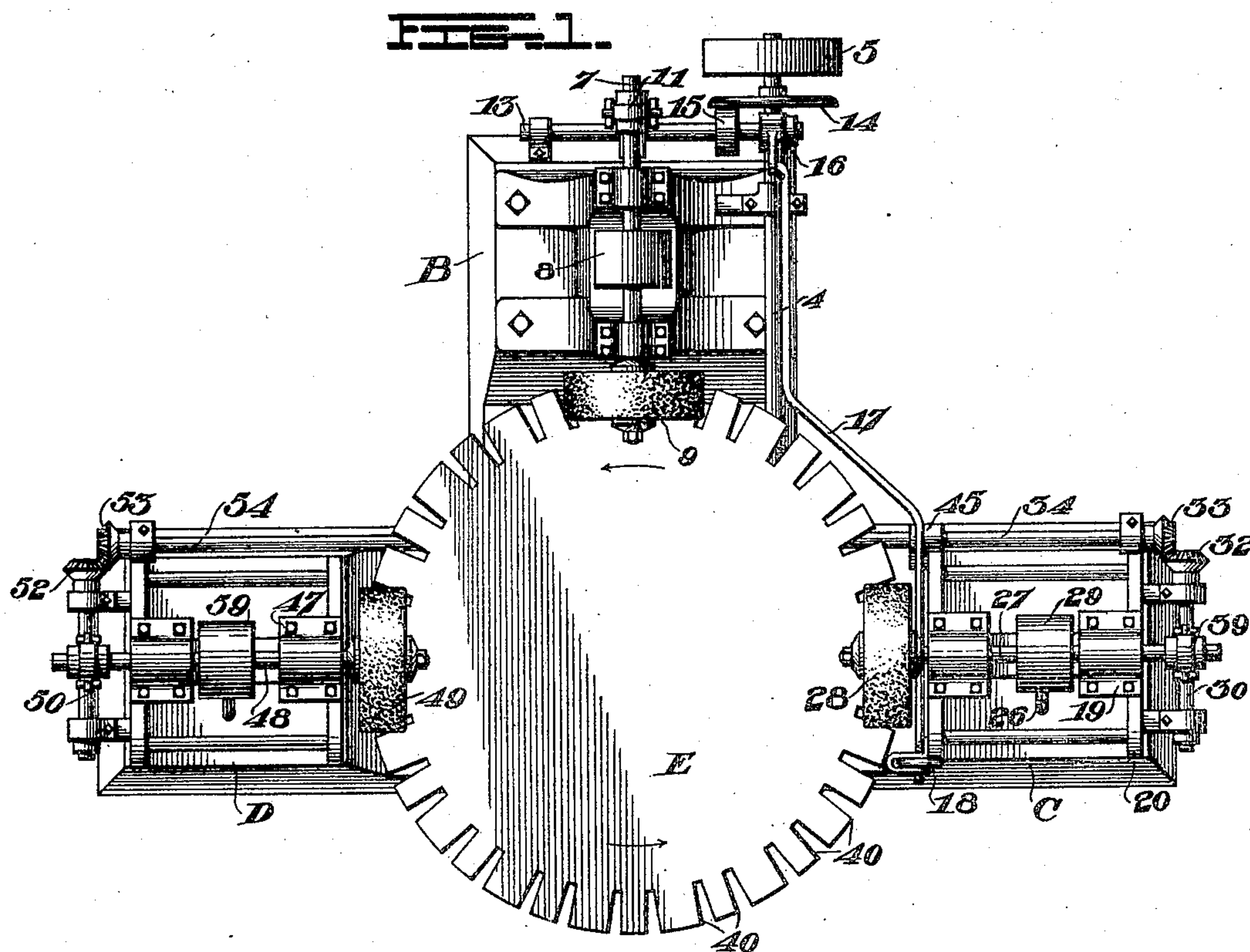


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APPLICATION FILED APR. 10, 1908.

933,962.

Patented Sept. 14, 1909.

