

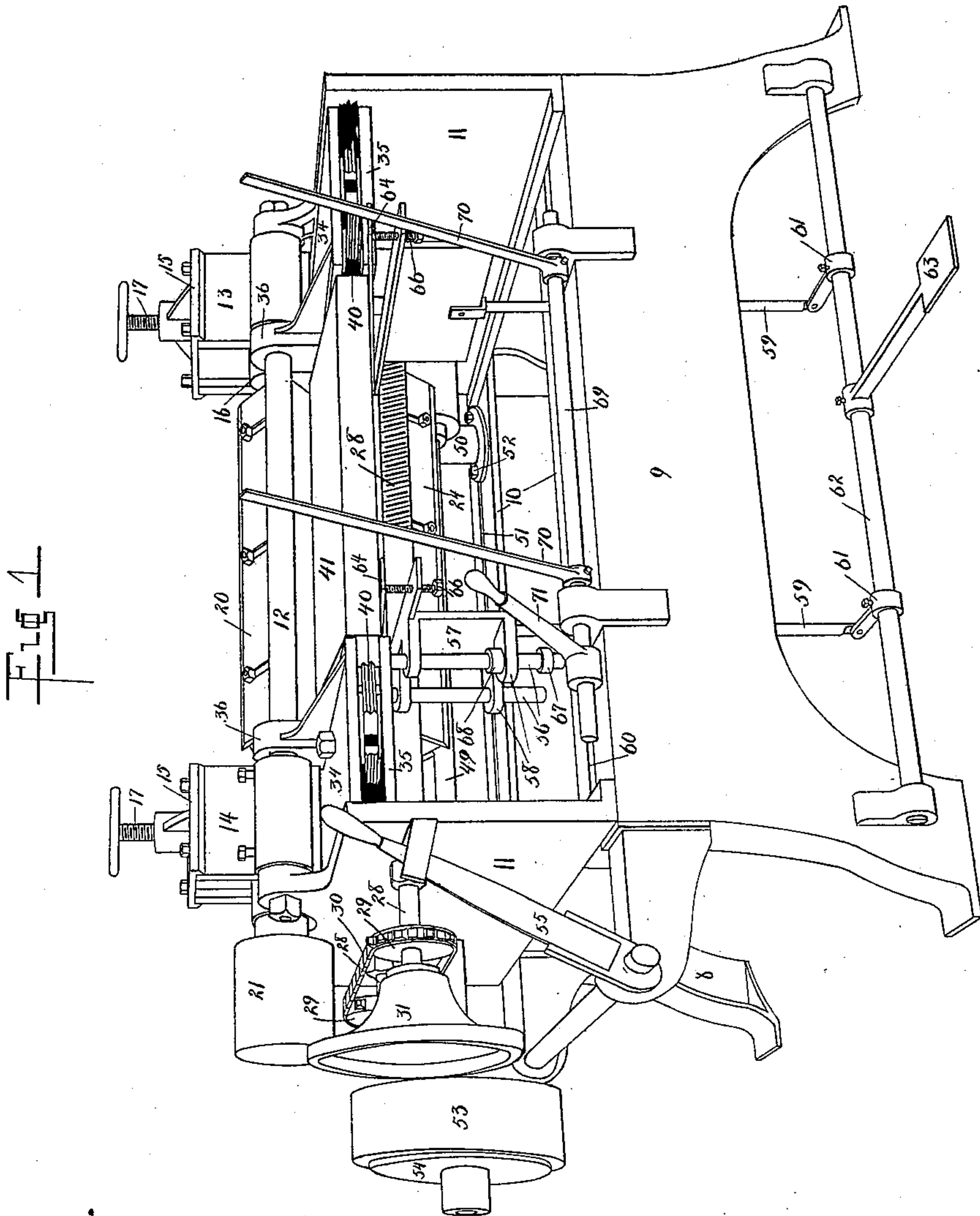
(No Model.)

5 Sheets—Sheet 1.

W. L. KELLOGG.
HEADING CHIPPER.

No. 565,463.

Patented Aug. 11, 1896.



Witnesses

J. J. Hood.
H. B. Johnson.

Inventor

William L. Kellogg.

By Attorneys

H. T. Woodman

(No Model.)

