

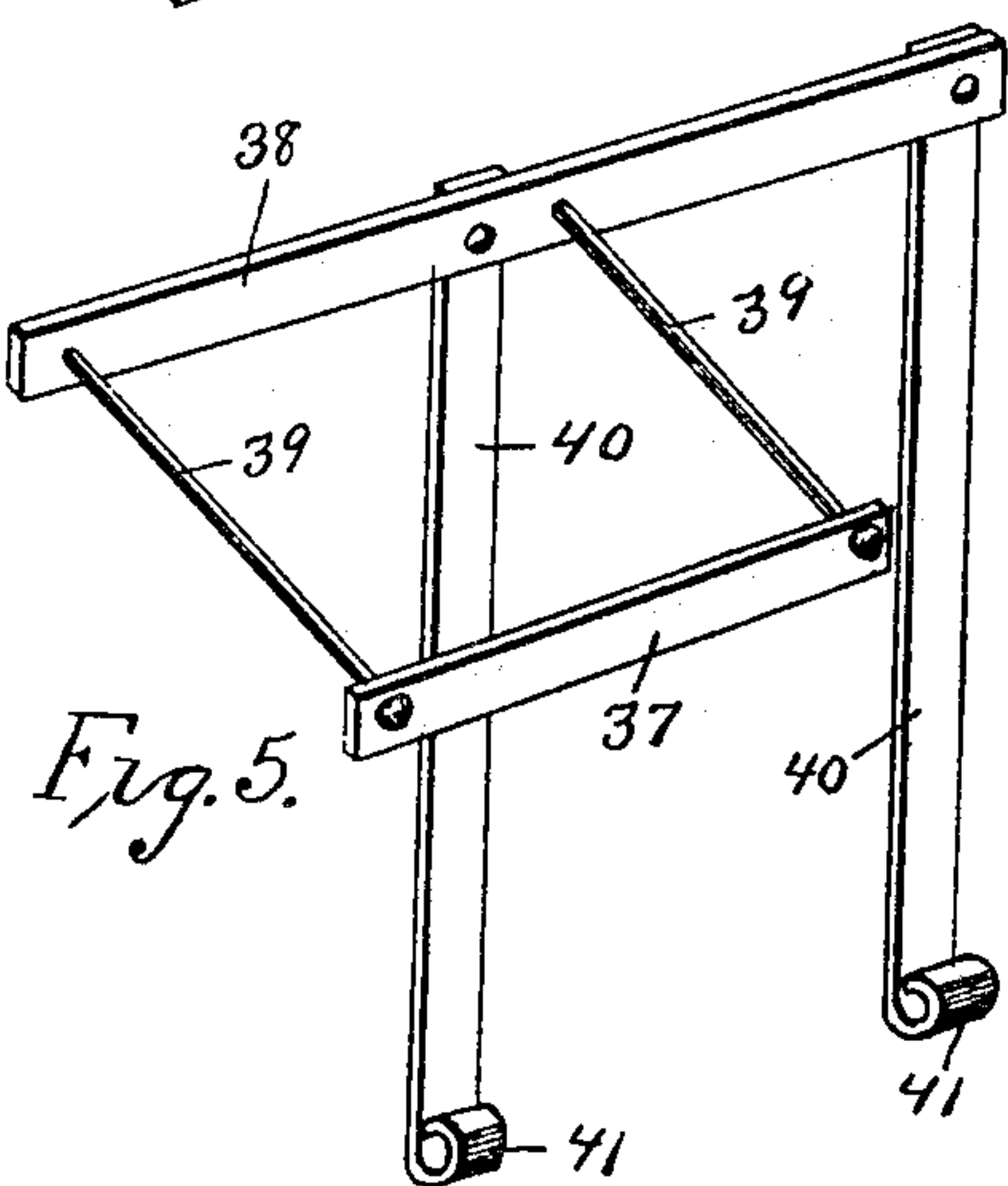