4 SHEETS—SHEET 1.



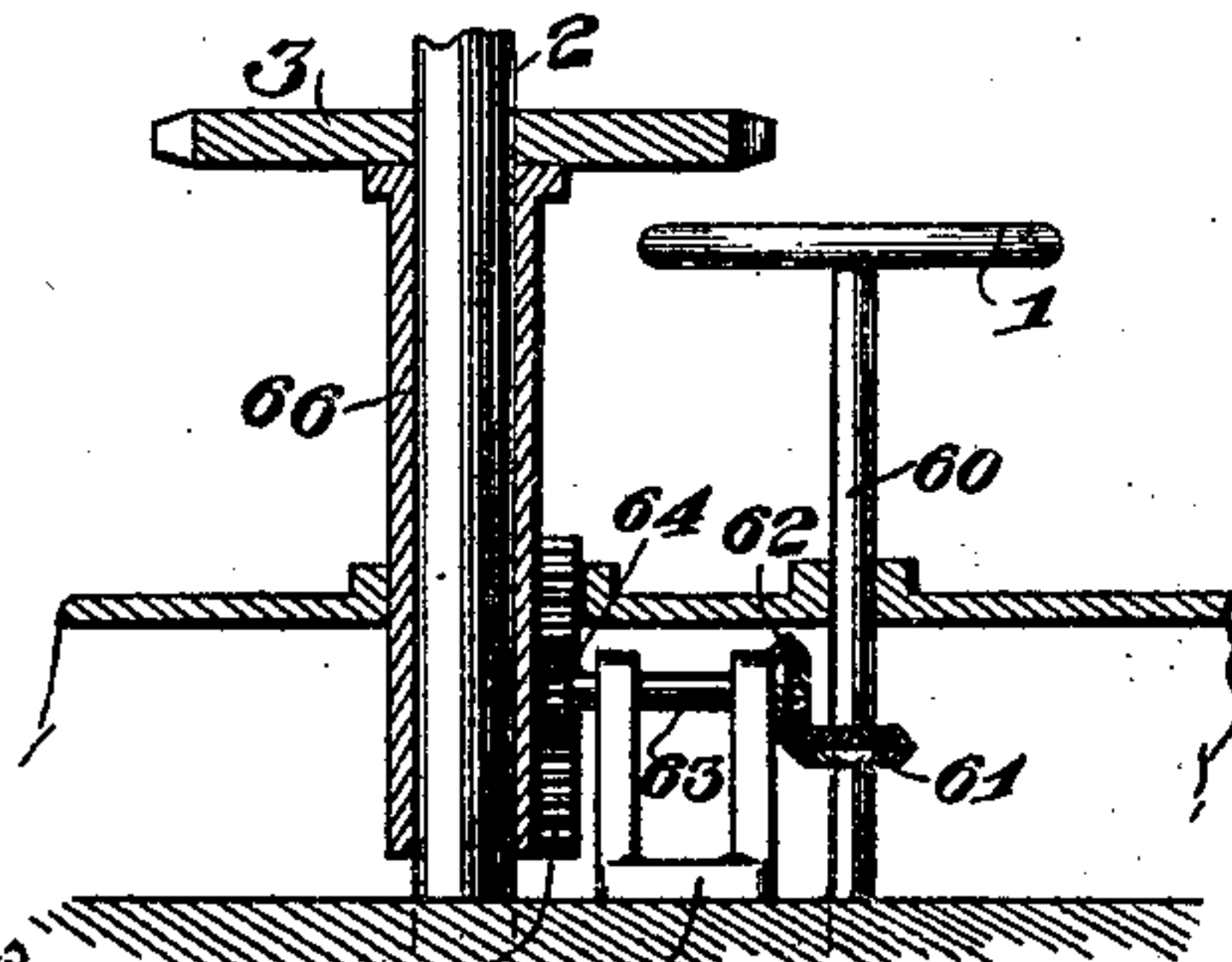
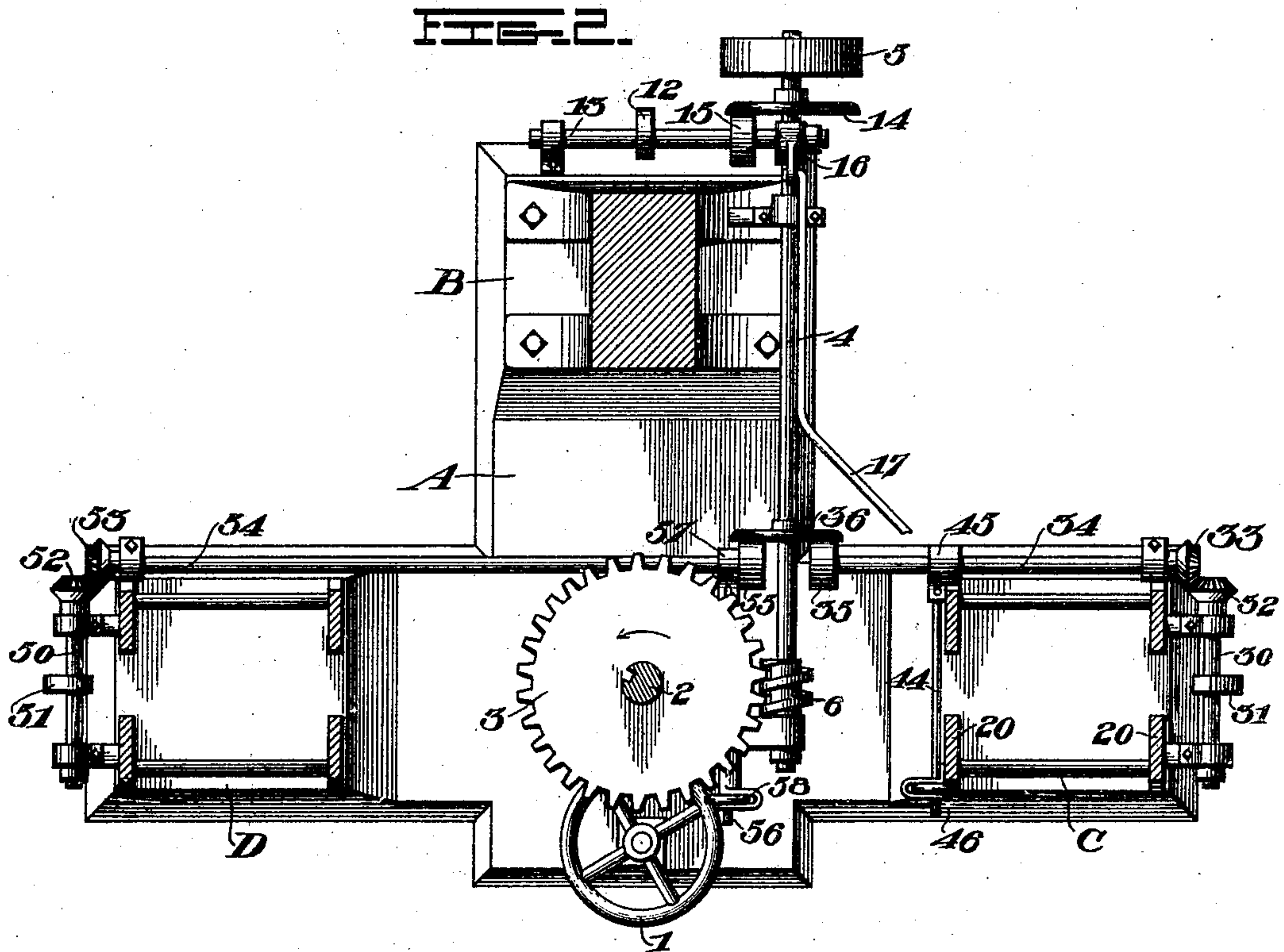
Witnesses  
Lloyd W. Patch  
M. H. Freeman

