

No. 628,615.

Patented July 11, 1899.

J. L. SMITH.  
ERASER CLEANING MACHINE.

(Application filed June 27, 1898.)

No Model.)

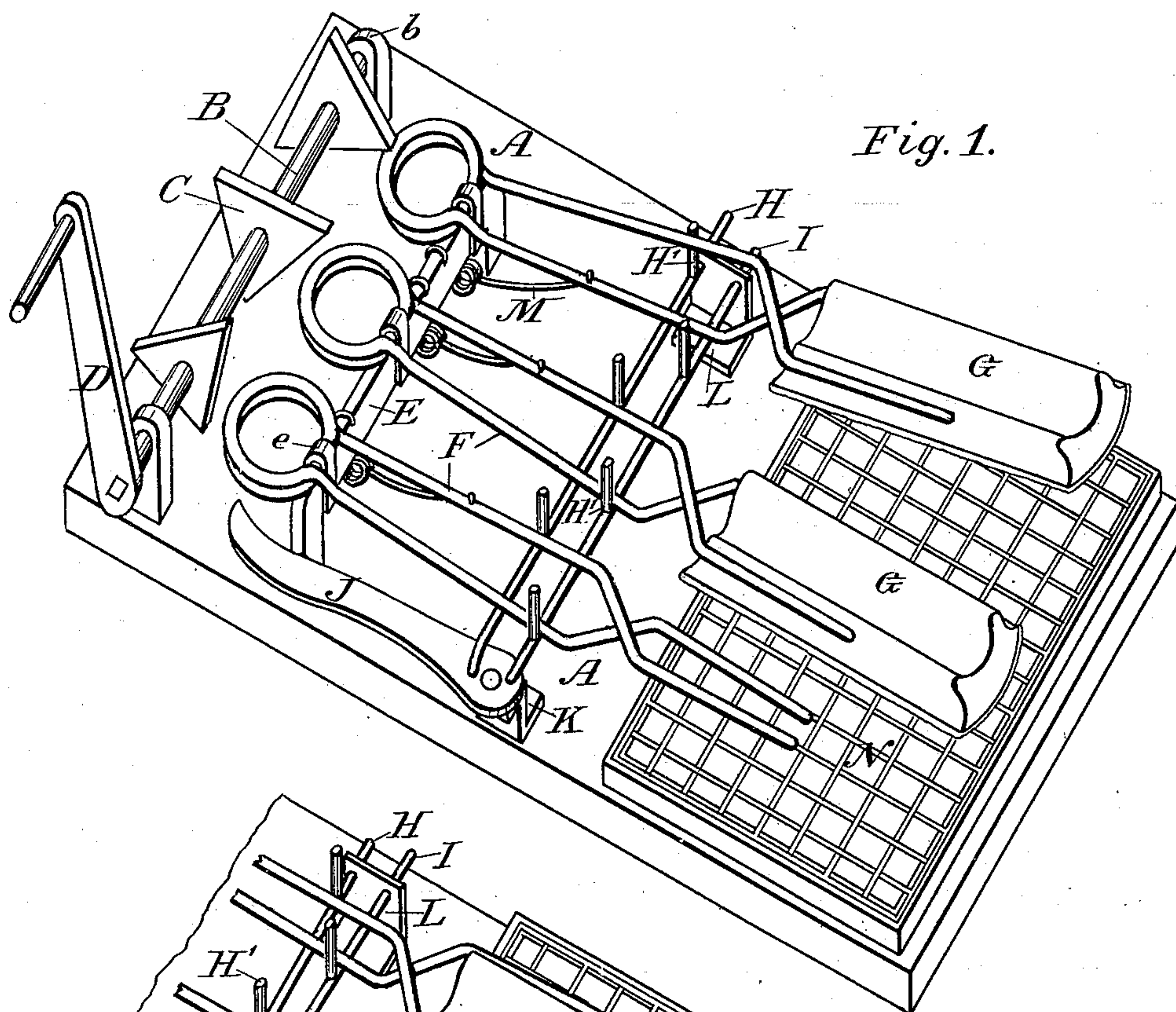


Fig. 1.