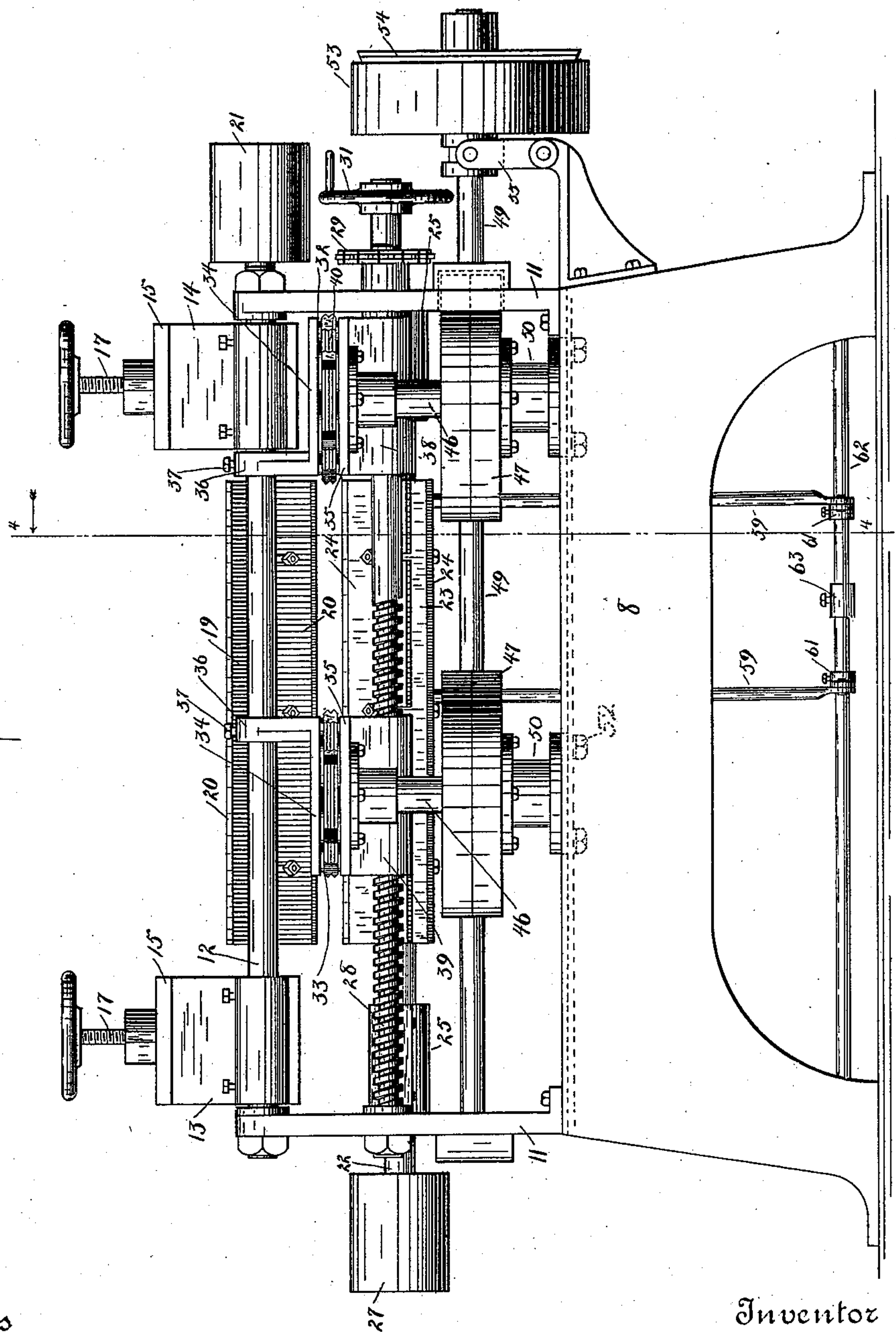
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Fig 2



Witnesses
J. J. Hood
Carl Klein

Inventor
William L. Kellogg

By Attorneys
H. P. Hood & Son

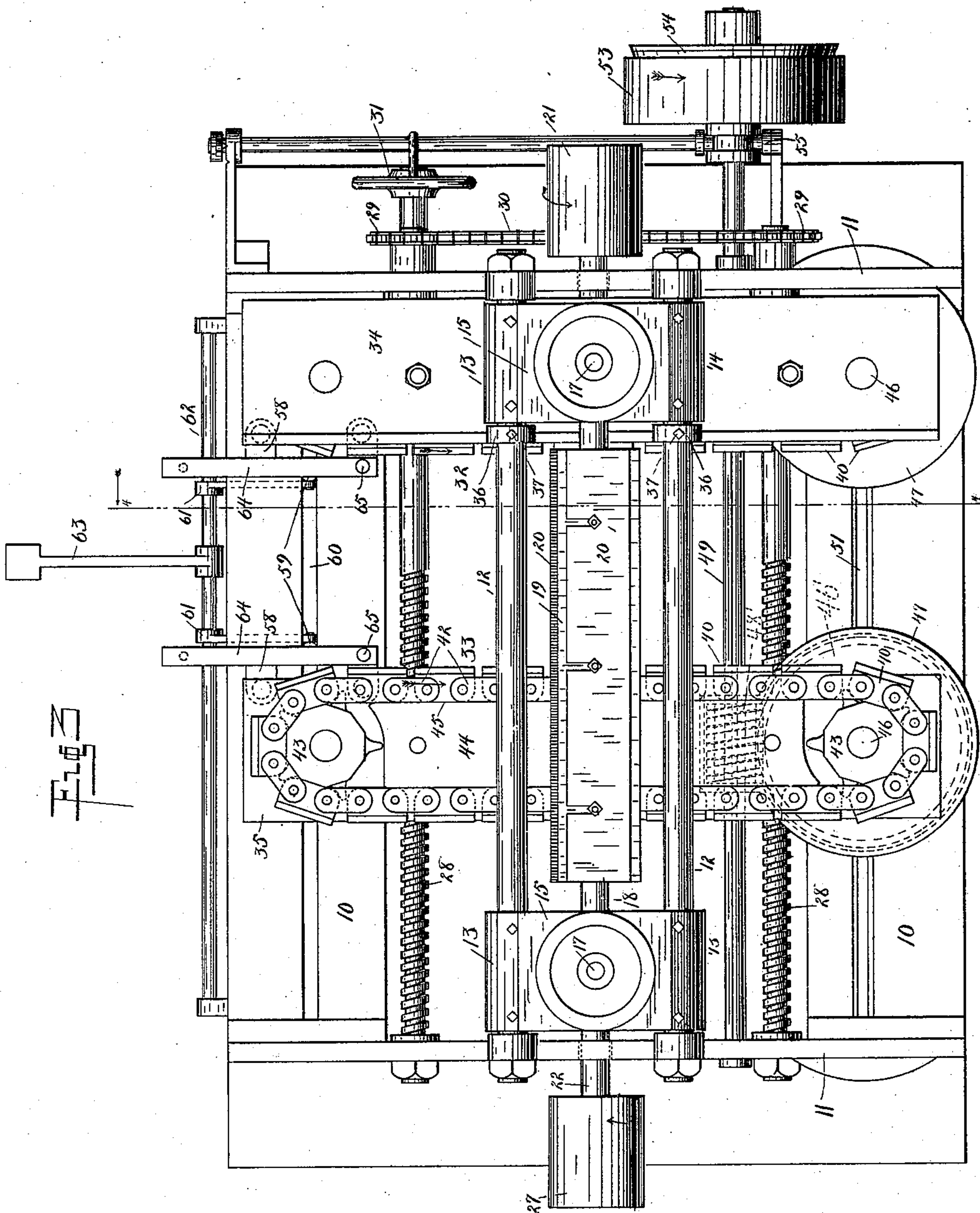
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Witnesses
J. J. Hood.
Carl Kreis