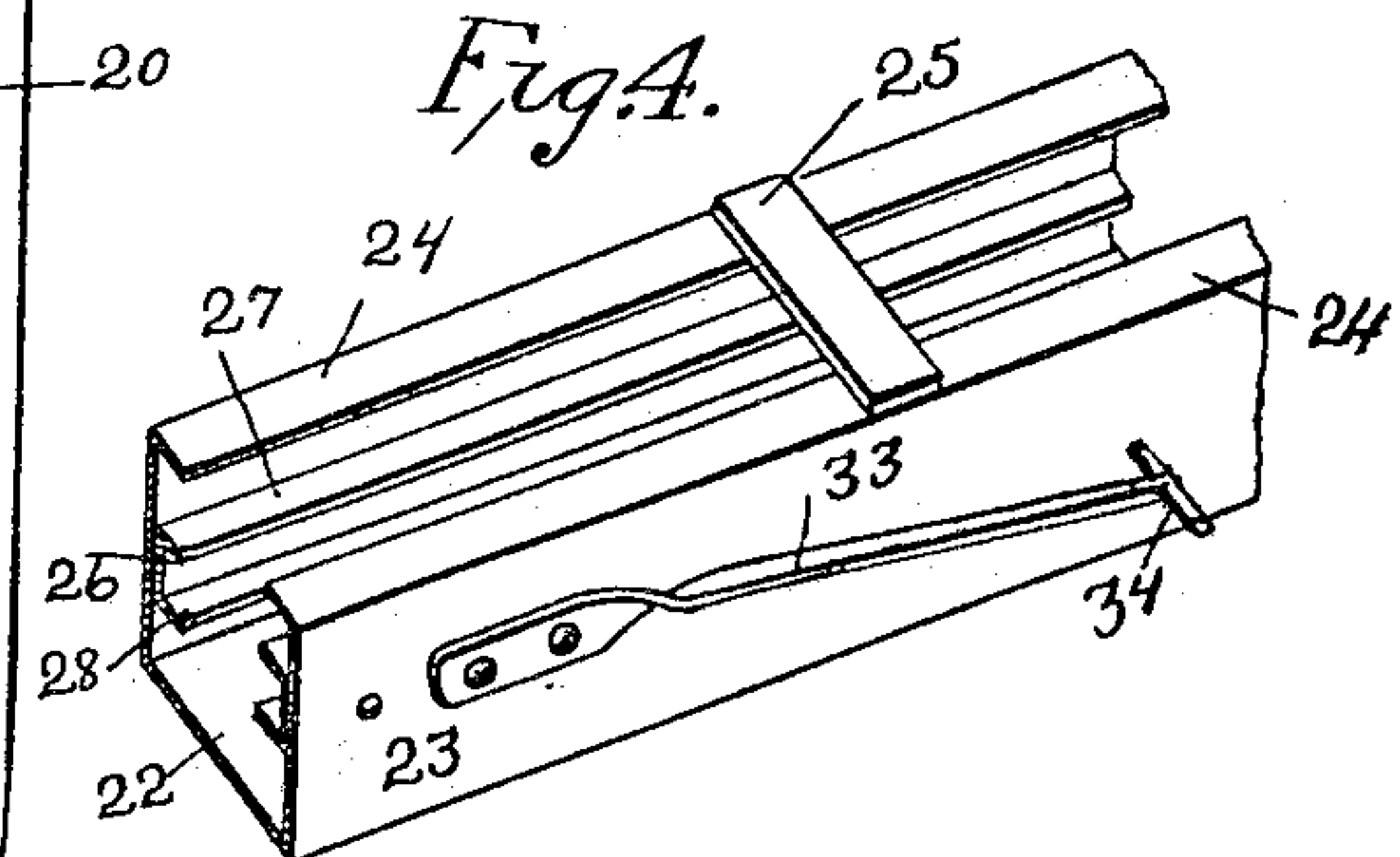
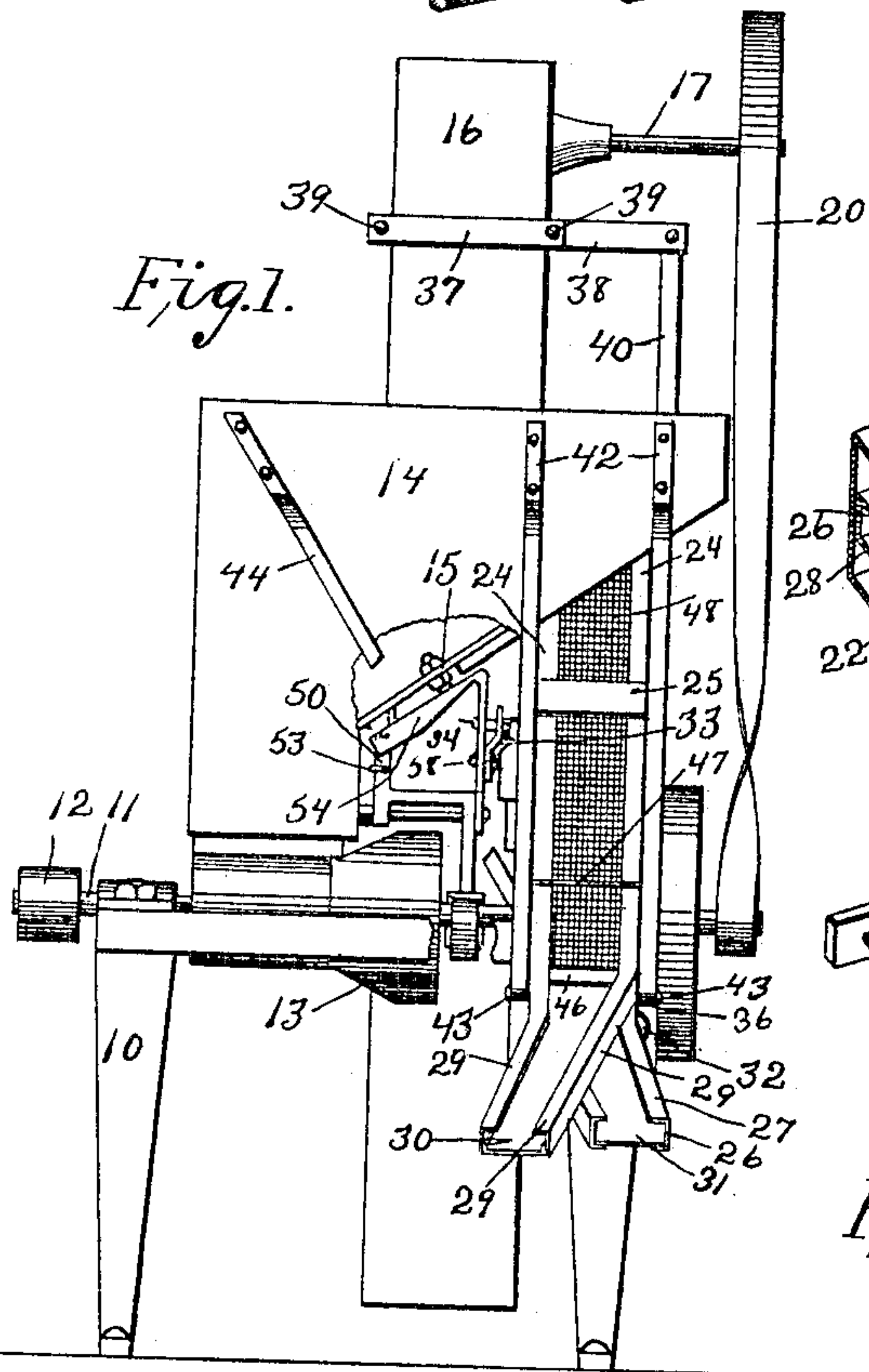