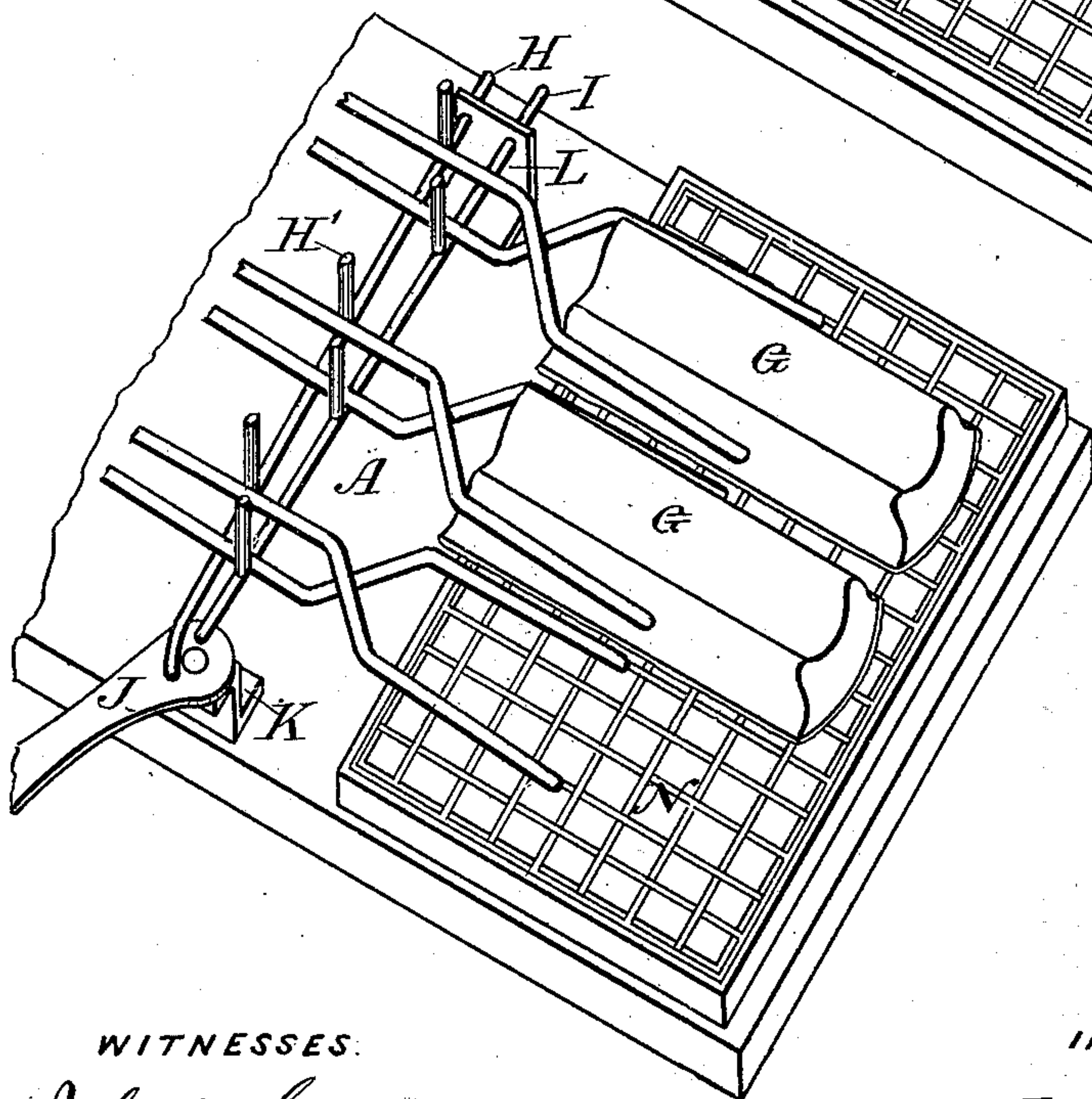


Fig. 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JAMES L. SMITH, OF EAST RIVERSIDE, CALIFORNIA.

