

No. 754,220.

PATENTED MAR. 8, 1904.

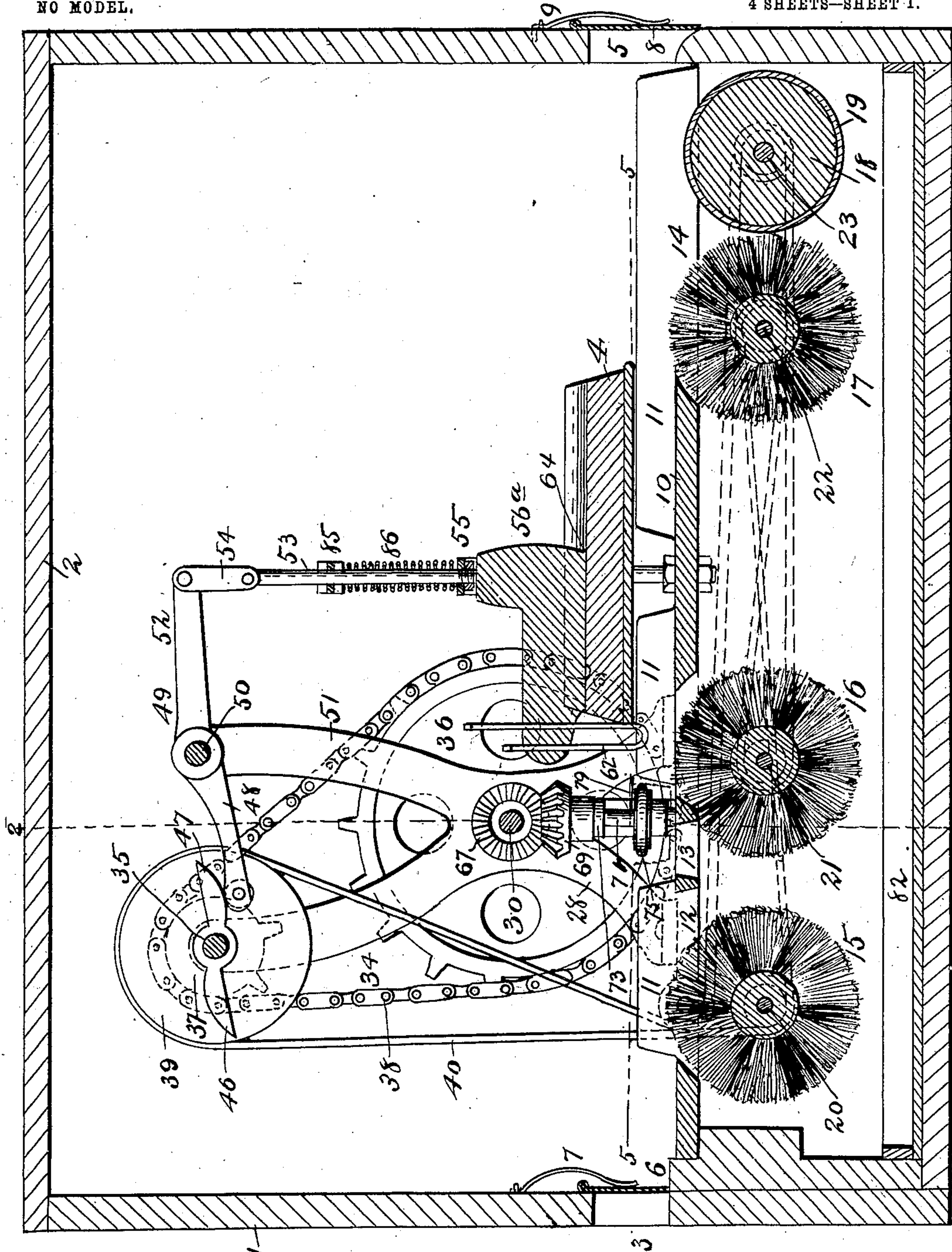
J. A. JONES.

MACHINE FOR CLEANING BLACKBOARD ERASERS.

APPLICATION FILED AUG. 12, 1903.

NO MODEL.

4 SHEETS—SHEET 1.



Witnesses
F. L. Ouraud.
H. Parker Reinohl.

Fig. 1.

