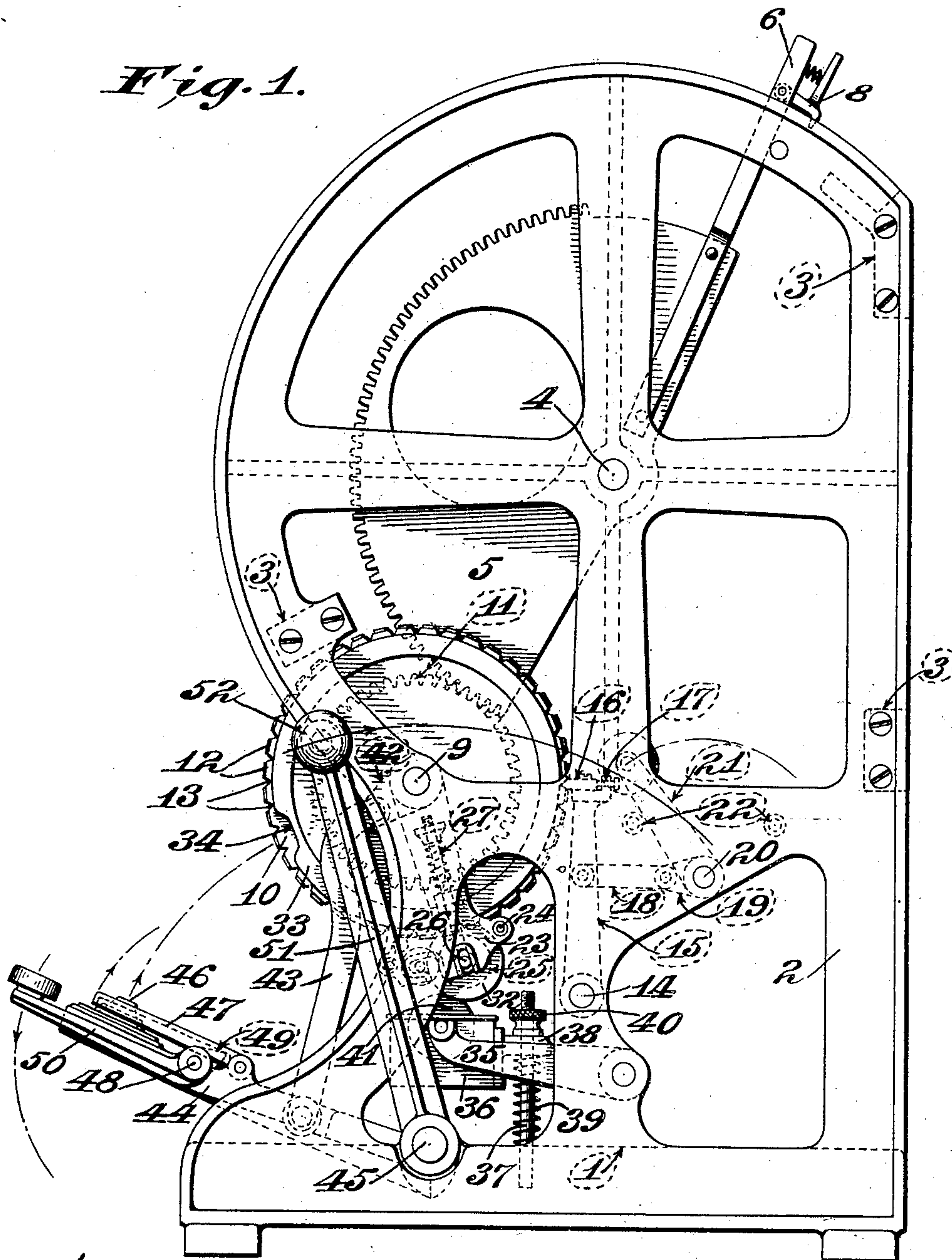


A. J. BRADLEY.
MACHINE FOR PRINTING ON SHOE LININGS AND THE LIKE.
APPLICATION FILED JUNE 10, 1908.

920,532.

Patented May 4, 1909.
3 SHEETS—SHEET 1.



Witnesses:
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J. B. Megown.