Inventor  
Royal H. Dorsey  
By Louis Bagge  
his Attorney

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M. H. Tillman

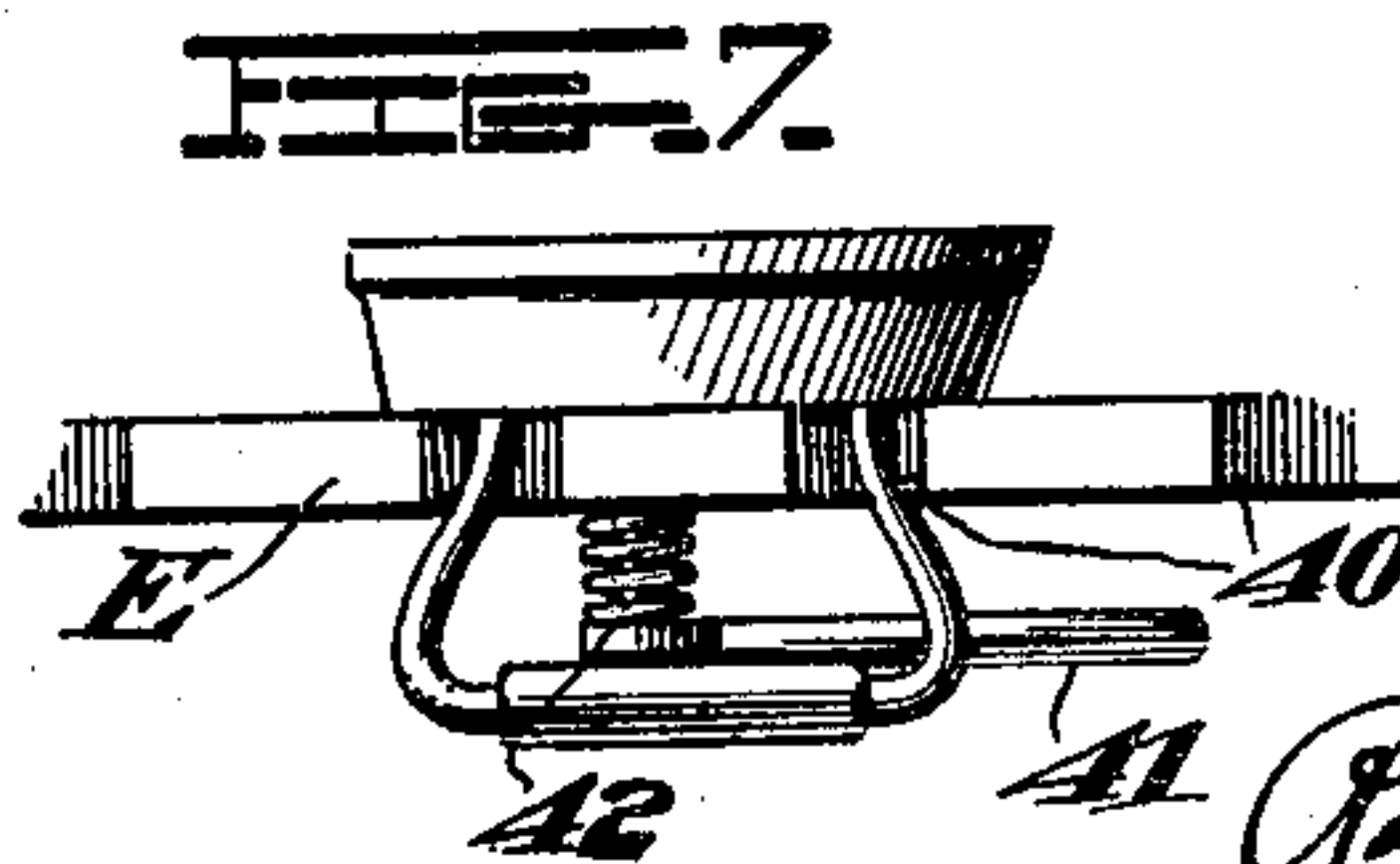
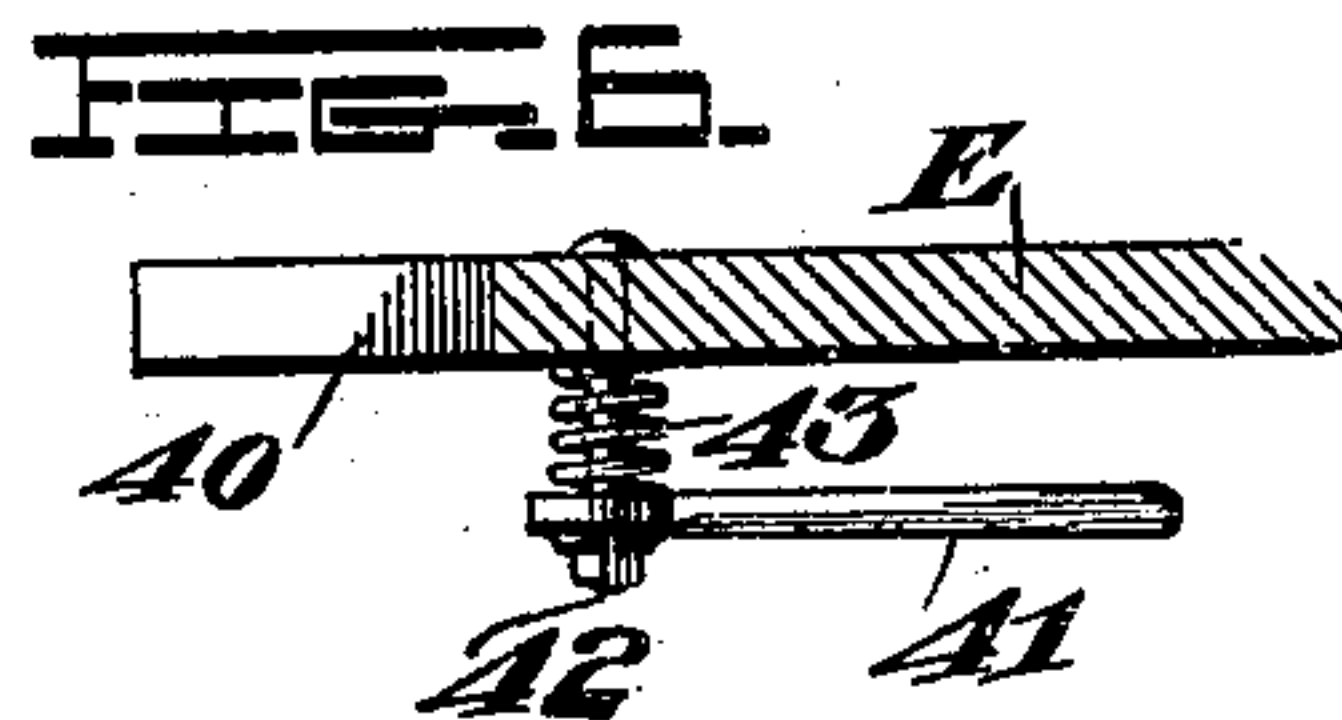
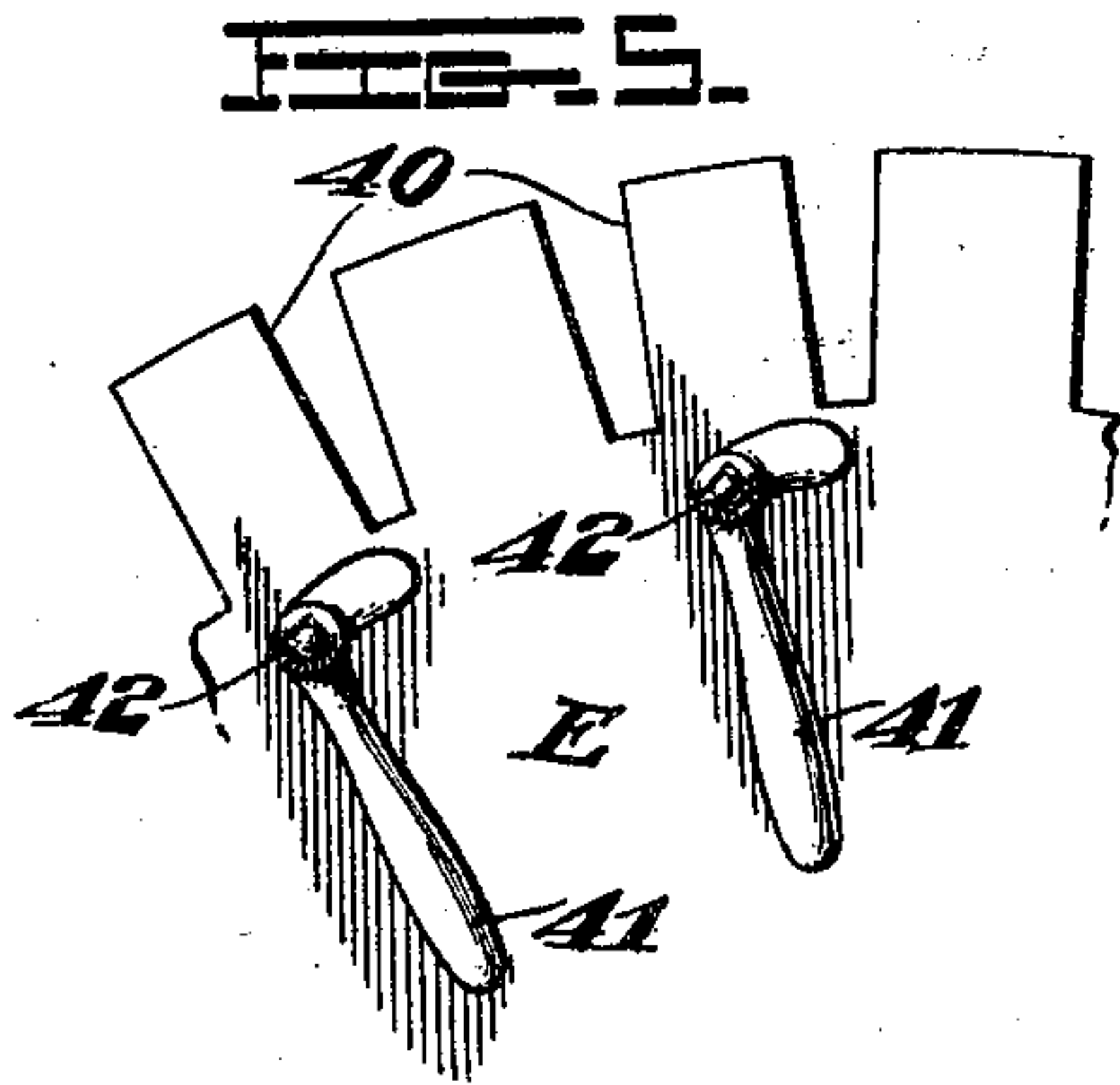