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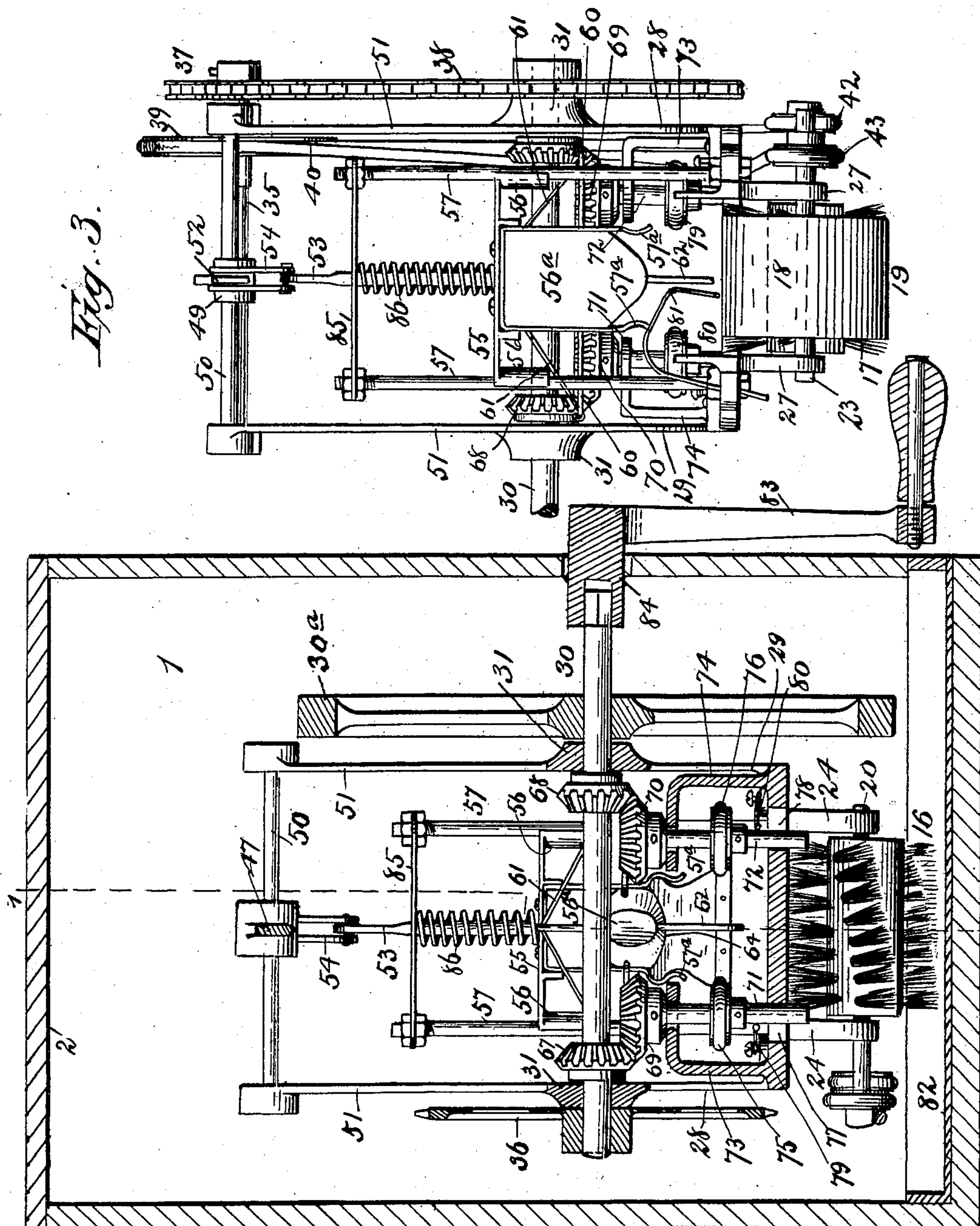
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4 SHEETS—SHEET 2.



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Fig. 2.

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4 SHEETS—SHEET 3.