Inventor
William L. Kellogg.
By Attorneys
H. P. Goodson

(No Model.)

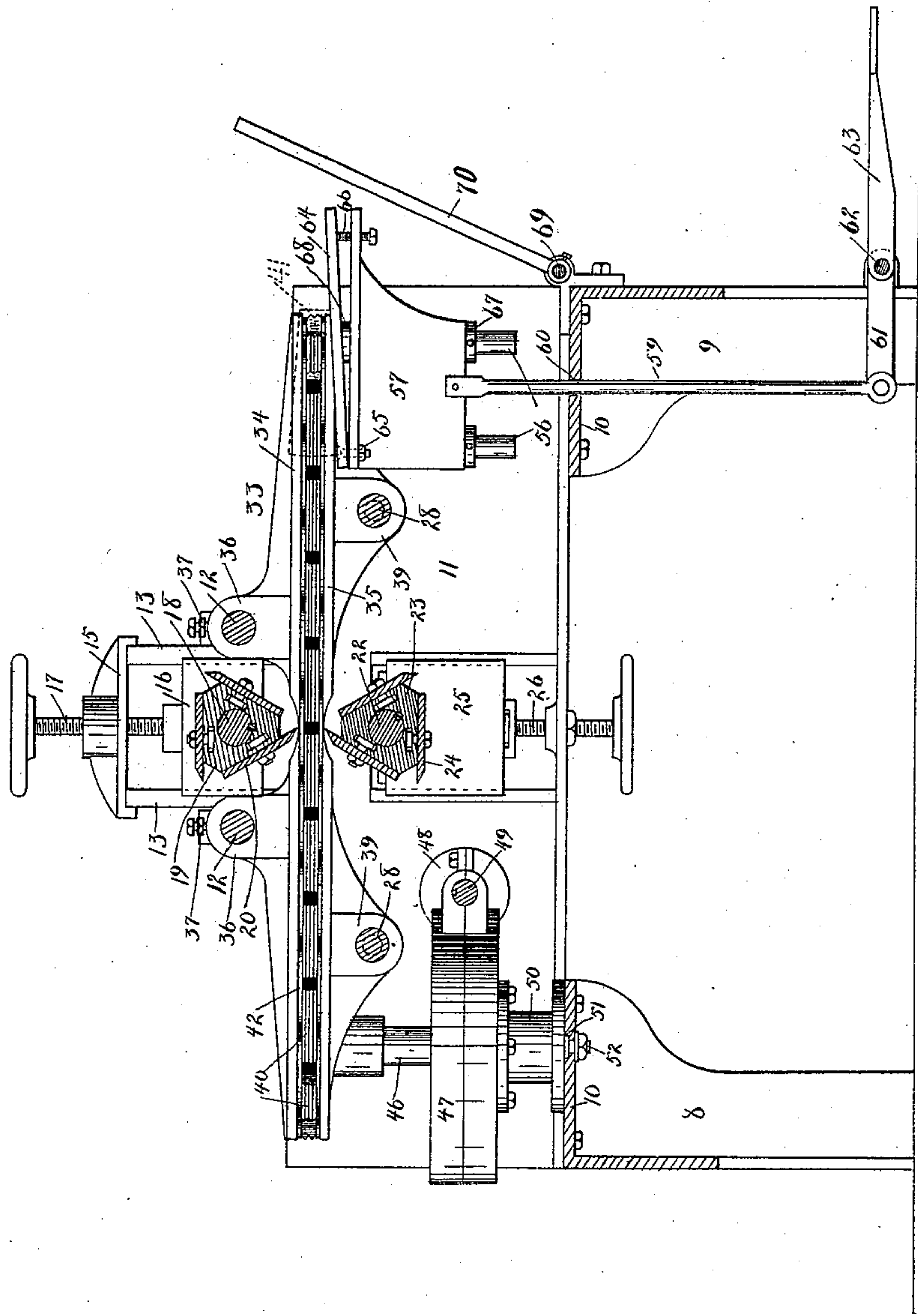
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Fig 4



Witnesses
J. J. Hood.
Carl Kreis

Inventor
William L. Kellogg.
By Attorneys
H. P. Hood & Son.

