A. ILSTRUP.

BLACKBOARD ERASER CLEANER.

APPLICATION FILED DEC. 16, 1908.

925,478.

Patented June 22, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

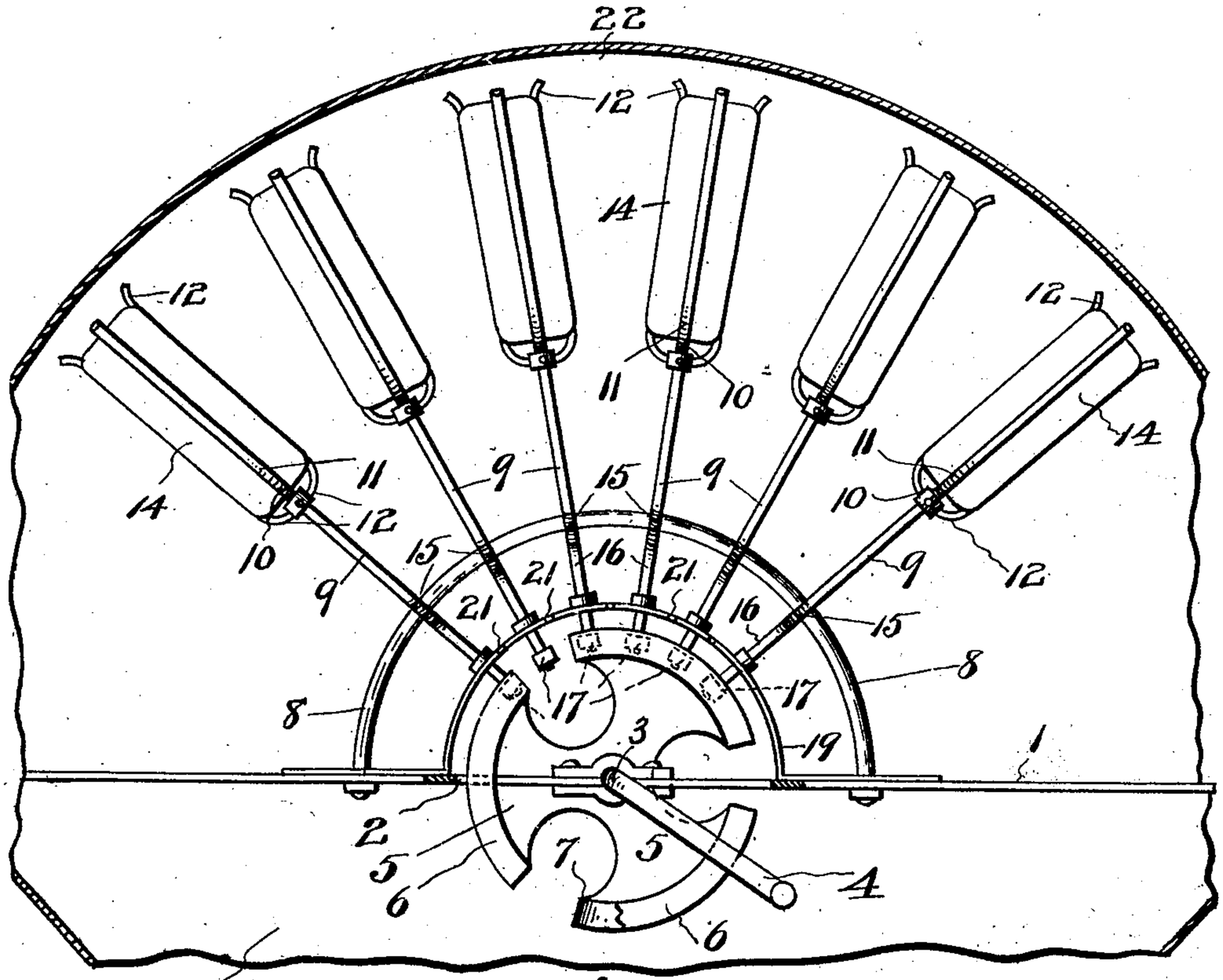
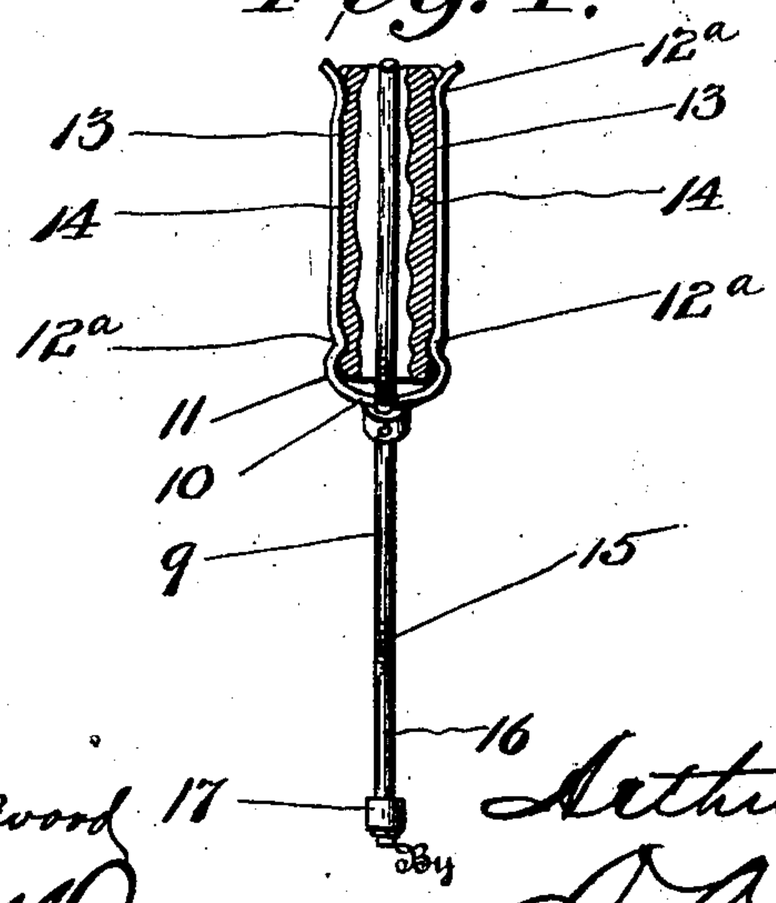