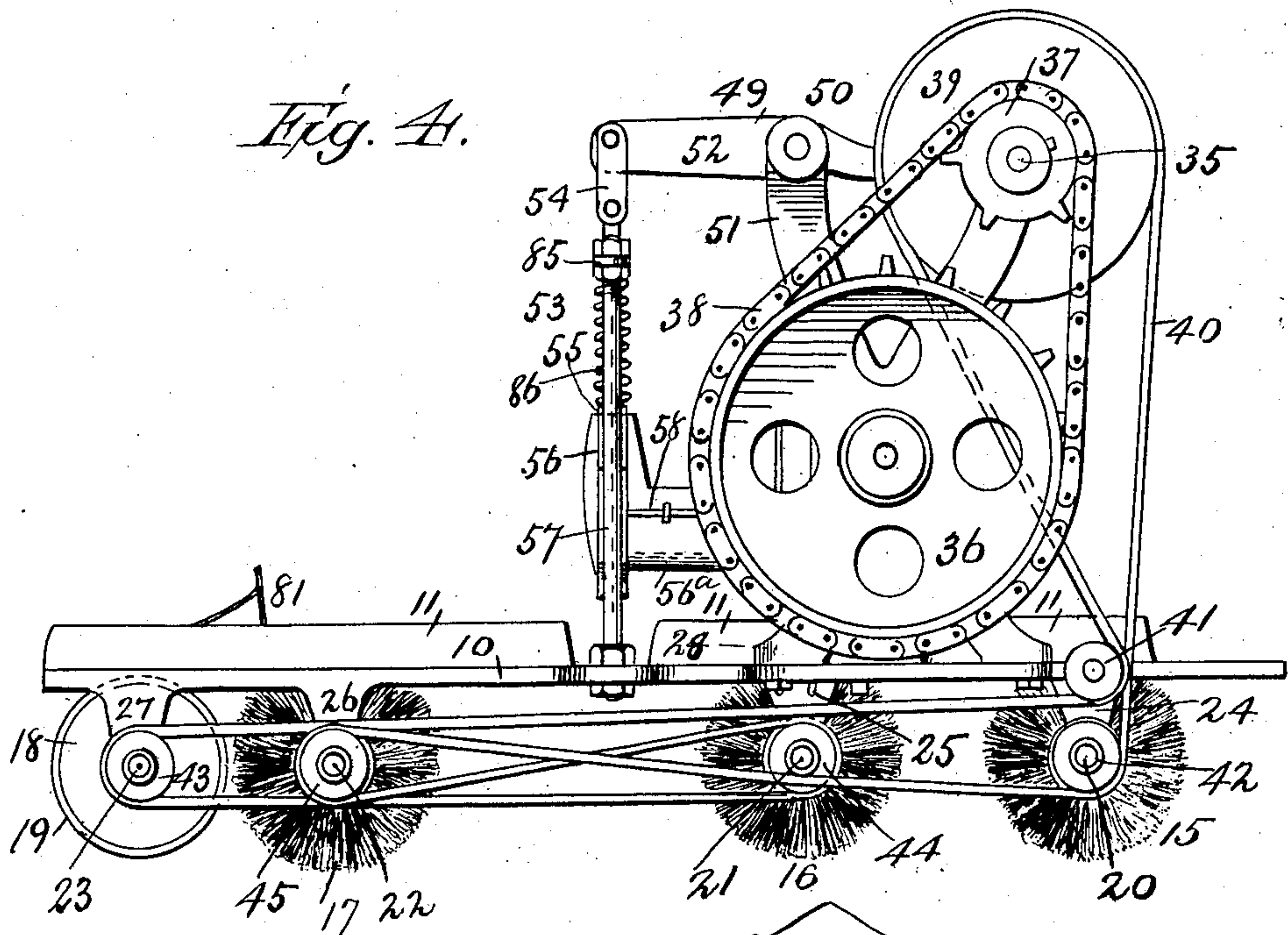