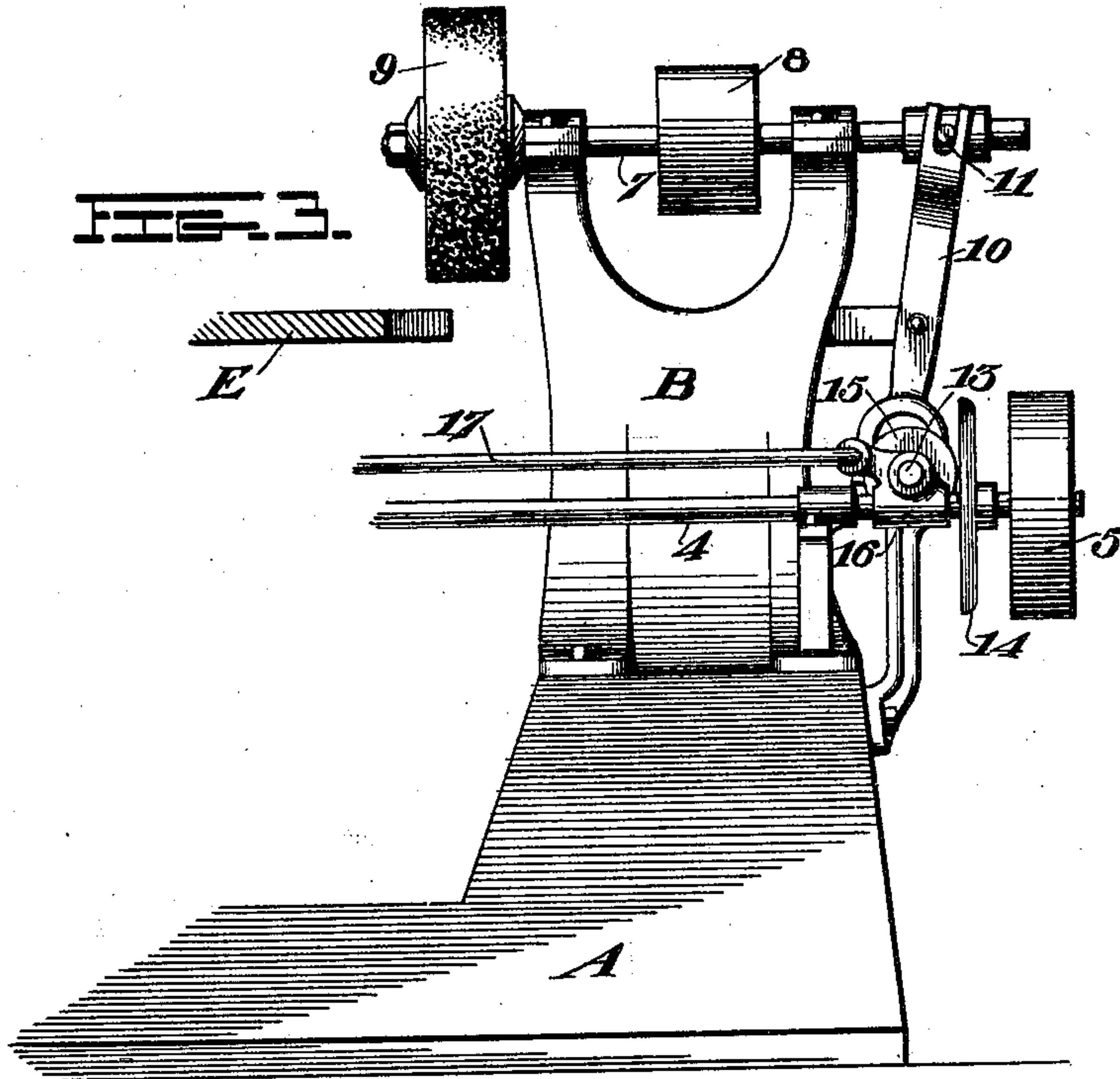
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4 SHEETS—SHEET 3.