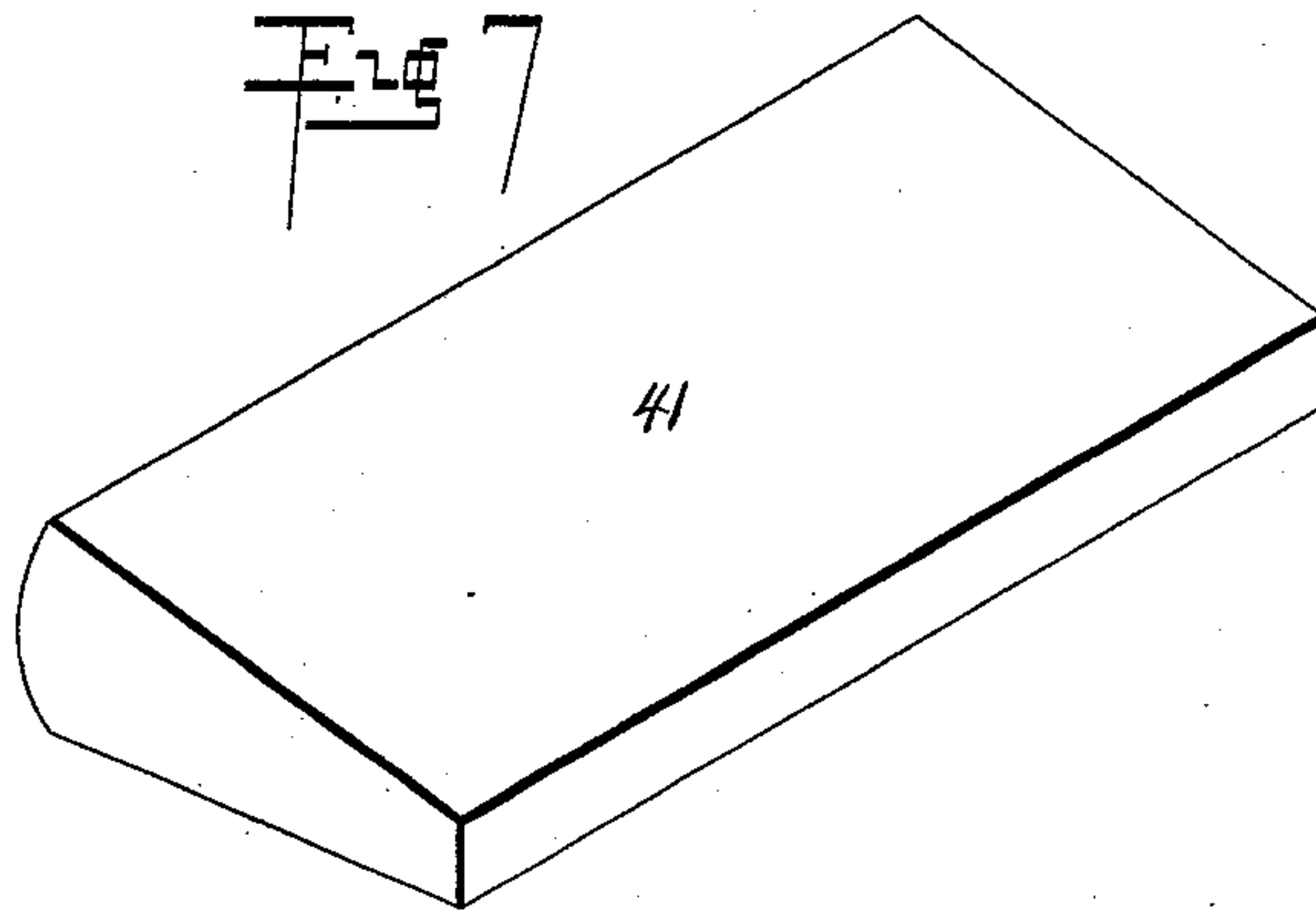
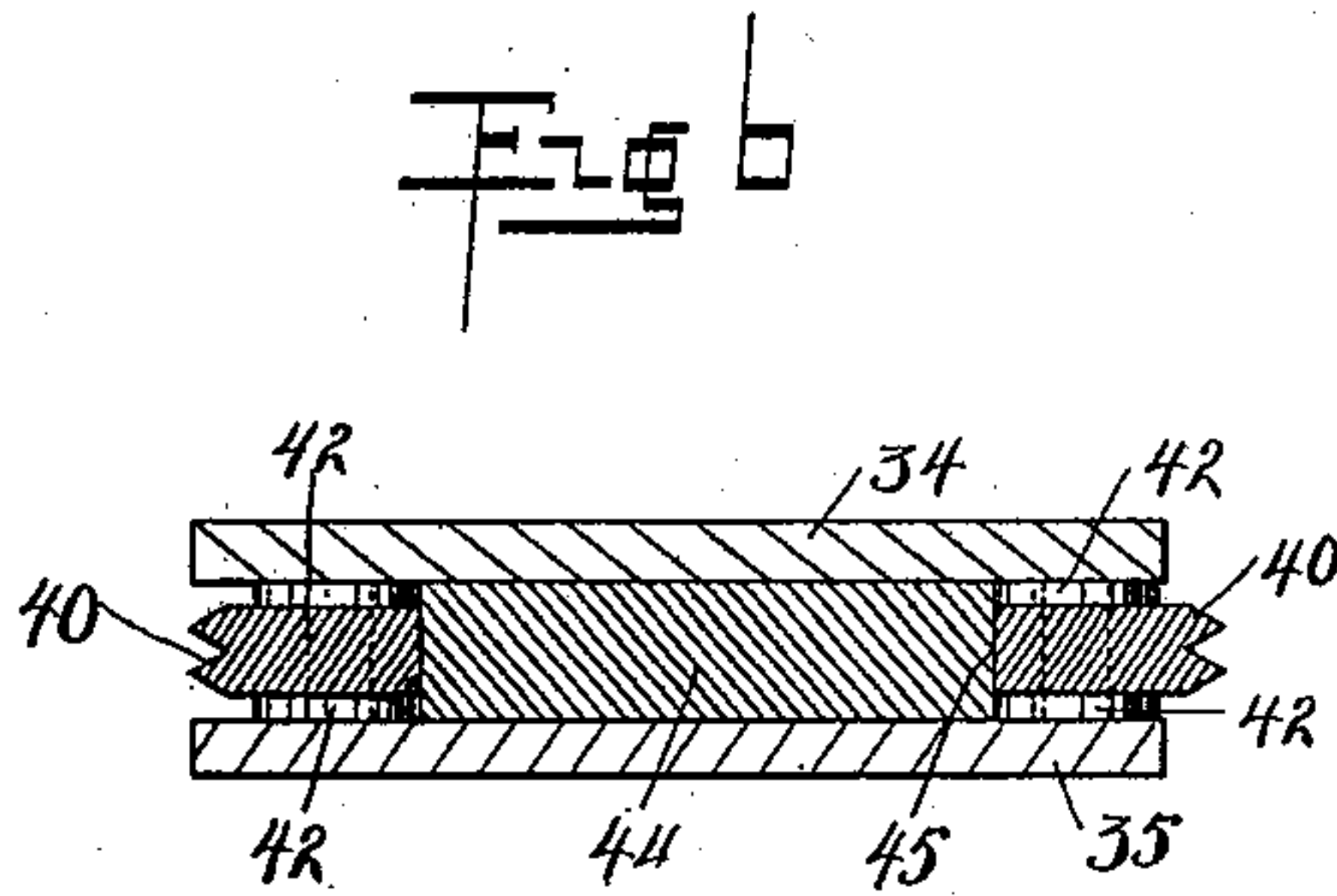