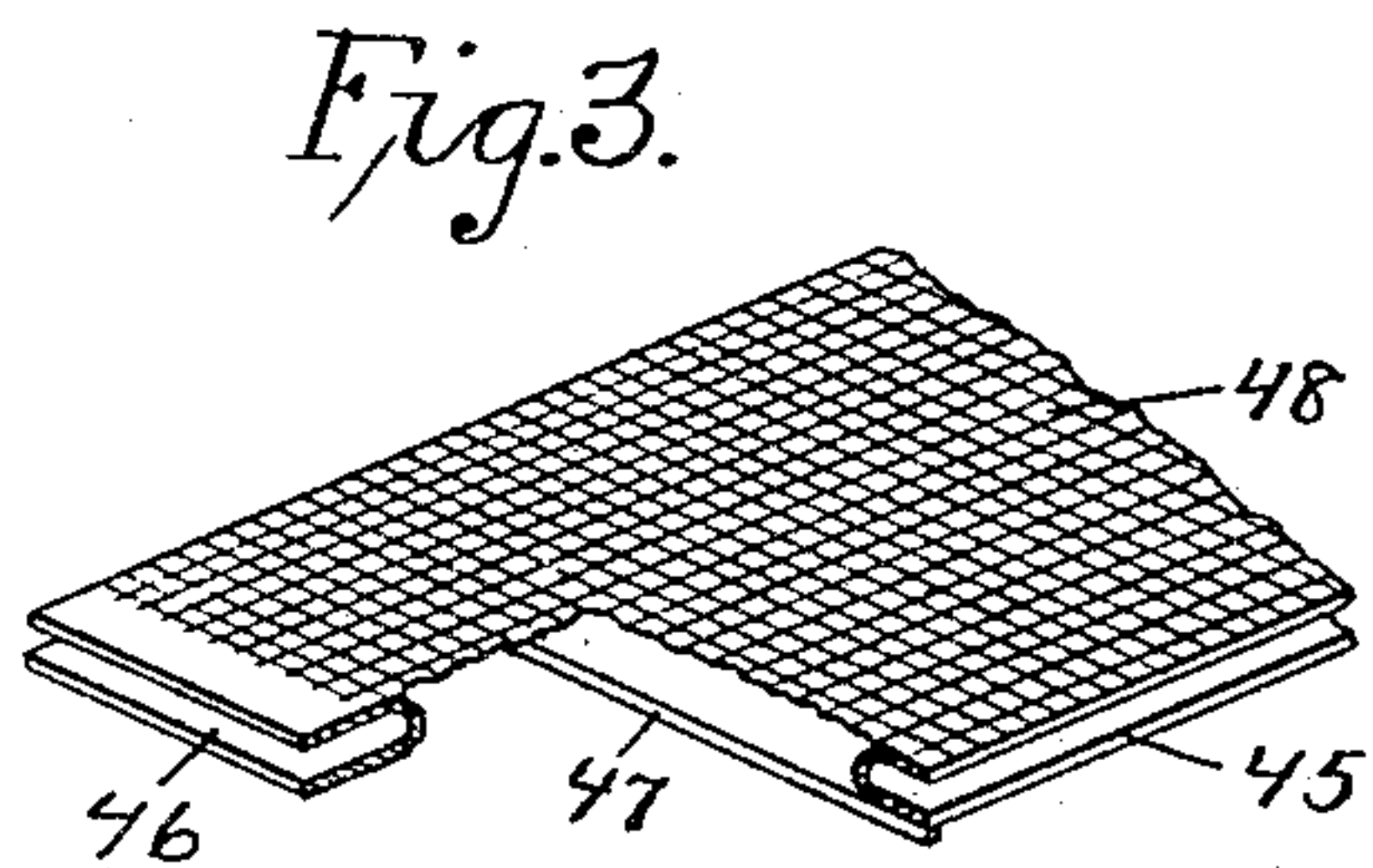