Inventor:
Andrew J. Bradley,
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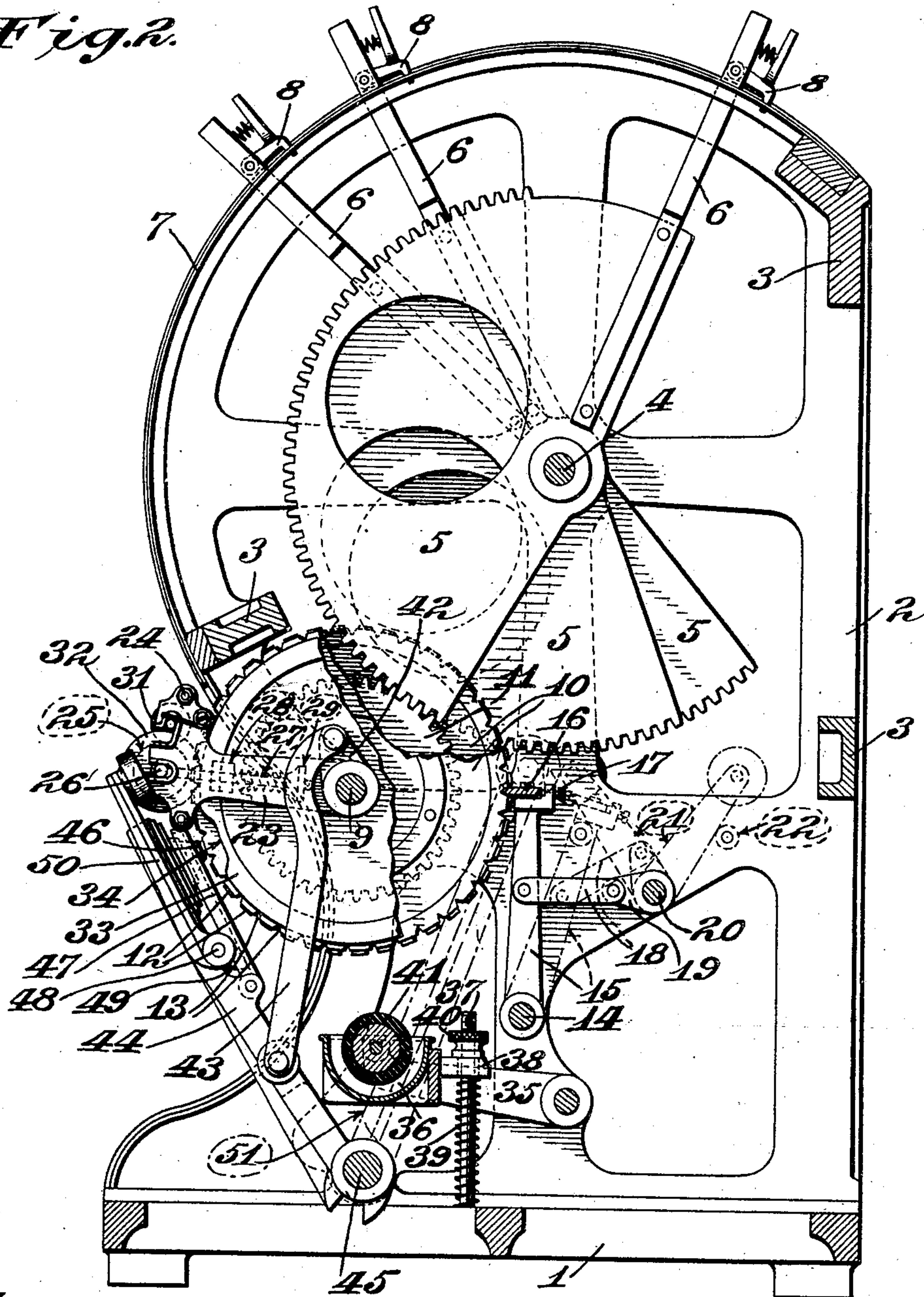
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Fig. 2.