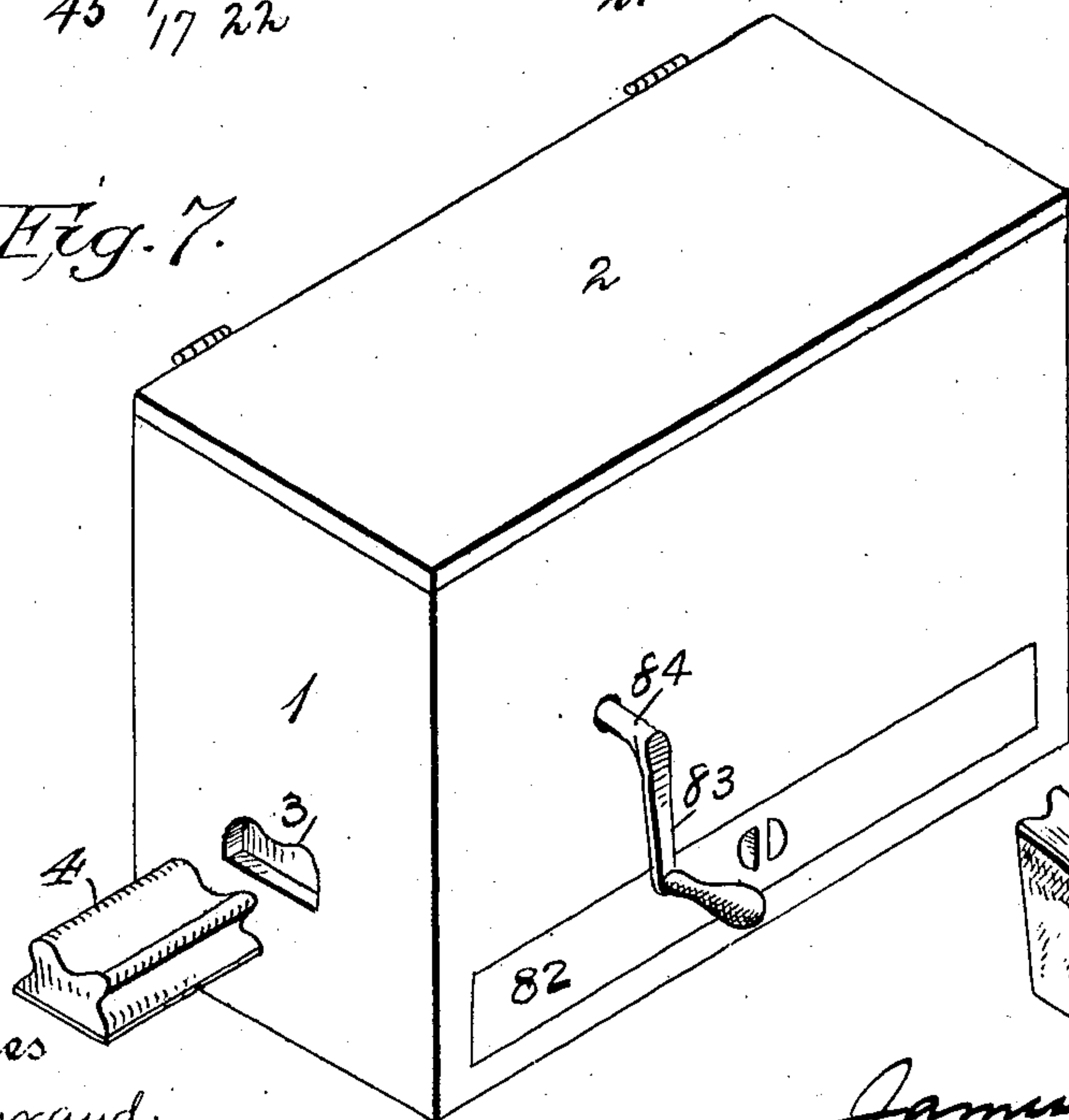