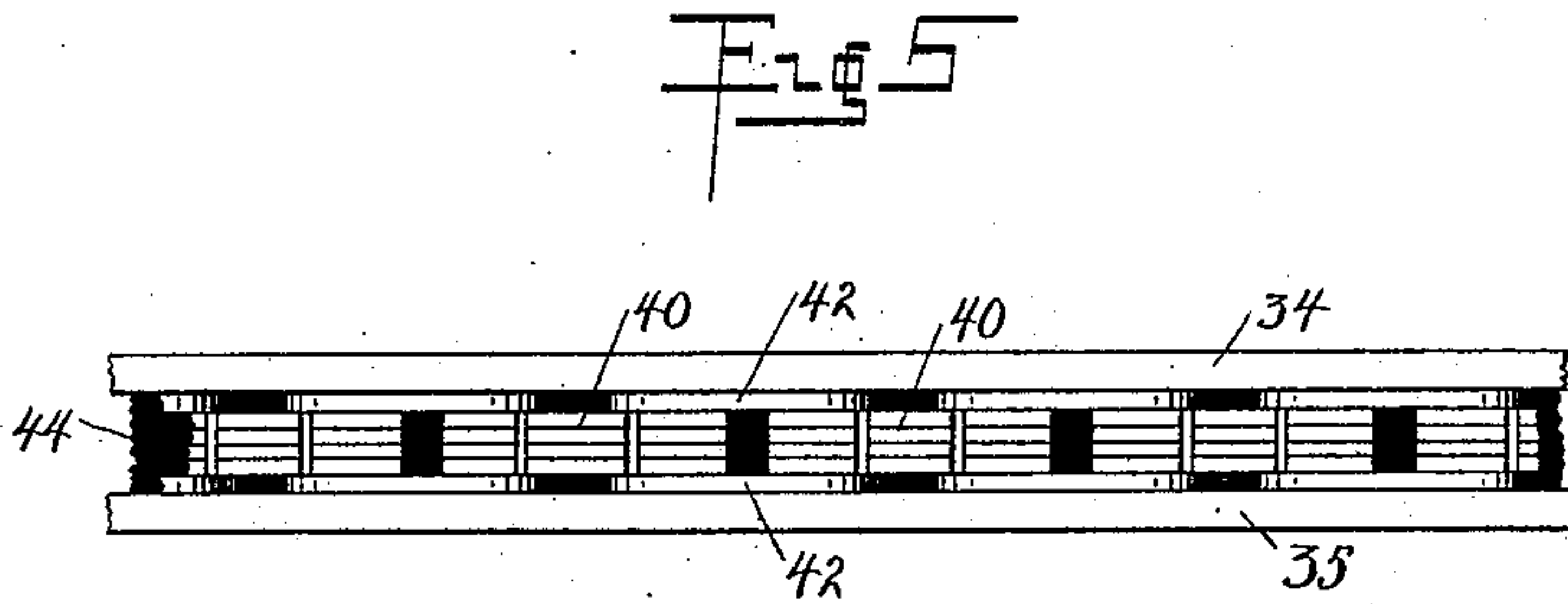
(No Model.)