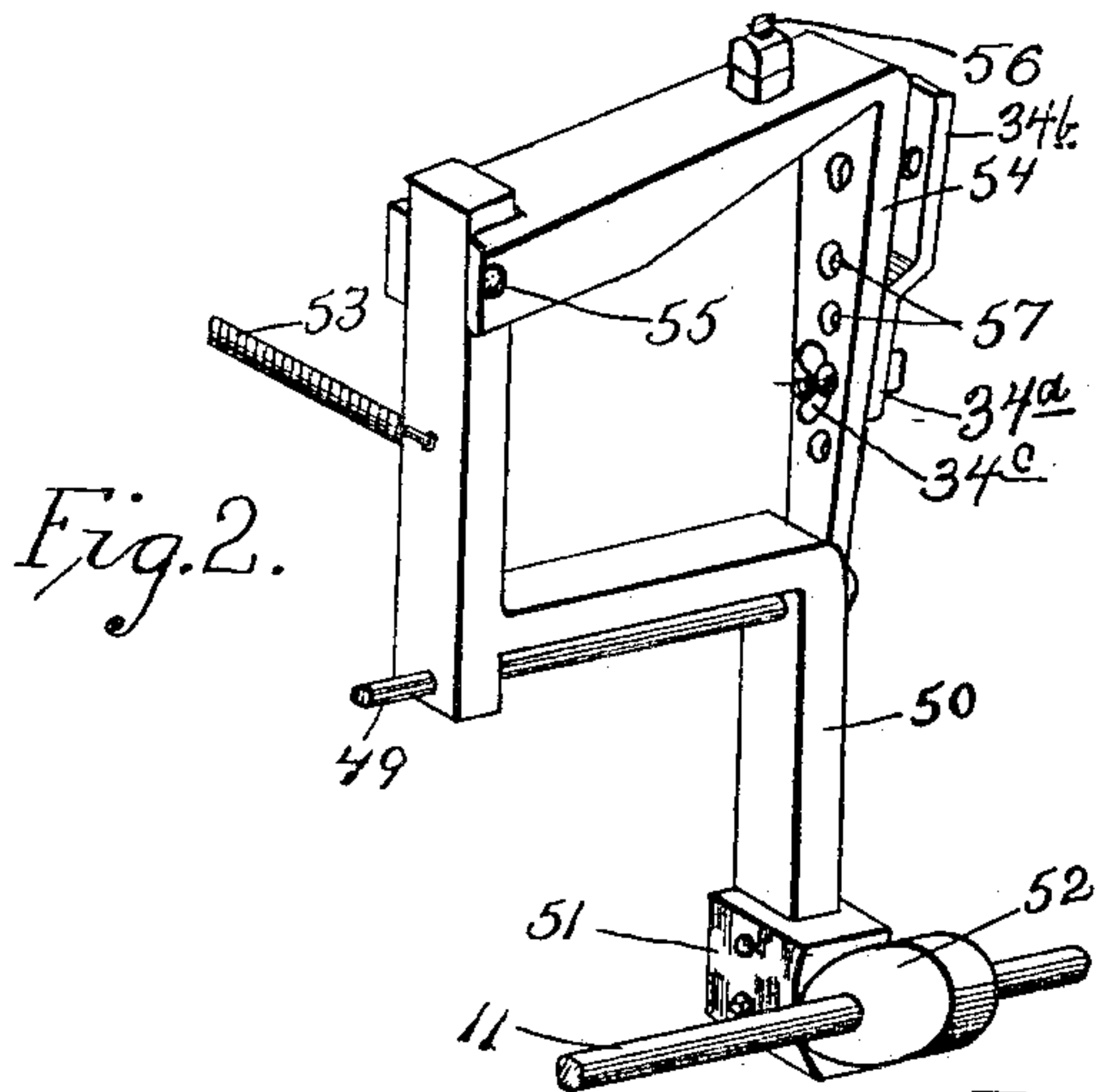
No. 819,177.

