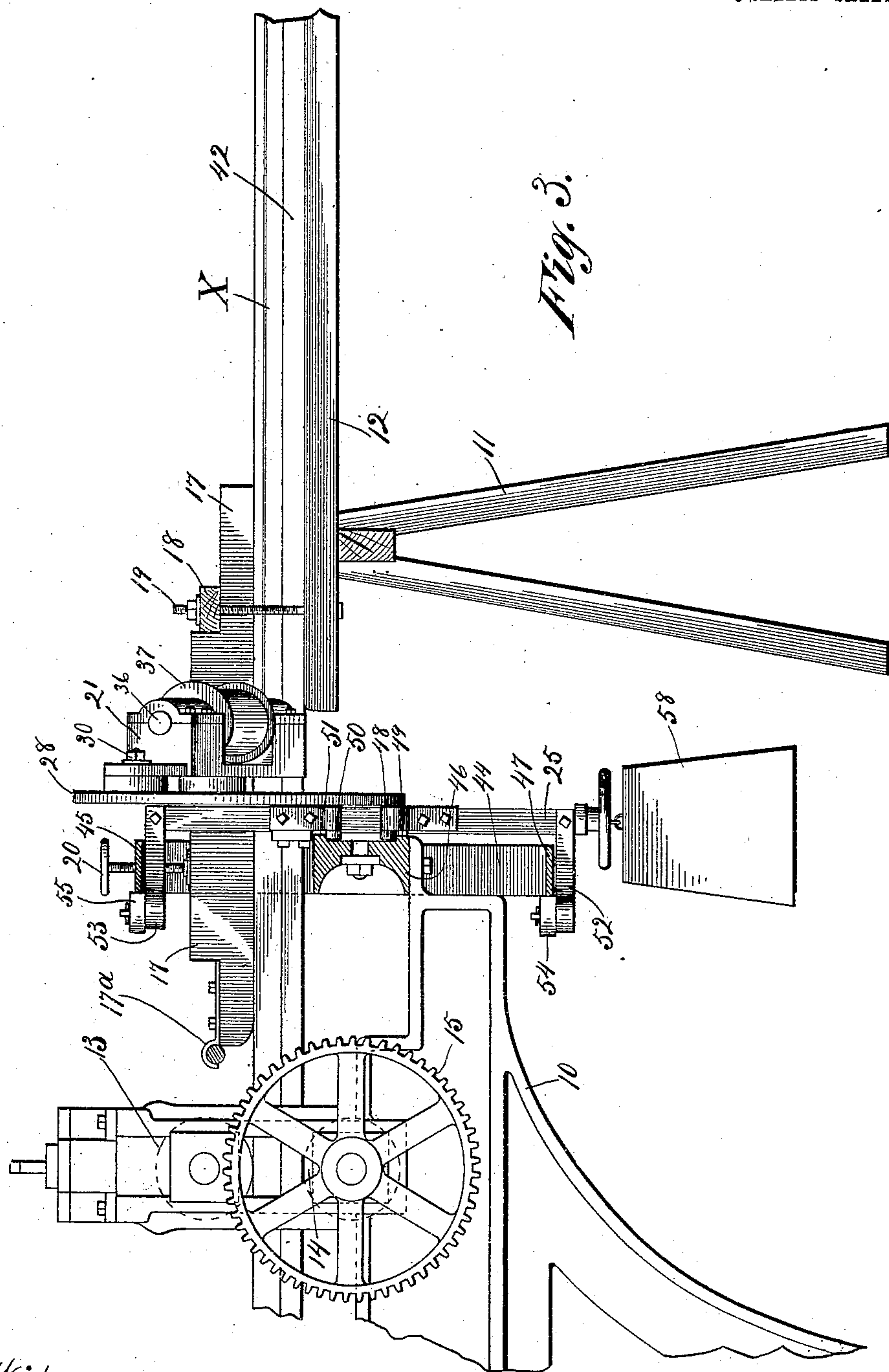
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3 SHEETS—SHEET 3.



Witnesses:
W. H. Cotton
Charles B. Gillson.

Inventor:
Ernst Koll.
By *Louis R. Gibson*
Att'y.

UNITED STATES PATENT OFFICE.

ERNST KOLL, OF CHICAGO, ILLINOIS.

MATCHING-MACHINE.

No. 915,098.

Specification of Letters Patent.

Patented March 16, 1909.

Application filed August 21, 1905. Serial No. 275,131.