Fig. 4.



Witnesses

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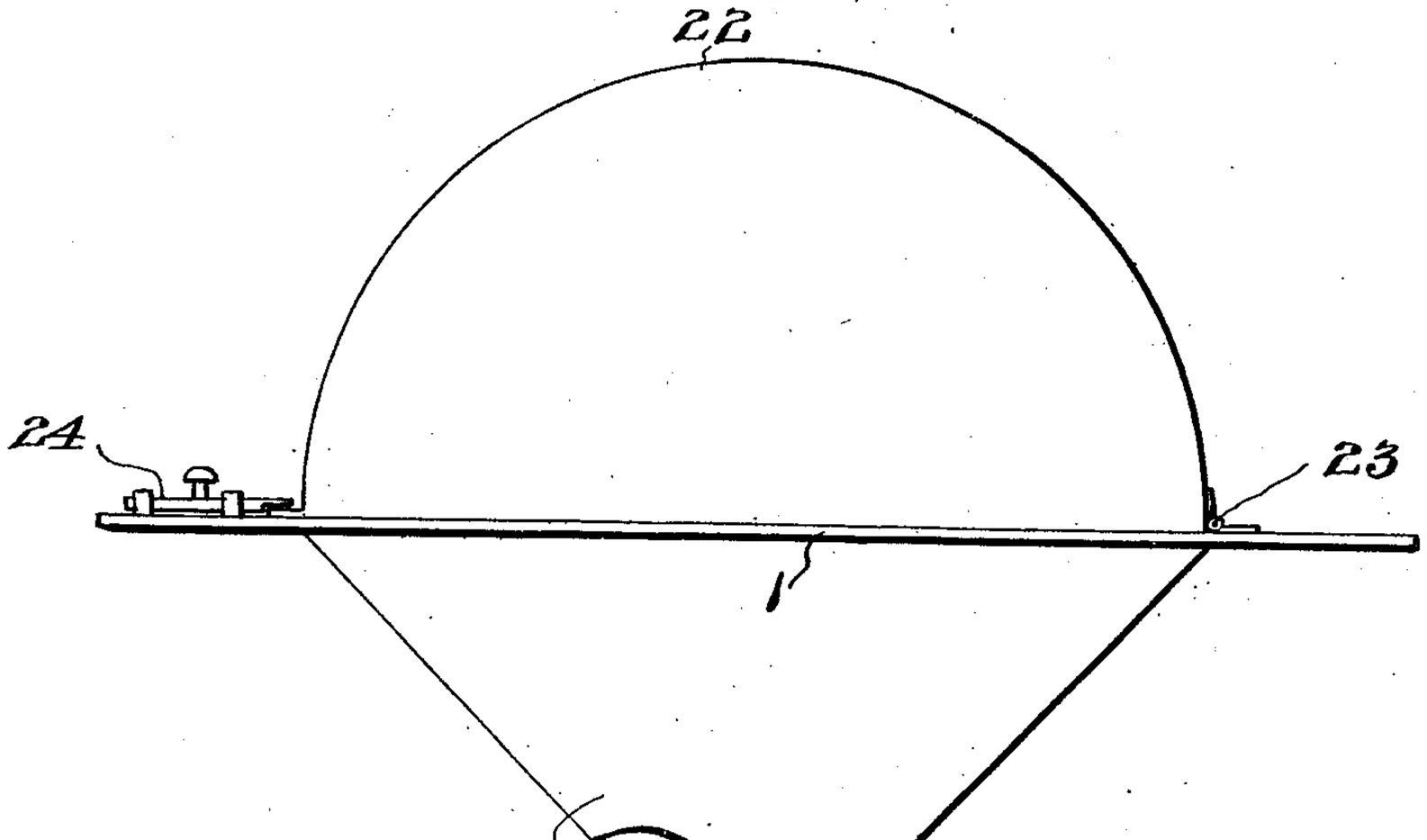
2 SHEETS—SHEET 2.