PATENTED MAY 1, 1906.

H. C. SELLE.  
CORNMEAL BOLTER.

APPLICATION FILED JULY 31, 1905.

2 SHEETS—SHEET 1.



Witnesses:

A. E. Woody.

A. G. Hague

Inventor H. C. Selle

By Orwig Lane Attys

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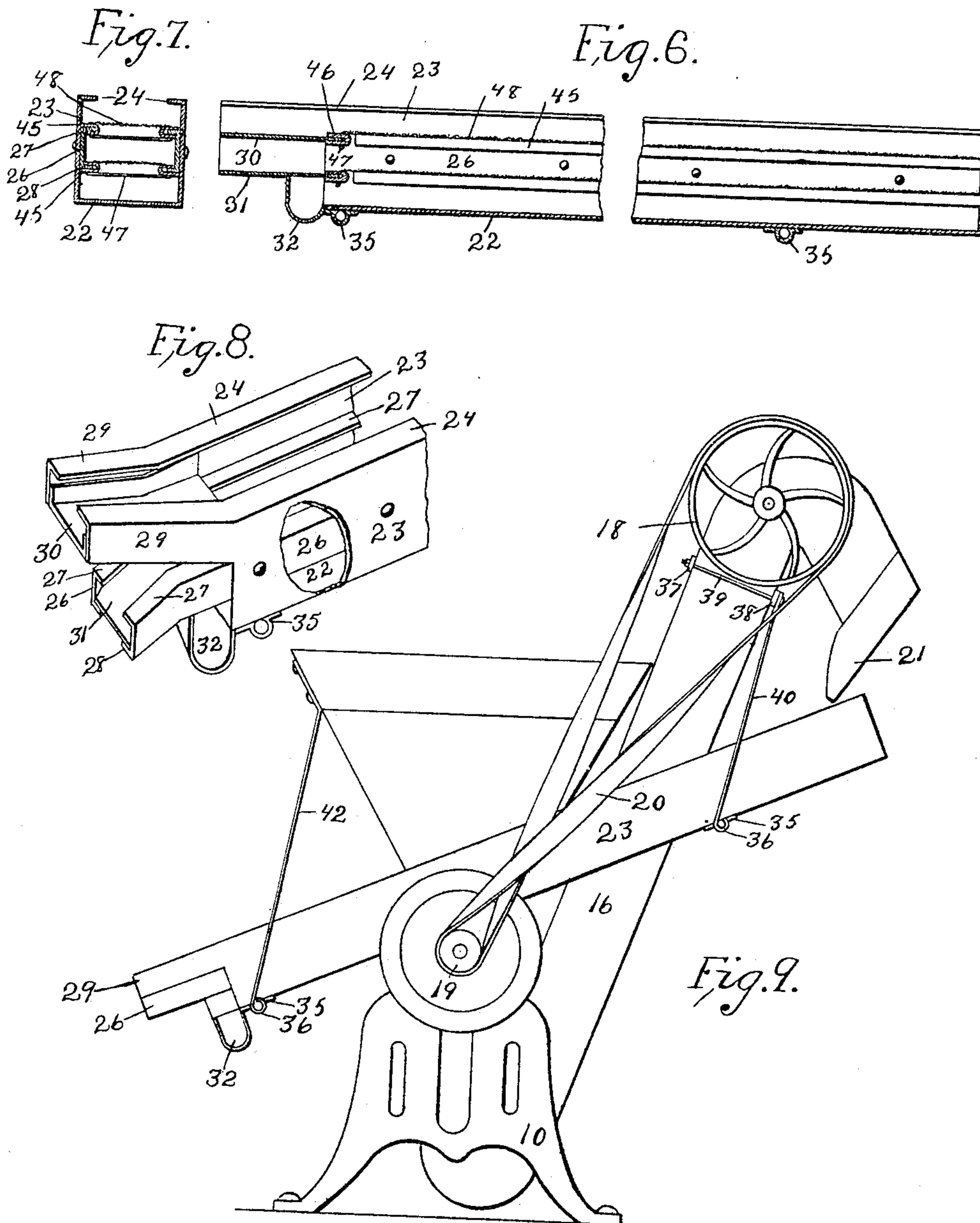
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

HERMAN C. SELLE, OF GRINNELL, IOWA, ASSIGNOR OF ONE-HALF TO  
L. F. SELLE, OF GRINNELL, IOWA.

## CORNMEAL-BOLTER.

No. 819,177.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed July 31, 1905. Serial No. 271,964.

*To all whom it may concern:*

Be it known that I, HERMAN C. SELLE, a citizen of the United States, residing at Grinnell, in the county of Poweshiek and State of Iowa, have invented a certain new and useful Cornmeal-Bolter, of which the following is a specification.

The object of my invention is to provide a cornmeal-bolter of simple, durable, and inexpensive construction that may be readily, quickly, and easily attached to an ordinary cornmeal-mill and actuated by power from the mill to separate the ground meal into three or more different grades, according to size.

My invention consists in the construction of the cornmeal-bolter and in the arrangement and combination thereof with a cornmeal-machine, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a side elevation of a cornmeal-mill with a bolter applied thereto embodying my invention. Fig. 2 shows an enlarged detail perspective view illustrating the means for