5 Sheets—Sheet 5.

W. L. KELLOGG.
HEADING CHIPPER.

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Witnesses-

D. J. Hood.
H. P. Johnson.

Inventor

William L. Kellogg.

By Attorneys

H. P. Hood & Son

UNITED STATES PATENT OFFICE.

WILLIAM L. KELLOGG, OF INDIANAPOLIS, INDIANA.

HEADING-CHIPPER.

SPECIFICATION forming part of Letters Patent No. 565,463, dated August 11, 1896.

Application filed January 20, 1896. Serial No. 576,160. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. KELLOGG, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Heading-Chippers, of which the following is a specification.

My invention relates to an improvement in machines for chipping or dressing material to be used in the manufacture of barrel-heads.

The object of my improvement is to provide means whereby a series of rough blocks of heading material may be automatically seized by feed mechanism and carried between a pair of rotating cutter-heads so as to dress both sides of the heading material simultaneously and reduce it to the required thickness at one operation.

The accompanying drawings illustrate my invention.

Figure 1 is a view in perspective of my machine, showing more particularly the receiving end thereof and showing the carriages in their extreme outward position. Fig. 2 is an elevation, on a larger scale, of the discharge end of the machine. Fig. 3 is a plan view, the upper plate on one of the carriages being removed. Fig. 4 is a central longitudinal section on line 4 4 of Figs. 2 and 3. Figs. 5 and 6 are details, on a larger scale, of the heading-carrying dogs; and Fig. 7 shows the rough block from which the heading is made.

In the drawings, 8 and 9 indicate a pair of base-frames, each of said frames being provided with an inward flange 10. Bolted to flanges 10 and connecting frames 8 and 9 are a pair of side plates 11, and the upper edges of said plates are connected by means of a pair of transverse rods 12. Secured to rods 12 are two pairs of standards 13 and 14, the upper ends of each pair being connected by a head-piece 15, and between each pair of standards is mounted a vertically-adjustable journal-box 16. Each of said boxes is held in place by means of an adjusting-screw 17, which passes through suitable threaded openings formed in the head-piece 15. Each box 16 is adapted to support and carry one end of the upper knife-shaft 18, which extends transversely across the machine and carries, near its center, a cutter-head 19, provided

with adjustable knives 20 in the usual well-known manner.

One end of shaft 18 is extended beyond the side plate 11 and is provided with a suitable driving-pulley 21. Mounted immediately below shaft 18 is a similar shaft 22, provided with a cutter-head 23 and knives 24. Shaft 22 is supported by the adjustable journal-boxes 25, which in turn are supported by means of the adjusting-screws 26 on ways formed in plates 11, and one end of said shaft is extended beyond one of the side plates 11 and is provided with pulley 27.

28 28 indicate a pair of screw-shafts extending from one side plate 11 to the other and mounted so as to turn therein. Said shafts 28 lie parallel to rods 12, but at a greater distance from the knife-shaft and in a plane beneath said rods. Near one end of each of shafts 28, outside of plate 11, is mounted a sprocket-wheel 29, which sprocket-wheels are connected by a chain-belt 30, and one of said shafts 28 is provided with a hand-wheel 31.

For the purpose of feeding the rough heading continuously through the machine between the cutter-heads, I provide two feed-carriages 32 and 33, each of said carriages being formed of the upper and lower plates 34 and 35 and adapted to pass between the upper and lower cutter-heads. Each carriage is suspended from rods 12 by means of bearings 36, which are free to move longitudinally along said rods, and may be secured in place by means of set-screws 37.

Carriage 32 is provided with a pair of downwardly-extending bearings 38, which are adapted to receive the plain or unthreaded portion of the shafts 28, and carriage 32 is provided with a similar pair of bearings 39, said bearings 39 being provided with screw-threads suitable to receive the threaded portions of the shafts 28. Each carriage carries a series of dogs 40, which are adapted to engage the ends of the rough blocks 41 and carry them between the upper and lower knives. Said dogs are provided upon their working edges with projecting teeth adapted to sink into and engage the ends of the heading-block. The dogs are formed into an endless chain by means of links 42, and the chain so formed is carried around a pair of sprocket-

wheels 43, each of said sprocket-wheels being mounted between plates 34 and 35, one near each end thereof, so as to turn in a horizontal plane.

5 Plates 34 and 35 are held the proper distance apart by means of a block 44, the inner edge 45 of which serves as a guide for the dogs. The working edges of dogs 40 project beyond the inner edges of plates 34 and 35,
10 but are held in a horizontal plane by said plates, and are held in positive engagement with the heading by means of block 44.