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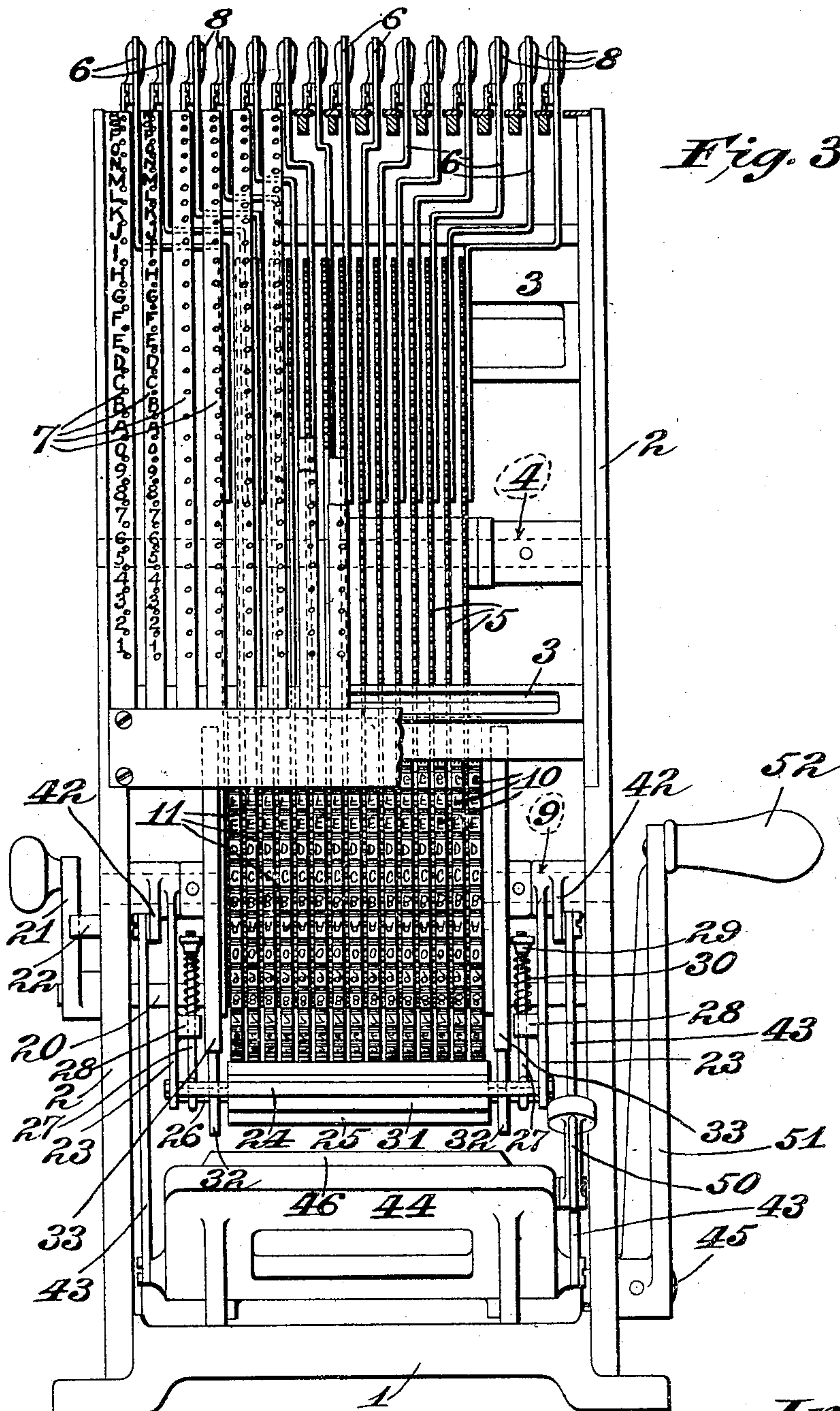


Fig. 3.

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UNITED STATES PATENT OFFICE.

ANDREW J. BRADLEY, OF NEW YORK, N. Y.

MACHINE FOR PRINTING ON SHOE-LININGS AND THE LIKE.

No. 920,532.

Specification of Letters Patent.

Patented May 4, 1909.

Application filed June 10, 1908. Serial No. 437,619.

To all whom it may concern:

Be it known that I, ANDREW J. BRADLEY, a citizen of the United States, and a resident of the city of New York, county of New York, and State of New York, have invented a new and useful Improvement in Machines for Printing on Shoe-Linings and the Like, of which the following is a specification.

My invention relates to machines for printing on shoe linings, collars, linens, and other articles and has for its principal objects to facilitate the adjustment of the type carrying members; to secure and maintain an accurate alinement of the printing type in adjusted position; and to secure other advantages hereinafter appearing.

My invention consists in the parts and in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a side view of a printing machine embodying my invention; Fig. 2 is a vertical cross-section thereof; Fig. 3 is a front elevation thereof.