applying motion to the bolter-frame. Fig. 3 shows a detail perspective view of a part of one of the screens. Fig. 4 shows a detail perspective view of a part of the sieve-frame. Fig. 5 shows a detail perspective view of one of the clamping devices for supporting the sieve-frame on the elevator-spout of the cornmeal-mill. Fig. 6 shows a longitudinal sectional view of the sieve-frame and sieves. Fig. 7 shows a transverse sectional view of same. Fig. 8 shows a detail perspective view of the discharge end of the sieve-frame, and Fig. 9 shows an end elevation of a cornmeal-mill with my improvements applied thereto.

Referring to the accompanying drawings, I have used the reference-numeral 10 to indicate the supporting-frame of the cornmeal-mill. Mounted in the frame is the shaft 11, to which a pulley 12 is fixed for driving the shaft.

The numeral 13 indicates the mill-casing, which is of the ordinary construction and which forms no part of my present invention. Above the casing is a hopper 14 and within the hopper is a feed-plate 15, arranged to be vibrated for the purpose of feeding corn in a uniform and regular manner into the grinding-mill proper. This feed-plate is also of the ordinary kind now in common use.

The numeral 16 indicates an elevator-leg arranged to receive discharge from the mill and to convey it upwardly and laterally to a point of discharge. This elevator is driven by means of the shaft 17, the pulleys 18 and 19, and the belt 20, connecting said pulleys.