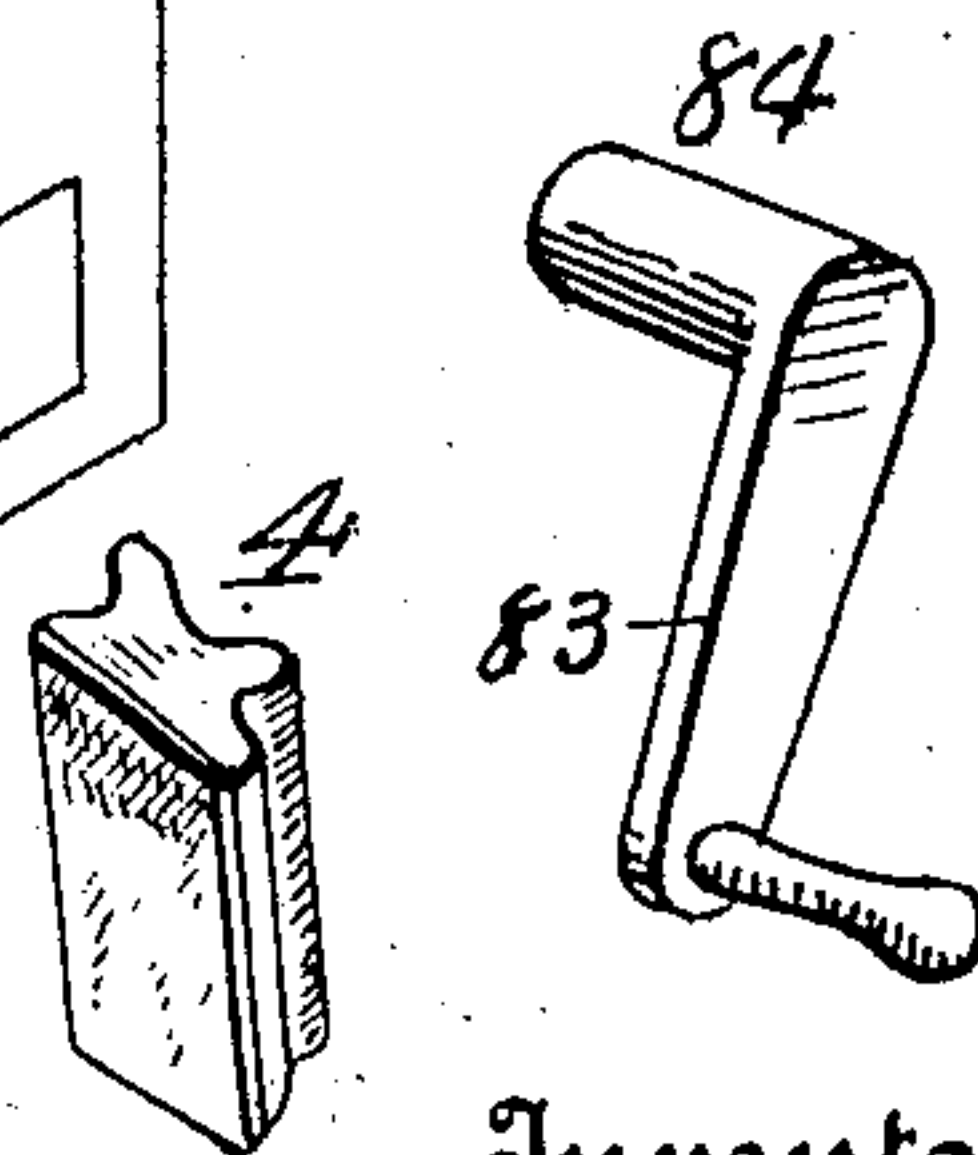