One of each pair of sprocket-wheels 43 is carried by a short stub-shaft carried by the
15 plates 34 and 35, and serves merely as an idler; but the other sprocket of each pair, preferably that one at the discharge end of the machine, is secured to the upper end of a short vertical shaft 46, upon the lower end
20 of which is secured a worm-gear 46', carried in a suitable casing 47. Casing 47 carries a suitable casing 48, in which is mounted a worm 48', so as to engage with the worm-gear wheel, and said worm is keyed to a shaft 49
25 so as to revolve therewith, but so as to slide longitudinally thereon.

To the under side of casing 47 is secured a standard 50, the under side of which rests upon flange 10 of base-frame 8, and is provided with a projecting rib which engages
30 with the upper portion of a longitudinal slot 51, formed in said flange. Standards 50 may be secured in any position along the flange by means of suitable bolts 52.

35 One end of shaft 49 is extended beyond side plate 11, and is provided with any well-known form of driving mechanism, in the present case the said mechanism being a pulley 53, which may be thrown into and out of
40 engagement with a friction-clutch 54 by means of an operating-lever 55.

For the purpose of presenting the rough heading-block to the feeding-dogs, I mount upon the receiving end of each carriage a
45 pair of downwardly-extending rods or guides 56, and upon these guides is carried a vertically-movable feed-table 57, each of said tables being provided with projecting lugs 58, through which guides 56 may freely pass.

50 To the bottom of each table 57 is pivotally secured a link 59, which passes down through slot 60 in flange 10 of base-frame 9, and the lower end of said link is pivoted to the outer end of an arm 61, which is adjustably
55 secured to a rock-shaft 62, mounted in suitable bearings on the base-frame 9 and provided with a foot-lever 63.

The rough blocks from which the heading is formed are generally in the form of a segment of a cylinder, and these blocks are presented edgewise to the cutters, so as to pass transversely of their grain between the cutter-heads; and to place them between the
60 dogs 40 in such a position that the upper and lower knives may each do an equal amount of work a plate 64 is secured at its forward
65 or inner end to the forward end of table 57

by means of a bolt 65, passing through said plate and table.

At the rear end of the table a set-screw 66
70 is mounted in suitable screw-threads in such a position that its upper end may be forced against the under side of plates 64 and thereby hold it at any desired angle to the top of the feed-table.
75

Feed-table 57 may be limited in its upward and downward movements by means of the collars 67 and 68, adjustably secured to guides 56.

For the purpose of pushing the rough blocks
80 squarely forward, so as to bring them into position to be gripped at the ends between the dogs 40 of the feed-chains, I mount upon the front edge of the base-frame a rock-shaft 69. Secured to said rock-shaft are
85 a pair of upwardly-extending arms 70 70 and an operating-lever 71. Arms 70 extend upward past the edge of the feed-table and in position to engage the outer edge of the block, so that when the block is placed on the
90 feed-tables the operator, seizing the lever 71 and tilting arms 70 forward, pushes both ends of the block evenly and simultaneously forward into position to be gripped between the dogs of the pair of feed-chains.
95

In operation, pulleys 21, 27, and 53 being connected with a suitable source of power, they are driven so as to drive the various parts in the directions indicated by the arrows thereon, and the upper and lower knife-
100 heads are then set the proper distance apart to form the thickness of the heading by means of the adjusting-screws. The operator then grips hand-wheel 31 and rotates by it and sprocket-wheels 29 and chain 30 the
105 screw-shafts 28 in a proper direction to draw carriage 33 toward or from carriage 32 until the dogs 40 are a proper distance apart to engage and hold securely between them the particular length of heading-block which is
110 to be operated upon, when set-screws 37 and bolts 52 are set down and the carriage thereby held securely in position. The movement of the carriage 33 also causes the movement of the feed-table secured thereto, the
115 worm-gear 46', and its inclosing casing 47, and also causes the worm 48', carried by shaft 49, to move along said shaft. Plates 64 are next set at a proper angle by adjusting-bolts 65 and set-screw 66, and collars 67 and
120 68 properly placed. The operator places one foot upon lever 63 and forces both feed-tables 57 upward until stopped by collars 67. The rough heading-block 41 is placed with its thick edge forward and the ends of one of its sides
125 resting upon plates 64, and is then pushed forward until its ends are caught by the dogs 40 as they come around the idler-sprocket 43, and as said dogs come into engagement with guide 45 they are forced into the ends of the
130 block 41, and the said block is carried into engagement with the upper and lower knives. The surplus material is thereby chipped off, and when the discharge end of the machine

is reached the dogs, as they pass around driving-sprocket 43, are withdrawn from the finished block, and it drops upon the floor. The rough heading-blocks are fed continuously into the machine, and in case a block of unusual thickness is found the operator allows lever 63 to rise slightly, in that way dropping tables 57, so that the dogs 40 will engage the block at about the center of the ends and thereby cause each set of knives to do an approximately equal amount of work.

It will be seen that the above-described machine is easily adjusted and is capable of a wide range of work.

The dogs 40 project but slightly from the plates 34 and 35, and are consequently very stiff in whatever position the carriage may be placed and whatever length of heading is being operated upon.

I claim as my invention—

1. In a heading-chipper, the combination of a pair of cutter-heads mounted one above the other, a pair of carriages mounted on suitable ways between said cutter-heads, one of said carriages being adjustable along said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said chains, and means for driving the opposed edges of said feed-chains in the same direction, all combined and arranged to cooperate substantially as and for the purpose set forth.