Secured to the discharge end of the elevator-leg 16 is a deflecting-spout 21, to discharge downwardly and toward the grinding-mill and into the upper end of the sieve-frame. The sieve-frame comprises a body portion formed complete of a single piece of sheet metal and comprising a solid bottom 22, upright sides 23, and inwardly-turned margins 24 at its top. The sides are braced relative to each other by means of a cross-piece 25, as shown in Fig. 4. On the inner face of each side 23 is a sieve-supporting strip made of sheet metal substantially U-shaped in cross-section, its central portion 26 being riveted to the side 23 and its edge portions 27 and 28 projecting straight inwardly. At the lower or discharge end of the sieve-frame portions of the sides 23, near the top thereof, are inclined laterally and upwardly. These portions are indicated by the numeral 29, and the bottom piece 30 is secured therein to form a discharge-spout, the top surface of which is substantially flush with the top surface of the part 27. The U-shaped sieve-supporting strips are extended beyond the discharge end of the sides 23 and are inclined laterally in an opposite direction from the parts 29, and a bottom piece 31 is placed therein to form a discharge-spout. Substantially flush with the part 28 and below the spout thus formed is a spout 32, discharging at right angles to the body portion of the sieve-frame, the bottom of the sieve-frame discharging directly into said spout 32. Fixed to the inner surface near the central portion of the sieve-frame is a spring 33, its body portion extended in a direction substantially parallel with the sieve-frame, but inclined outwardly therefrom. At its outer end is an arm 34, for purposes hereinafter made clear, the spring being of such shape that the arm 34 may move up and down slightly without causing a corresponding up-and-down movement of the sieve-frame.

I have provided for holding the arm 34 in position in the opening in which it is placed, as follows: 34<sup>a</sup> indicates a pivoted arm having a block 34<sup>b</sup> on one end designed to pass between the side of the sieve-frame and the free end of the spring 33. It is held in this



position by a detachable screw 34<sup>c</sup>, seated in the frame 54. I provide for supporting the sieve-frame as follows: On the under surfaces of the sieve-frame are two metal loops 35  
 5 near the opposite ends thereof designed to receive the cross-rods 36. The device for supporting the upper cross-rod comprises a short strap 37 and a long strap 38, adjustably connected by the bolts 39. These straps are  
 10 designed to be placed on opposite sides of the elevator-leg and the bolts connect them and pass along the edges of the elevator-leg, and by adjusting the nuts on the bolts the said straps are clamped firmly in position. Riv-  
 15 eted to the strap 38 are two hanger-bars 40, extending downwardly therefrom and provided at their lower ends with the loops 41 to receive the upper cross-rod 36 at the opposite side of the sieve-frame. By this means  
 20 the sieve-frame is slidingly supported at one side of the elevator-leg, and it may be adjusted up and down relative to the elevator-leg. The lower end of the sieve-frame is supported by two straps 42, having loops 43 at  
 25 their lower ends designed to receive the lower cross-rod 36. These straps 42 are supported against lateral movements by a brace-rod 44, fixed to one of the straps 42, the upper ends of the straps 42 and brace-rod being secured  
 30 to the hopper of the mill. In this way the sieve-frame is supported in position firmly braced against lateral movement, but capable of longitudinal and slight up-and-down movement. It is inclined at such an angle  
 35 that cornmeal discharged at the top thereof will gradually move over the sieves and over the bottom of the sieve-frame to the discharge-spout when the sieve-frame is vibrated. The sieves are each composed of two U-shaped  
 40 metal side rails 45 and a U-shaped metal end rail 46. The side rails are braced at suitable intervals by the cross-rods 47, and the sieve proper is soldered to the tops of said rails. The sieves are placed in position in the frame  
 45 by placing the U-shaped rails 45 at the sides of the sieves astride the parts 27 and 28 and the U-shaped rails 46 astride the bottom pieces 30 and 31, as clearly shown in Figs. 6 and 7. In this way the sieves are detachably yet  
 50 firmly held. In mills of this class the feed-plate 15 is usually vibrated by means of a device substantially as follows: The numeral 49 indicates a stationary supporting-rod secured to the hopper and pivotally supporting  
 55 a lever 50. The upper ends of said lever are connected to the feeding-plate 15 and the lower end is provided with a wooden block 51, yieldingly held toward an eccentric 52 on the shaft 11 by means of a spring 53. I utilize this kind of a feed-plate vibrator by providing a substantially L-shaped bar 54 with its top secured to the top of the lever 50 by means of the bolt 55 and its lower end secured to the supporting-rod 49. In the top  
 65 of the part 54 is a bolt 56, connected with the