Fig. 7.



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Fig. 8.



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Fig. 5.

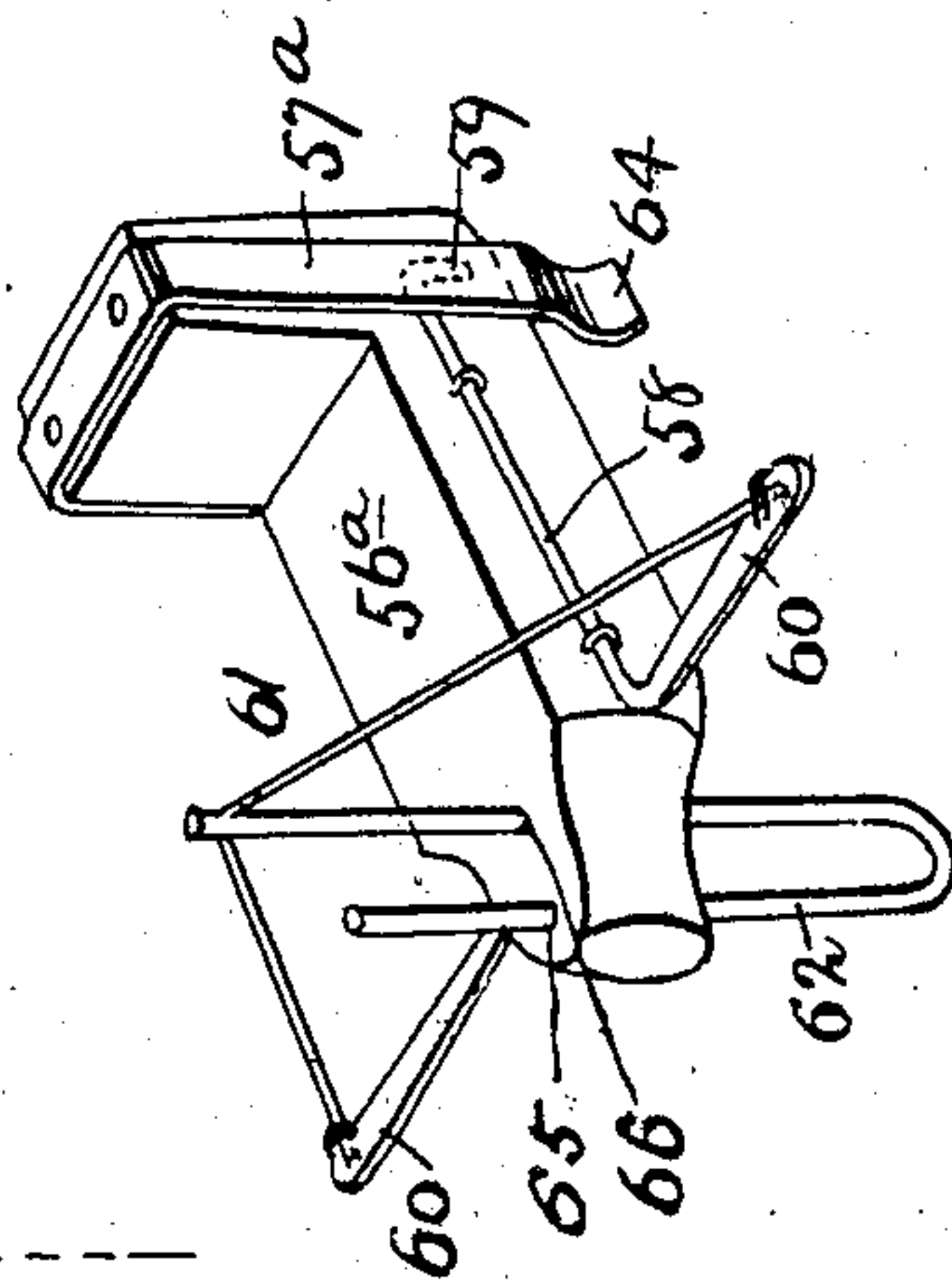
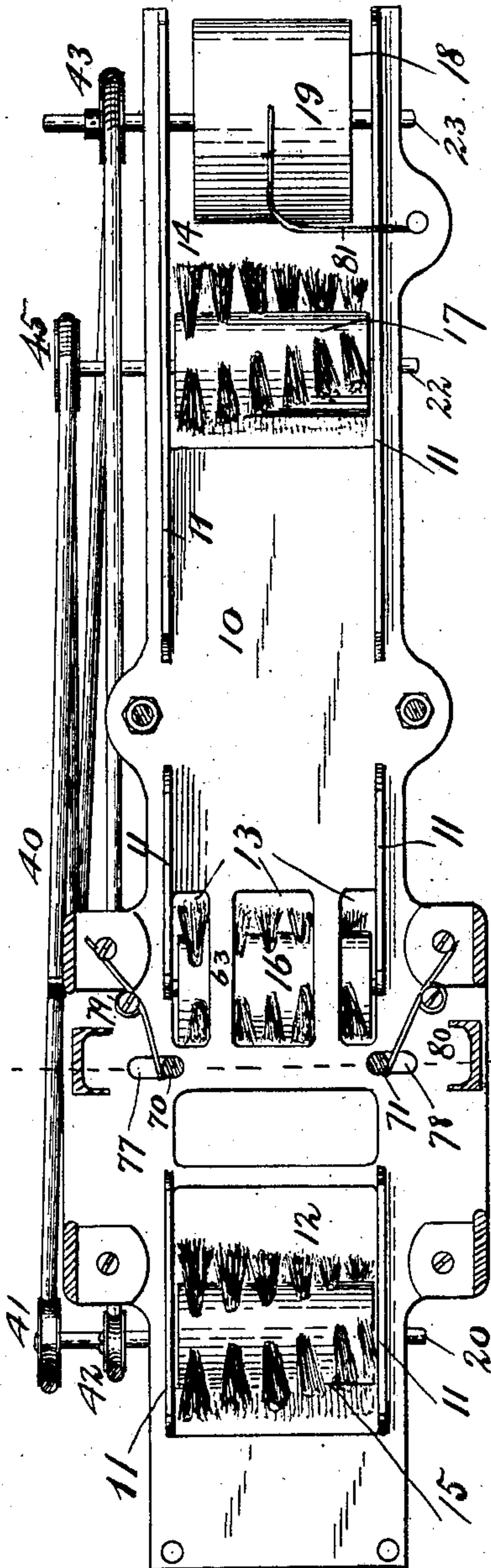


Fig. 6.