## ERASER-CLEANING MACHINE.

SPECIFICATION forming part of Letters Patent No. 628,615, dated July 11, 1899.

Application filed June 27, 1898. Serial No. 684,615. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES L. SMITH, a citizen of the United States, residing at East Riverside, in the county of Riverside, State of California, have invented a new and useful Eraser-Cleaning Machine, of which the following is a specification.

My invention relates to improvements in machines for cleaning erasers, particularly erasers used in cleaning school-blackboards, in which the eraser is cleaned by striking it against an obstruction that will stop the eraser and permit the dust and dirt contained therein to fly out of the eraser; and the objects of my invention are, first, to provide a simple and inexpensive machine that will clean a number of erasers at one time, and, second, to provide a simple machine that will clean erasers and at the same time retain and collect the dust within the machine during the operation of cleaning the erasers, and thereby prevent the same from covering the person of the operator and more particularly from getting into his lungs. I attain these objects by the mechanism described herein and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my machine without its cover, showing a machine, with striking-arms holding two erasers in position in the machine, the third being removed, made to clean three erasers at one operation. Fig. 2 is a perspective view of the machine, partly cut away, showing the position of the parts when the striking-arms are open either for the reception or removal of the erasers.

A is the base of the machine, made of any suitable material. Upon the rear end of the base is rotatively mounted in suitable bearing-journals *b*, affixed to the base, a shaft B, to which are rigidly affixed cams C. These cams are so mounted on the shaft that at one position none of them press on the ends of the striking-arms F. This is desirable to permit of the opening of the gripping-jaws of the striking-arms F for the insertion or removal of the erasers. On one end of the shaft B is attached the crank D for operating this shaft. In front of the shaft B and attached to the base A is the supporting-bar E. On the bar E are pivotally mounted the striking-arms F, the front ends thereof forming gripping-jaws

for holding an eraser. I have shown these arms made from spring-wire; but they may be made from other material and in other forms without departing from the spirit of my invention. When made of wire, as shown, they are pivoted to the bar E by a piece of iron *e*, passed over the front of the circular part of the rear end of the striking-arm and fastened to the supporting-bar E, thereby connecting the two together and allowing the striking-arm to have a vertical motion. Attached to the bar E or base A at each of the striking-arms is a coiled spring M, the free end of which passes over one side of the striking-arm F and spring-presses it down. On the support K, affixed to the base A, near the center of the side thereof, is rotatively mounted the lever J, having a horizontal movement. Mounted in the lever J are two transverse bars H and I, the free ends of which pass through a supporting-guide L, affixed to the base. On the bars H and I are affixed studs H', immediately adjacent to the striking-arms, as shown in Fig. 1. The striking-arms F have a spring of one coil of wire at the rear end of each, bent so as to cause the free ends or gripping-jaws to approach each other when unobstructed, as shown by the first arm in Fig. 1. By moving the lever J to the position shown in Fig. 2 the studs H' on the bars H and I, respectively, are caused to approach each other and thereby open the gripping-jaws of the striking-arms F, and the arm is then in position either for the reception or removal of the eraser G.

N is a receptacle affixed to the front end of the base and has a wire-net top for the eraser G to strike upon. Corrugated iron or a grooved or other surface that will permit the dust to fly out of the eraser may be used as a base for the eraser to strike upon, and any desired form of dust-receptacle may be used. In my machine, as shown, the dust is removed from its receptacle by turning the machine upside down.

My machine can be constructed to clean one or more erasers, it only being necessary to duplicate the various parts.

My machine when constructed as herein described is fitted with a cover (not shown in the drawings) fitting tightly on the base to prevent the dust driven out of the erasers



from getting out of the machine during the operation of cleaning the erasers. The ends of the shaft B, carrying crank D, and bars H and I and lever J protrude from the cover, which is sufficiently high to permit of the movement of the striking-arms.