feed-plate 15, and in the upright body portion of the part 54 is a number of holes 57, in which the arm 34 of the spring 33 may be inserted and held by the pivoted block. By means of this arrangement it is obvious that a  
 70 very rapid vibratory movement is imparted to the sieve-frame, and on account of the angle to which the sieve-frame is supported the movement will tend to advance the ground meal over the sieves toward the discharge  
 75 end thereof. The spring 33 will yield sufficiently, so that the full longitudinal stroke of the lever 50 is given to the sieve-frame, but the up-and-down movement of said lever will not tend to raise the sieve-frame from its sup-  
 80 porting-rods. By placing the arm 34 in the upper ones of the openings 57 it is obvious that a relatively long stroke will be given to the sieve-frame, and by inserting it in the lower one of the holes 57 a relatively short  
 85 stroke will be imparted to it. In this way the bolter may be adjusted to adapt itself to different conditions of the ground grain.

Having thus described my invention, what I claim, and desire to secure by Letters Pat-  
 90 ent of the United States therefor, is—

1. The combination with a grinding-mill having a pivoted lever designed to be vibrated during the operation of the mill, a sieve-frame adjustably and slidingly con-  
 95 nected with the mill, means for introducing the product of the mill into the sieve-frame and a spring fixed to the sieve-frame and connected with the said pivoted lever and capable of adjustment toward and from the  
 100 pivotal center thereof, said spring causing the sieve-frame to move in a straight line when the pivoted lever is vibrated.

2. The combination with a grinding-mill, of a pivoted lever, means for vibrating the lever, an arm attached to the lever and formed with a series of openings, a sieve-frame arranged to receive discharge from the mill, means for supporting the sieve-frame to permit it to move vertically and a spring fixed  
 105 at one end to the sieve-frame extended longitudinally thereof, its free end capable of up-and-down movement relative thereto, said free end designed to be passed through any of the openings in said arm and means for se-  
 110 curing it therein.

3. The combination with a grinding-mill having a pivoted lever, means for vibrating the lever and an elevator-spout, of a hanger-frame adjustably and detachably connected  
 120 with the elevator-spout, a cross-rod supported in said hanger-frame, a second hanger-frame fixed to a part of the mill, a cross-rod supported thereby, a sieve-frame slidingly mounted on said cross-rods, an arm fixed to  
 125 the lever and provided with a row of openings extending from the pivotal center of the lever upwardly, a spring fixed to the sieve-frame at one end and capable of being fixed in any one of said row of openings and a pivoted  
 130



block adjustably secured to the sieve-frame to hold the spring in the openings.

4. In a corn-mill bolter, a sieve-frame formed of a single piece of sheet metal and comprising a solid bottom and solid sides, the top margins of said sides inclined inwardly, a sieve-supporting guide riveted to the inner face of each side, each guide having its upper and lower margins extended inwardly, a spout at the top of the discharge end of the sieve-frame having its sides formed of the upper portion of the sides of the sieve-frame, a bottom piece secured thereto forming an upper spout, a middle spout at the discharge end of the sieve-frame having its sides formed of the said sieve-guide members, a bottom piece therein to complete the spout, a third spout secured to the sieve-frame below the middle one and arranged to receive the discharge from the bottom of the sieve-frame, and a number of sieves for the frame, each comprising two side rails formed of sheet metal,

U-shaped in cross-section and designed to fit astride of the inwardly-projecting portions of the sieve-guides and an end rail U-shaped in cross-section designed when in position to stand astride of the bottoms of the said spout portions and a sieve secured to said rails.

5. The combination with a grinding-mill having a rotatable shaft, an eccentric on the shaft, a spring-actuated lever pivotally supported and held against said eccentric and a feed-plate, of a sieve-frame slidably supported on the mill, an arm connected therewith, an arm connected with the said lever and having the arm of the sieve-frame adjustably fixed to it and a bolt fixed to the arm of the lever and also fixed to the feed-plate of the mill.

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Witnesses:

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W. R. LANE.