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UNITED STATES PATENT OFFICE.

JAMES A. JONES, OF PLYMOUTH, INDIANA.

MACHINE FOR CLEANING BLACKBOARD-ERASERS.

SPECIFICATION forming part of Letters Patent No. 754,220, dated March 8, 1904.

Application filed August 12, 1903. Serial No. 169,227. (No model.)

To all whom it may concern:

Be it known that I, JAMES A. JONES, a citizen of the United States, residing at Plymouth, in the county of Marshall and State of Indiana, have invented certain new and useful Improvements in Machines for Cleaning Blackboard-Erasers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to machines for cleaning blackboard-erasers, has for its object economy in construction and cleanliness, and consists in certain improvements on the machine shown in Patent No. 699,957, granted to me on the 13th day of May, 1902, which improvements will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents a vertical longitudinal section on line 1 1, Fig. 2, of my improved machine; Fig. 2, a vertical transverse section on line 2 2, Fig. 1; Fig. 3, a rear end elevation of the machine removed from its case or box; Fig. 4, a side elevation of the same; Fig. 5, a plan view on line 5 5, Fig. 1; Fig. 6, a perspective of the eraser-holder detached; Fig. 7, a perspective of the machine incased, and Fig. 8 a perspective of the crank.

Reference being had to the drawings and the designating characters thereon, 1 indicates an inclosing case or box in which the machine is supported and whose cover 2 is hinged thereto, and the case is provided with an ingress passage 3 at one end thereof for the introduction of erasers 4 and an egress-passage 5 at the opposite end of the case and in line with the passage 3. On the inside of passage 3 is a door 6, having a retaining-spring 7, and on the outside of passage 5 is a door 8, having a retaining-spring 9, which springs normally hold the doors or covers to their seats and prevent the escape of dust. The door 6 is opened by the person operating the machine by pushing an eraser through the opening 3, and the door 8 is opened automatically by the erasers discharged from the machine.

10 indicates the base or bed plate of the ma-

chine, having vertical flanges 11 on each side and on the upper surface thereof to guide erasers on their way through the machine and is provided with openings 12, 13, and 14, in which the erasers come in contact, respectively, with brushes 15 16 17 and roll 18, having a cover 19, of cloth, to engage the erasers and move them along toward the discharge opening or passage 5. The brushes engaging the surface of the erasers remove the loose matter thereon and are supported, respectively, on shafts 20, 21, and 22 and the roll 18 on shaft 23, which crosses the bed-plate transversely, and are supported in lugs 24, 25, 26, and 27 on the lower side thereof.

28 29 are brackets bolted to the upper surface of the bed-plate, on opposite sides thereof, and support the driving-shaft 30 in bearings 31 31, and in the arms 51 the shaft 50 is supported, and in arms 34 is supported shaft 35. On shaft 30 is the main sprocket-wheel 36, and on shaft 35 is the small sprocket-wheel 37, engaged by a chain 38 and pulley 39, engaged by a belt 40, which engages pulleys 41, 42, 43, 44, and 45 (see Fig. 4) and drives the shafts supporting the brushes 15 16 17 and roll 18. On shaft 35 is also a cam having arms 46 47, which in their rotations engage the arm 48 of a lever 49 on shaft 50, supported in arms 51 of the brackets, and to the outer end of arm 52 of lever 49 is connected a rod 53 by swinging links 54 54 to preserve the vertical alignment of said rod, and to the lower end of the rod is attached a transverse bar 55, having guide-flanges 56 on its ends, which engage the vertical posts or rods 57 57, secured to the bed-plate, and between which posts the bar 55 is reciprocated.