2. In a heading-chipper, the combination of a pair of cutter-heads mounted one above the other, means for adjusting said cutter-heads toward and from each other, a pair of carriages mounted on suitable ways between said cutter-heads, one of said carriages being adjustable along said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said feed-chains, and means for driving the opposed edges of the said chains in the same direction, as and for the purpose set forth.

3. In a heading-chipper, the combination with the main frame, of a pair of cutter-heads mounted one above the other, ways rotatively mounted in the main frame and provided with screw-threads, a pair of carriages mounted between the cutter-heads upon said ways, one of said carriages being provided with nuts adapted to engage the screw-threaded portions of said ways, means for rotating said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said feed-chains, and means for driving the opposed edges of said chains in the same direction, substantially as described.

4. In a heading-chipper, the combination with the main frame, of a pair of cutter-heads mounted one above the other, means for ad-

justing said cutter-heads toward and from each other, ways rotatively mounted in the main frame and provided with screw-threads, a pair of carriages mounted between the cutter-heads upon said ways, one of said carriages being provided with nuts adapted to engage the screw-threaded portions of said ways, means for rotating said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said feed-chains, and means for driving the opposed edges of said chains in the same direction, substantially as described.

5. In a heading-chipper, the combination with the main frame, of a pair of cutter-heads mounted one above the other, ways rotatively mounted in the main frame and provided with screw-threads, means for simultaneously rotating said ways, a pair of carriages mounted between said cutter-heads upon said ways, one of said carriages being provided with nuts adapted to engage the screw-threaded portions of said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said chains, a shaft rotatively mounted in the main frame, a gear longitudinally movable on said shaft and rotated thereby, intermediate connecting mechanism between said gear and the feed-chain of the adjustable carriage whereby the said chain may be driven and whereby the said gear may be moved longitudinally upon its shaft by the movement of the said carriage, and means for driving the other feed-chain, all combined and arranged to cooperate substantially as and for the purpose set forth.

6. In a heading-chipper, the combination with the main frame, of a pair of cutter-heads mounted one above the other, means for adjusting said heads toward and from each other, ways rotatively mounted in the main frame and provided with screw-threads, means for simultaneously rotating said ways, a pair of carriages mounted between the cutter-heads upon said ways, one of said carriages being provided with nuts adapted to engage the threaded portions of said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said chains, a shaft rotatively mounted in the main frame, a gear longitudinally movable on said shaft and rotated thereby, intermediate connecting mechanism between said gear and the feed-chain of the adjustable carriage whereby the said chain may be driven and whereby the said gear may be moved longitudinally upon its shaft by the movement of the said carriage, and means for driving the other feed-chain, all combined and arranged to cooperate substantially as and for the purpose set forth.

7. In a heading-chipper the combination with the main frame, of a pair of cutter-heads mounted one above the other, a pair of ways rotatively mounted in the main frame and provided with screw-threads, means for simultaneously rotating said ways, a pair of carriages mounted between the cutter-heads upon said ways, one of said carriages being provided with nuts adapted to engage the screw-threaded portions of said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between said feed-chains, means for driving the opposed edges of said feed-chains in the same direction, the means for driving the feed-chain of the adjustable carriage consisting of a sprocket-wheel adapted to engage said chain, a shaft secured to said sprocket, a gear secured to said shaft, a gear adapted to engage said gear mounted so as to rotate with and to slide longitudinally upon a shaft rotatively mounted in the main frame, and means attached to said adjustable carriage whereby a movement of said carriage will cause the said last-mentioned gear to slide longitudinally upon its driving-shaft, substantially as described.

8. In a heading-chipper the combination with the main frame, of a pair of cutter-heads mounted one above the other, means for adjusting said cutter-heads toward and from each other, a pair of ways rotatively mounted in the main frame and provided with screw-threaded portions, means for simultaneously rotating said ways, a pair of carriages mounted between the cutter-heads on said ways, one of said carriages being provided with nuts adapted to engage the screw-threaded por-

tions of said ways, a pair of endless-belt feed-chains mounted opposite each other on said carriages, the arrangement being such that the heading-stock may be gripped by and between the said feed-chains, means for driving the opposed edges of the said feed-chains in the same direction, the means for driving the feed-chain of the adjustable carriage consisting of a wheel adapted to engage said chain, a shaft secured to said wheel, a gear secured to said shaft, a gear adapted to engage said gear mounted so as to rotate with and to slide longitudinally upon a shaft rotatively mounted in the main frame, and means attached to said adjustable carriage whereby a movement of said carriage will cause the said last-mentioned gear to slide longitudinally upon its driving-shaft, substantially as described.

9. In a machine for dressing heading-blocks, the combination with the pair of carriages adjustable relatively to each other and a feed-table carried by each of said carriages, of intermediate connecting mechanism connecting said feed-tables whereby they are raised and lowered simultaneously, all substantially as set forth.

10. In a machine for dressing heading-blocks, the combination with the pair of relatively-adjustable carriages, of a vertically-movable feed-table carried by each of said carriages, each of said feed-tables being provided with an upper surface one end of which is vertically adjustable, substantially as and for the purpose set forth.

WILLIAM L. KELLOGG.

Witnesses:

A. M. HOOD,
W. R. MERCER.