Witnesses  
Lloyd W. Patch  
M. H. Freeman

By

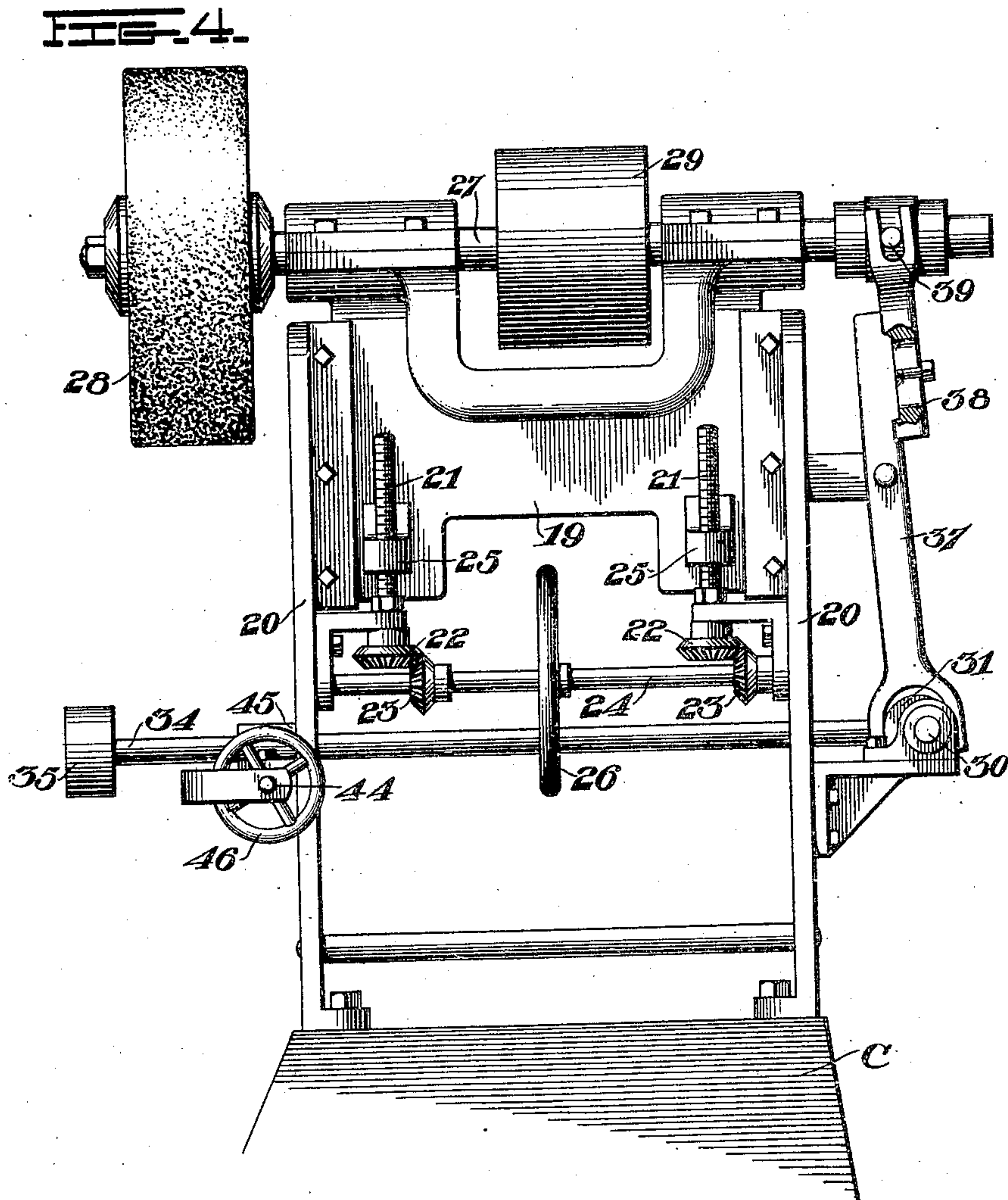
Inventor  
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his Attorney



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4 SHEETS—SHEET 4.



Witnesses  
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his Attorneys



# UNITED STATES PATENT OFFICE.

ROYAL H. DORSEY, OF GAINESVILLE, TEXAS.

SAD-IRON-FACING MACHINE.

933,962.

Specification of Letters Patent. Patented Sept. 14, 1909.

Application filed April 10, 1908. Serial No. 426,304.

*To all whom it may concern:*

Be it known that I, ROYAL H. DORSEY, a citizen of the United States, residing at Gainesville, in the county of Cooke and State of Texas, have invented certain new and useful Improvements in Sad-Iron-Facing Machines, of which the following is a specification.

My invention relates to an improvement in sad iron facing machines, and the object is to provide means whereby the surface or face of the iron can be ground and polished.

Another object is to provide means for transmitting a lateral motion to the grinding wheels to prevent their gumming, and by this motion I am enabled to grind from three to four times as many irons as can be accomplished by the straight grind.

The invention relates to certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings—Figure 1 is a top plan view; Fig. 2 is a cross sectional view; Fig. 3 is a side view of the main grinding machine; Fig. 4 is a side view of the polishing wheel; and Figs. 5, 6, and 7 are details of the table showing the means for holding the irons thereon. Fig. 8 is a detail view showing the manner of raising and lowering the table.

A, represents the base, and connected thereto are supports B, C and D. Mounted upon the base is a table E and 1 is a wheel connected to the shaft 2 of the table whereby the table is raised and lowered to make the proper feed of the irons against the wheels. Splined to the shaft 2 of the table is a large gear 3.

Mounted on the shaft 2 is a sleeve 66, which is provided with a rack 65. A gear wheel 64 on the shaft 63 is adapted to engage the rack and the gear 61 on the stem 60 of the wheel 1 is adapted to mesh with the gear 62 on the shaft 63 whereby the table is raised and lowered upon the rotation of the wheel 1.

Journaled in suitable bearings on the support B is a main shaft 4 having a pulley 5 thereon, which is adapted to receive a belt (not shown), whereby power is transmitted to the shaft. The shaft has a worm gear 6 thereon, which is adapted to engage the gear 3 on the shaft 2 for rotating the table.