56^a is the eraser-holder, which is connected to the bar 55 and is reciprocated thereby, and the eraser-holder is provided with a spring 57^a, secured thereto to extend down over its sides, as shown in Figs. 3 and 6, to engage an eraser and securely hold it in place on the holder while it is being beaten, and the erasers are automatically released after they have been beaten by rods 58, which are supported on the sides of the eraser-holder and have right-angled ends 59, which engage the spring. The opposite ends of said rods are provided with

crank-arms 60, connected by a wire 61, and the wire is connected to an elongated trip-rod 62, whose lower end passes down into the brush 16 while an eraser is being beaten on the bed-plate and strikes against the upper surface of an oncoming eraser toward the holder 56^a and turns the rods 58 on their axes, which causes the ends 59 to press the spring 57^a out from the holder and releases the erasers. The bars 63 in the opening 13 prevent the eraser from tipping endwise while the trip-rod 62 is acting upon the upper concave surface of the oncoming eraser.

The lower face 64 of the holder is convex in cross-section to fit the upper surface of the eraser, and the trip-rod 62 is guided in its reciprocation in passages 65 and 66 in the holder.

On the driving-shaft 30 are a fly-wheel 30^a and oppositely-arranged miter gear-wheels 67 68, which latter engage like wheels 69 70 on vertical shafts 71 72, supported in brackets 73 74 (see Figs. 1, 2, and 3) on the bed-plate and on which shafts are friction-rollers 75 76, which engage the sides of an eraser and move it along across the brush 16 and until it is engaged by the eraser-holder 56. The lower ends of the shafts 71 72 extend into transverse slots 77 78 in the bed-plate to allow the shafts and the rolls 75 76 to separate to receive an eraser and are returned and the rollers pressed against the sides of the eraser by springs 79 80, bearing against the outside of said shafts as the shafts and the rollers are revolved by the miter gear-wheels 67 68.

The erasers are fed to the machine by the operator until the rollers 75 76 engage their sides, after which they are carried through the machine automatically and are held down upon the roll 18 by a spring 81, and the dust from the erasers falls into a drawer 82 and is removed from the case.

The shaft 30 is revolved by a crank 83, whose shank 84 extends into the case 1.

The upper ends of the posts 57 are connected by a transverse bar 85, and on the rod 53 between said bar and the bar 55 is a spirally-coiled spring 66, which is compressed in the upstroke of the eraser-holder and forcibly projects the holder and its eraser downward to beat the eraser with each revolution of the machine.

Having thus fully described my invention, what I claim is—

1. An eraser-cleaner having a bed-plate pro-

vided with openings, lugs projecting from the under side of the bed-plate, and brushes on shafts supported in said lugs and extending through said openings; in combination with an eraser-holder, brackets above and on opposite sides of the bed-plate, a power-shaft supported on said brackets, miter gear-wheels on said shaft, vertical shafts having gear-wheels engaged by the wheels on the power-shaft and laterally movable at their lower ends, and friction-rollers on said vertical shafts to engage erasers.

2. An eraser-cleaner having a bed-plate provided with openings, brushes for cleaning an eraser through said openings, feed-rollers for engaging the sides of an eraser and having shafts laterally movable at one end, a spring engaging each shaft, and an eraser-holder; in combination with a power-shaft, connections for raising said holder and connections for revolving said rollers.

3. An eraser-cleaner having a bed-plate, vertical brackets above and on opposite sides of the bed-plate and having bifurcated arms, a power-shaft supported in the brackets below said arms, a shaft provided with a pulley and a cam and supported in one of the arms of said brackets, and a shaft provided with a lever engaged by said cam and supported in the other arms of said brackets; in combination with an eraser-holder.

4. An eraser-cleaner, having an eraser-holder, vertical posts, a transverse bar secured to the upper end of said posts, a transverse bar vertically movable between the posts and to which said eraser-holder is secured, a rod connected to the movable bar, and a spring on the rod between said bars; in combination with means for raising the eraser-holder.

5. An eraser-cleaner consisting of a case having openings opposite each other in the ends thereof, a horizontal bed-plate between and in line with said openings, an eraser-holder, means for beating erasers, means for brushing the erasers, and means for automatically moving the erasers from the holder through the egress-opening.

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

JAMES A. JONES.

Witnesses:

SMITH N. STEVENS,
PERRY O. JONES.