My machine is operated as follows: Erasers are placed in the gripping-jaws of the striking-arms, as shown in Fig. 1, and the cover put on. The operator turns the crank D, thereby rotating the shaft B, carrying the cams C. As the points of the cams come in contact with the rear end of the striking-arm they press them down, and thereby raise the front end, carrying the eraser. The further rotation of the shaft B causes the point of the cam to pass off the end of the striking-arm, and the spring M causes it, carrying the eraser, to rapidly descend and the eraser G to strike the perforated top of the dust-receptacle N with a blow, and thereby jar the dust out of it. By turning the free ends of the gripping-jaws of the arms F slightly outward, so that an eraser could be easily pushed between them, the bars H and I, support K, guide L, and lever J could be omitted. A machine thus constructed could not be operated as quickly as one containing these elements, owing to the greater time that it would require to put the erasers into and take them from the machine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A machine for cleaning erasers, comprising a base A; shaft B, rotatively mounted in journals *b* affixed to the rear part of the base; cams C and crank D, affixed to the shaft B; supporting-bar E, affixed to the base A in front of shaft B; striking-arms F, pivotally attached to supporting-bar E by clamp *e*; spring M, affixed to bar E, the free end thereof passing over arm F and imparting thereto a downward impulse; support K and guide L, affixed to the base near the center of the sides; lever J, rotatively mounted on support K; bars H and I, rotatively attached to lever J, the free ends thereof passing through guide L; and dust-receptacle N, affixed to the front end of the base.

2. In a machine for cleaning erasers; a suitable base; a dust-receptacle mounted on the front end of the base, and having a perforated top; eraser holding and striking arms, spring-pressed downward, pivotally mounted near the rear end thereof on a supporting-bar affixed to the base near the rear thereof; a supporting-bar for the striking-arms affixed to the base near the rear thereof; a shaft having a

crank to operate the same rotating in journals affixed to the base near the rear thereof; cams mounted on said crank-operated shaft, rotating in journals affixed to the rear of the base, and adapted to press downward the rear end of the eraser holding and striking arm and then release the same, all for the uses and purposes set forth.

3. In an eraser-cleaning machine; a suitable base; a crank-operated shaft, rotatively mounted in journals affixed to the rear of the base, and having cams affixed thereto to operate the striking-arms; striking-arms, pivoted to a support affixed to the base near the rear thereof, and spring-pressed downward, adapted to hold an eraser in its gripping-jaws; a dust-receptacle affixed to the front end of the base, having a perforated top to receive the blow of the eraser, as it is caused to strike it by the striking-arm; means to open the gripping-jaws of the striking-arms to permit of the insertion therein or removal therefrom of the eraser.

4. In an eraser-cleaning machine, an eraser holding and striking arm consisting of two members pivoted to a suitable support on the base of the machine, formed of resilient material adapted by its resiliency to grip and hold an eraser while the same is being cleaned, in combination with suitable means to operate such striking-arms.

5. In an eraser-cleaning machine, the combination of the base A, having the dust-receptacle N with perforated top, affixed to the front end thereof; the shaft B, rotatively mounted in bearings on the rear of the base, and having rigidly affixed thereto, the cams C and crank D; the reciprocating bars H and I, having mounted thereon the studs H'; the spring striking-arms F, pivotally mounted on the cross-bar E, the forward-projecting ends thereof arranged to grip the eraser when the lever J is thrown back and to release it when the lever is thrown forward; the spring M, mounted on the cross-bar E, the free end passing over the arm F and arranged to exert a downward pressure on the arm F; the lever J, pivoted on support K, and having journaled in the pivoted end the reciprocating bars H and I having studs H' mounted thereon and the eraser G; substantially as and for the purposes described.

In witness that I claim the foregoing I have hereunto subscribed my name, this 21st day of June, 1898, at Los Angeles, California.

JAMES L. SMITH.

Witnesses:

G. E. HARPHAM,  
JOHN C. BEWLEY.