Mounted on the support B is a mandrel

shaft 7 having a pulley 8 thereon for transmitting motion to the shaft, and mounted on one end of the shaft is an emery grinding wheel 9. A lever 10 is pivotally connected to the support B and has a swivel connection with the end of the shaft 7 as at 11. The other end of the shaft is connected to an eccentric 12 mounted on a shaft 13 journaled on the support B.

Mounted on the main shaft 4 is a friction disk 14, and a friction wheel 15 on the shaft 13 is adapted to be thrown into and out of engagement with the friction disk. One end of the shaft 13 is journaled in a box 16, which is slidably mounted upon the main shaft 4. Connected to the box 16 is a rod 17 having screw threads at one end which are engaged by a wheel 18 for operating the rod to cause the box to slide on the main shaft 4 to cause the friction wheel 15 to be thrown into and out of engagement with the friction disk 14. When the friction wheel 15 is thrown into engagement with the friction disk 14 the lever 10 will be caused to operate through the eccentric 12 on the shaft 13 whereby lateral motion is transmitted to the mandrel shaft 7 and to the wheel 9. The lateral motion transmitted to the wheel 9 is stopped when the wheel 15 is thrown out of engagement with the friction disk 14. Mounted upon the support C in bearings 20 is an adjustable head 19. Connected to the bearings 20 are screw threaded rods 21, 21 which are provided with gears 22 which mesh with gears 23 on the shaft 24, which shaft is mounted in the bearings 20. The screw threaded rods 21 are adapted to be received in screw threaded brackets 25, 25 on the adjustable head whereby the head is raised and lowered upon the rods. A wheel 26 on the shaft 24 is rotated for rotating the gears 23 and 22, whereby the head 19 is raised and lowered to bring the polishing or finishing wheel into engagement with the irons.

Journaled in the head 19 is a mandrel shaft 27 on which is mounted a polishing wheel 28. A pulley 29 is mounted on the shaft 27 whereby rotary motion is given to the polishing wheel. A shaft 30 is mounted upon one of the bearings 20, and upon the shaft is an eccentric 31. The shaft 30 is provided with a gear 32, which is adapted to mesh with the gear 33 on the shaft 34. A friction wheel 35 on the shaft 34 is adapted to engage the friction disk 36 on the shaft 4.



A lever 37 pivotally connected to one of the bearings 20 is adapted to engage the eccentric 31 on the shaft 30, and connected to the lever 37 is an adjustable arm 38, which  
 5 arm has a swivel connection with the mandrel shaft 27 as at 39. The arm 30 is made adjustable upon the lever 37 to permit of the head being raised and lowered. A rod 44 is adapted to engage a movable box 45,  
 10 which is connected to the shaft 34, and connected to the rod 44 is a wheel 46 for throwing the friction wheel 35 into and out of engagement with the friction disk 36. When the friction wheel 35 is thrown into  
 15 engagement with the friction disk 36 lateral motion is transmitted through the shafts 34 and 30 and lever 37 to the mandrel shaft 27 and polishing wheel 28.

Mounted upon the support D is an adjustable head similar to the construction set forth of the polishing wheel in Fig. 4, and in view of the showing made in Fig. 4 of the construction for the polishing wheel it will not be necessary to describe and show  
 25 the construction of the finishing wheel but in minor detail. The head 47 on the support D is capable of adjustment in the same manner as head 19 on support B, and the head 47 has a mandrel shaft 48 journaled thereon, and mounted on the shaft is a finishing  
 30 wheel 49. A shaft 50 is mounted on the support D, and on the shaft an eccentric 51 is mounted. The shaft 50 is provided with a gear 52, which meshes with a gear 53 on the shaft 54. A friction wheel 55 on the shaft  
 35 54 is adapted to engage the friction disk 36. The friction wheel 55 is thrown into and out of engagement with the disk 36 through a rod 56, which is connected to a movable box 57. A wheel 58 is connected to the rod 56  
 40 for operating it. A lever similar to the lever 37 shown in Fig. 4 is adapted to engage the eccentric 51 and mandrel shaft 48 for transmitting motion to the shaft 48 and finishing wheel 49 when the friction wheel  
 45 55 is thrown into contact with the friction disk 36 on the main shaft 4. A pulley 59 is mounted on the mandrel shaft 48 whereby rotary motion is transmitted to the finishing  
 50 wheel 49.

The table E is provided with slotted openings 40, 40 along the edge thereof for the reception of the handles of the irons. Cam  
 55 levers 41 are pivotally connected to the table by means of a bolt 42, and between the table and lever 41 is a spring 43 which tends to give a certain tension to the lever. One end of the lever is adapted to pass over the handle of the iron and hold the same in place on  
 60 the table and by having the spring or tension means connected to the lever, it is capable of passing over any handle and holding the same in a rigid position.