The main frame of my machine comprises a base member 1, side members 2 and cross members 3. Mounted in the side members is a horizontal shaft 4, upon which are pivotally mounted a series of segmental gears 5, each of which is provided with a handle 6 for manipulating it. The front and upper portion of the frame is a circular arc concentric with the shaft 4 and mounted thereon is a series of elongated strips or sector plates 7 separated by spaces through which the handles of said segmental gears project. There is one of each of these strips for each segmental gear and each strip has a series of holes or sockets formed therein. On the projecting handle of each gear is pivotally mounted a spring pressed locking pawl 8 which is arranged to engage the holes or sockets in the sector plates, said pawls being provided with an ordinary handle for manipulating same. The several sectors are counterparts of each other, but the handles of the segmental gears are preferably offset to increase the space between them.

Mounted on the side frames parallel with the shaft 4 is a second shaft 9 upon which are independently journaled a series of type wheels 10. Fixed to each type wheel is a cog wheel or gear wheel 11. Each of these gear wheels meshes with one of the segmen-

tal gears 5 on said shaft 4, whereby the manipulation of the handle of the segmental gear effects the rotation of said gear wheel and the type wheel fixed thereto. The several type wheels are counterparts of one another and each has on its periphery a series of type or printing characters 12 separated by V-shaped notches or indentations 13. The spacing of the type on the type wheels is so correlated to the spacing of the handles on the sector that each type in turn comes into printing position as the locking pawl 8 registers with each successive notch in the sector; and the sector is provided with characters corresponding to the characters on the type wheel. A portion of the periphery of each type wheel that is normally in position to print is left blank, so that none of the wheels will print until moved from their normal position.

Pivotally mounted on the side members parallel with the shaft 4 is a shaft 14 to which is fixed a pair of arms 15. On the outer portion of this frame is mounted a blade 16 having a V-shaped edge positioned and shaped to get the V-shaped indentations in the type wheel. The edge of this blade is parallel with the shaft 9 of the type wheels and the blade itself is preferably made adjustable on its supporting arms by means of adjusting screws or bolts 17 working in the threaded holes provided therefor on said arms. Each of the blade-supporting arms is connected by a pivotal link 18 with an arm 19 provided for it on a rock shaft 20 mounted in the side plates and provided on its projecting end with a crank handle 21 for manipulating it. The forward and backward movements of said rock shaft are limited by lugs or stops 22 arranged on the outer side of a side member of the frame in the path of the crank handle. By this arrangement, the turning of the crank handle 21 causes the blade to be moved toward or away from the type wheels, as the case may be. On account of the indentations of the type wheel being V-shaped and the edge of the blade being angular, the blade will act as a wedge to turn into precise adjustment any of the type wheels that happen to be slightly out of alinement. So long as the blade engages the indentations in the type wheels, the wheels are firmly locked against rotation.

Journaled on the end portion of the shaft 9 beyond the type wheels are a pair of outwardly projecting arms 23 which are framed

together by means of cross-members 24 to constitute a supporting frame for the ink roller 25. The outer end of each arm has a longitudinally arranged slot in which is journaled the pintle or shaft 26 of the ink roller. Each of the pintles extends through an eye of an eyebolt 27 on the inner face of the supporting arm. As illustrated in the drawing, each eyebolt extends inwardly through a perforated lug 28 on the supporting arm and its inner end is screw-threaded and provided with a nut 29. Each of the eyebolts has a coiled spring 30 thereon, the outer end of which bears against the perforated lug while the inner end bears against the nut which serves as a means for adjusting the compression of the spring. Mounted on the ink roller supporting frame parallel with the ink roller in position to bear against it is an ink distributing roll 31. This arrangement permits a limited movement of the ink roller 25 longitudinally of its supporting arms. The ends of the inking roller are provided with disks 32 and the frame is provided with tracks 33 in position for said disks to run upon. Except at the printing position, these tracks are substantially circular and concentric with the type wheels, and arranged to keep the ink roller clear of the type wheels. At the point where the printing imprint is made, however, there is a sufficient depression 34 in the tracks to permit the springs to bear said ink roller against the type wheel and thereby ink the face of the type at this point.

Journaled in the lower portion of the main frame is a frame 35 which has an ink pan 36 mounted thereon. A rod 37 fixed to the base of the machine extends upwardly through a projection 38 on this frame and is screw-threaded on its upper end. Around this rod is coiled a spring 39 whose lower end bears against the base of the machine and whose upper end bears against a projection on said frame. The upper end of said rod is provided with a nut 40 whereby the uppermost position of said frame is adjustably limited. By this arrangement, the frame is resiliently or yieldingly held upwardly as high as the adjustment of the nut will permit. Journaled on the ink pan and dipping into it is a roller 41 which is located in the path of the type inking roller 25.