To all whom it may concern:

Be it known that I, ERNST KOLL, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have
5 invented certain new and useful Improvements in Matching-Machines, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

10 This invention relates to machines especially adapted for the manufacture of staves, such as are used in the construction of wood columns, as, for example, the column made the subject of Patent Number 744,566 issued
15 to me November 17, 1903.

The object of the invention is to provide means for adapting the machine to cut upwardly or downwardly in forming the grooves and tenons in the sides of the stave; and the
20 invention consists, broadly, in a machine having its cutter heads carried by swiveled frames mounted upon saddles movable to and from the bed of the machine.

The invention consists, more specifically, in the construction hereinafter described and which is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the machine, the projecting table being shown in
30 transverse section; Fig. 2 is a detail plan view of the same; Fig. 3 is a vertical longitudinal section; and Figs. 4 and 5 are details of certain parts of the machine.

The machine is provided with a supporting
35 frame, shown in part at 10 and 11, and a bed 12 for receiving the work as it is delivered from the cutters. A pair of feed rollers 13, 14 are suitably journaled in the frame 10, and are driven by gears, such as 15, 16, actuated
40 from any suitable source of power.

A pressure block 17 is pivoted, as shown at 17^a, to the frame 10 so as to bear upon the upper face of the stave X as it is being operated upon, and is held against upward movement by a cross-bar 18 secured to the bed 12
45 by means of screw bolts 19. A hand screw 20, engaging a suitable part of the frame of the machine, bears upon the top of the block 17 so that it may be given any desired degree
50 of pressure upon the stave.

The cutter frames 21, 22, preferably two in number, are carried by slide blocks 23, 24, which reciprocate vertically in the saddles 25, 26. Each of the cutter frames is secured to
55 its saddle by a pivot pin 27 so that it may be oscillated in vertical plane. The rearward

ends of the cutter frames swing over sector plates 28, 29, secured to the slide-blocks 23, 24, and set-screws 30, 31, passing through each of the cutter frames engage the sector
60 plates, sliding in the segmental slots 32, 33, and providing means for securing the cutter frames in any angular position to which they may be adjusted.

The cutter heads 34, 35, are mounted upon
65 spindles 36 which are suitably journaled in the cutter frames 21, 22, and these spindles carry the pulleys 37, 38, to which are applied suitable belts 40 and 41, driven from any desired source of power.

The stave X to be operated upon is secured to a pattern form 42 which slides upon the bed 12 and is held against lateral movement by a rib 43 rising from the bed. Staves
70 of the character referred to are usually tapering in form, and this form is secured by the use of a pattern of similar form, and the cutter heads are moved to and from the median line of the machine by means of this pattern and the mechanism hereafter described.

A frame 44 is secured to the main frame 10
80 of the machine and arranged transversely thereto and provided with the cross rails 45, 46 and 47. The saddles 25 and 26 are supported by the center cross rail 46, the saddles
85 being provided with suitable rollers 48 which rest upon ways 49 formed in the front face of the cross rail. The saddles are prevented from upward movement by means of rollers
90 50 bearing upwardly against the ways 51 formed in the rail 46. The rollers 48 and 50 are held in engagement with their ways by means of bracket arms 52, 53, projecting
95 backwardly from the saddles and carrying the rollers 54, 55, which engage the rearward faces of the cross rails 45 and 47. Each of the saddles is provided with a bracket arm
100 56 extending inwardly toward the median line of the machine and carrying a roller 57 adapted to bear against the side of the pattern 42, so that the saddle is moved backwardly in its ways as the width of the pattern increases. A counterweight 58 is secured, by the cables 59, 60, turning over
105 suitable sheaves 61, to the two saddles and tends to draw them toward each other so as to hold the rollers 57 against the faces of the pattern 42. The slides 23 and 24 are moved
110 vertically by means of screw-rods 62, 63, engaging them and suitable portions of the frame of the machine. The cutters 64 may be of any desired form, and are secured to

the heads 34, 35, so as to cut the side edges of the staves to the shape desired.

As shown, each of the pulleys 37, 38, is mounted upon the spindle 36, in line with the pivot pin 27 supporting the cutter frame, thereby permitting a wide range of movement of the cutter frames 21, 22, about their pivots without unduly straining the belts turning over the pulleys.

10 I claim as my invention—

In a matching machine, in combination, a frame having a work supporting bed, a pat-

tern in sliding engagement with the bed, a saddle at one side of the bed movable toward and away from the path of the pattern, 15 means for holding the saddle yieldingly against the pattern, a vertically movable slide block carried by the saddle, and a cutter frame swiveled to the slide block and swinging in a vertical plane.

ERNST KOLL.

Witnesses:

LOUIS K. GILLSON,
E. M. KLATCHER.