The operation of the device is as follows:  
 65 Irons are placed upon the table and secured

thereto by means of the levers 41 and power is transmitted to the shaft 4 through the pulley 5 and the table is rotated through the engagement of the worm 6 on the shaft 4 and the gear 3 on the shaft 2 of the table. 70  
 As the table is rotated power is transmitted to the shaft 13 by the engagement of the friction wheel 16 with the friction disk 14 of the shaft 4. The friction wheel 15 is thrown into engagement with the friction 75 disk 14 by the rod 17. The eccentric 12 on the shaft 13, which is connected to the shaft 7 through a lever 10 will transmit a lateral motion to the grinding wheel 9. The shaft 7 is rotated through the pulley 8 from a suitable source of power, and by the connection of the lever 10 with the eccentric 12 to the shaft 7 the wheel 9 receives a rotary and lateral motion, thereby grinding the rough- 80 ened surfaces of the irons, and by the lateral motion the emery wheel is kept from gumming. This operation continues until the irons have been sufficiently ground, when the rod 17 is operated throwing the friction wheel 15 out of engagement with the friction 90 disk 14, stopping the lateral motion transmitted to the shaft 7. After the grinding wheel 9 is thrown out of operation the finishing wheel 49, which is rotated through the shaft 48 and pulley 59, receives a lateral 95 motion by the connection of the shaft 48 with the shaft 50 and shaft 54. The shaft 54 has a friction wheel 55 thereon, which is adapted to be thrown into engagement by a rod 56 with the friction disk 36. This wheel 100 is allowed to operate upon the irons until they have been ground sufficiently to receive the polishing desired, when the lateral motion of the wheel 49 is stopped by the rod 56, withdrawing the friction wheel 55 from 105 engagement with the friction disk 36 on the shaft 34. The polishing wheel 28 is then thrown into operation for polishing the irons by the friction wheel 35 on the shaft 34 being thrown into engagement with the friction disk 36 on the shaft 4. The wheel is allowed to operate upon the irons until they have become sufficiently polished, when it is thrown out of engagement and the table is stopped, and the irons removed and a new 115 set of irons placed on the table to be ground.

It will be seen that the three wheels, the grinding wheel, the finishing wheel, and the polishing wheel, can all be operated simultaneously or independently as desired, and 120 that the polishing and finishing wheels are capable of vertical adjustment to suit the requirements.

It is evident that slight changes might be made in the form and arrangement of the 125 several parts described without departing from the spirit and scope of my invention, and hence I do not wish to be limited to the exact construction herein set forth, but:—

Having fully described my invention, what 130



I claim as new and desire to secure by Letters Patent, is:—

1. In a sad iron facing machine, the combination with a table adapted to carry the irons, a main shaft connected to the table for rotating the same, of mandrel shafts, grinding wheels mounted on the shafts for operating on the irons carried by the table, means for transmitting rotary motion to the grinding wheels, eccentrics, levers mounted on the eccentrics and having a pivotal connection with the mandrel shafts, and means for operating the eccentrics whereby a lateral motion is transmitted to the mandrel shafts.

2. In a sad iron facing machine, the combination with a table adapted to carry the irons, a main shaft connected to the table for rotating the same, of mandrel shafts, grinding wheels mounted on the shafts for operating on the irons carried by the table, means for transmitting rotary motion to the grinding wheels, eccentrics, adjustable levers mounted on the eccentrics and having a pivotal connection with the mandrel shafts, and means for operating the eccentrics whereby a lateral motion is transmitted to the mandrel shafts.

3. In a sad iron facing machine, the combination with a table, a main shaft connected to the table for rotating the same, of mandrel shafts, grinding wheels mounted on the shafts, means for transmitting rotary motion to the grinding wheels, eccentrics, shafts upon which the eccentrics are mounted, means connecting the eccentrics and mandrel shafts, and means whereby motion is transmitted from the main shaft to the eccentrics for imparting lateral motion to the wheels.

4. In a sad iron facing machine, the combination with supports, of grinding wheels vertically and independently adjustably mounted on the supports, and means for transmitting rotary and lateral motion to the grinding wheels.

5. In a sad iron facing machine, the combination with supports, a grinding wheel mounted on one of the supports, of polishing and finishing wheels vertically and independently adjustably mounted on the supports, and means for transmitting rotary and lateral motion to the wheels.

6. In a sad iron facing machine, the combination with supports, of mandrel shafts, grinding wheels mounted on the shafts and vertically and independently adjustably supported on the supports, and means for transmitting rotary and lateral motion to the wheels independent of each other.

7. In a sad iron facing machine, the combination with supports, of mandrel shafts, grinding wheels mounted on the shafts and rigidly and independently adjustably supported on the supports, means for transmitting rotary motion to the grinding wheels, a table, a shaft connected to the table for rotating the same, and means whereby motion is transmitted from the shaft to the mandrel shafts for imparting lateral motion to the wheels independent of each other.

8. In a sad iron facing machine, the combination with a table, of supports, heads adjustably mounted thereon, grinding wheels mounted on the heads, and means for transmitting rotary and lateral motion to the grinding wheels.

9. In a sad iron facing machine, the combination with a rotary table, of supports, heads mounted in the supports, means for raising and lowering the heads, mandrel shafts mounted on the heads, grinding wheels on the shafts, eccentric shafts, levers connecting the mandrel shafts and eccentric shafts, means for transmitting motion to the eccentric shafts whereby lateral motion is imparted to the grinding wheels and means for rotating the grinding wheels.

10. In a sad iron facing machine, the combination with a table, a main shaft connected to the table for rotating the same, of mandrel shafts, grinding wheels mounted on the mandrel shafts, eccentric shafts, levers connecting the mandrel shafts and eccentric shafts, means connecting the eccentric shafts with the main shaft whereby lateral motion is transmitted to the grinding wheels independently or simultaneously, and means for rotating the grinding wheels.

In testimony whereof I affix my signature in presence of two witnesses.

ROYAL H. DORSEY.

Witnesses:

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WILLIAM C. ANDERSON.