The shaft of the ink roller frame has arms 42 fixed thereto, which arms are connected by pivotal links 43 to the sides of a tympan frame 44 which is mounted on a rock shaft 45 on the lower part of the frame.

On the upper side of the tympan frame 44 near its outer edge is the tympan 46 whose sides are inclined or pyramidal. Pivotaly mounted on the tympan frame is a spring pressed plate or clamping member 47 which is provided with an elongated slot arranged to register with the tympan and of such size

that the edges thereof bear against the sides of said tympan. Also journaled on said tympan frame is a rock shaft 48 one arm 49 of which extends under the spring pressed clamping member and the other arm 50 of which extends outwardly and is provided with a knob or other means for manipulating it. Downward pressure upon this knob causes the clamping member to swing or tilt upwardly clear of the tympan and thereby permits the fabric to be positioned on said tympan. When the pressure on the knob is released, the spring forces said clamping member downwardly to stretch the fabric and clamp it in position, and at the same time restores said rock lever to its normal position. On the outer end of the shaft of the tympan frame is a crank arm 51 provided with a handle 52 for manipulating the same.

The operation of my device is as follows: Normally all of the type wheels have the blank or inoperative portion of the periphery in register with the printing position, and consequently only such wheels will print as are moved from this position. In setting up an item, the wheels are moved individually in such order as may be desired. The movement of the wheel is effected by the handle of the segmental gear which is shifted until its pawl registers with a notch in the sector opposite the desired character indicated thereon, whereupon the pawl is released to engage said notch. When the required number of wheels have been properly adjusted, the hand crank 21 is turned to swing the blade 16 into engagement with the indentations in the type wheels. If any of the type wheels happen to be slightly out of alinement, the edge of the knife blade bears against the inclined side of the indentation of said wheel or wheels and shifts them into precise alinement and locks them in alinement. Thereupon, the hand crank 52 is turned, whereupon the inking roller is swung over the ink feeding roller 41 to be inked thereby, and thence along its tracks over and beyond the point where the printing occurs. During this movement, the tracks keep the type inking roller clear of the type except at the printing position, at which point, the springs bear the type inking roller inwardly against the type. During this movement of the type inking roller, the tympan frame is traveling toward the type wheels and the article on the tympan is forced against the type just as the inking roll reaches the limit of its stroke. The tympan frame is then lowered into its normal horizontal position either by its own weight or by means of the hand lever, and the inking roller is restored to its normal position by the same movement. The operation of printing may be repeated as frequently as desired, as the type wheels remain locked in position. When it is desired to print a new item, the locking blade is first

disengaged by manipulation of its hand crank, whereupon any one or more of the type wheels may be manipulated into proper position without the necessity of restoring them to normal position. This latter feature is particularly valuable in a numbering machine, as the changing of numbers consecutively merely requires the shifting of one wheel.

10 Obviously, my machine admits of considerable modification without departing from my invention, and I do not wish to be restricted to the particular construction shown and described.

15 What I claim is:

1. In a printing machine, a frame, a shaft thereon, a plurality of independently adjustable type wheels rotatably mounted on said shaft, a second shaft mounted on said 20 frame and having a tympan frame and a crank handle fixed thereto, a type inking roll, a frame rotatably mounted on said first shaft for supporting said roll and operatively connected to said tympan frame to be oscillated thereby, and a yieldingly mounted ink

pan having a roller in the path of said type inking roll.

2. In a printing machine, a frame, a shaft thereon, a plurality of independently adjustable type wheels rotatably mounted on said 30 shaft, a second shaft mounted on said frame and having a tympan frame and a crank handle fixed thereto, a type inking roll, a frame rotatably mounted on said first shaft for supporting said roll and operatively connected to said tympan frame to be oscillated 35 thereby, a frame pivotally mounted on said first mentioned frame and a spring for supporting the same in normal position, an ink pan on said pivotal frame and an ink roller 40 mounted in said pan in position to cooperate with said type inking roll.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses this 8 day of June, 45 1908, at New York, New York.

ANDREW J. BRADLEY.

Witnesses:

M. J. CLARE,

G. C. DECKER.