Fig. 6.



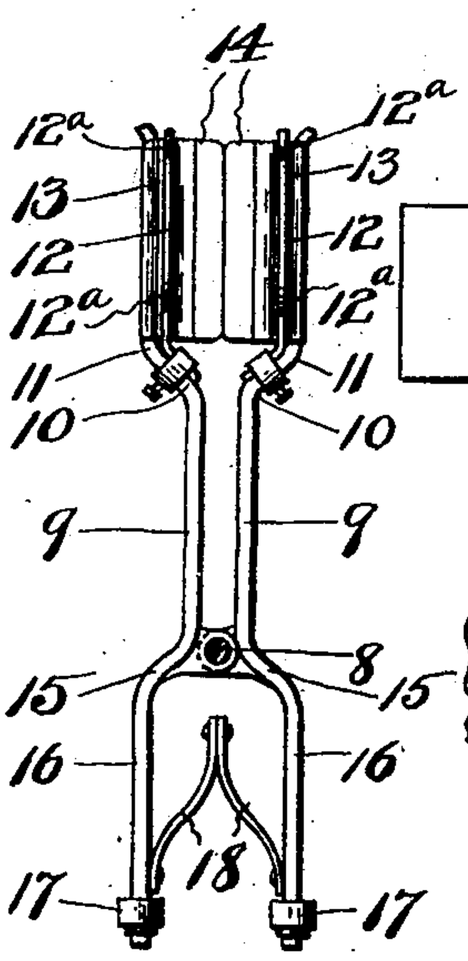


Fig. 5.

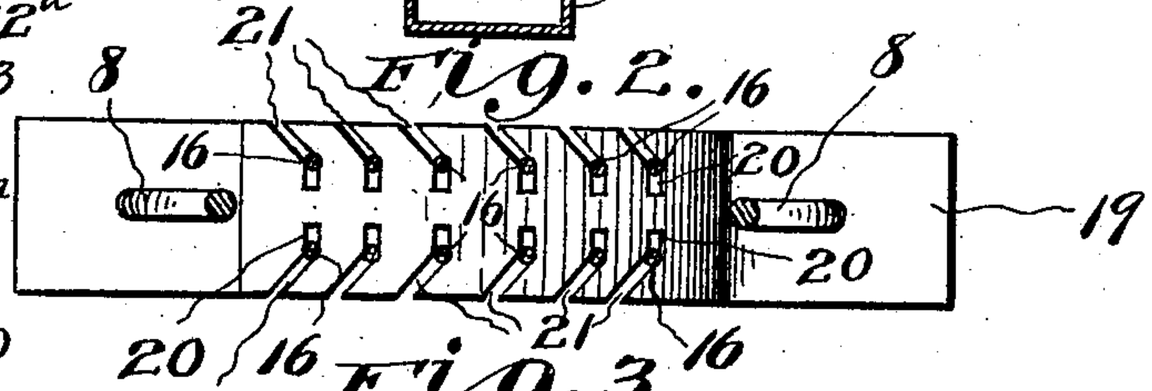


Fig. 2.

Fig. 3.

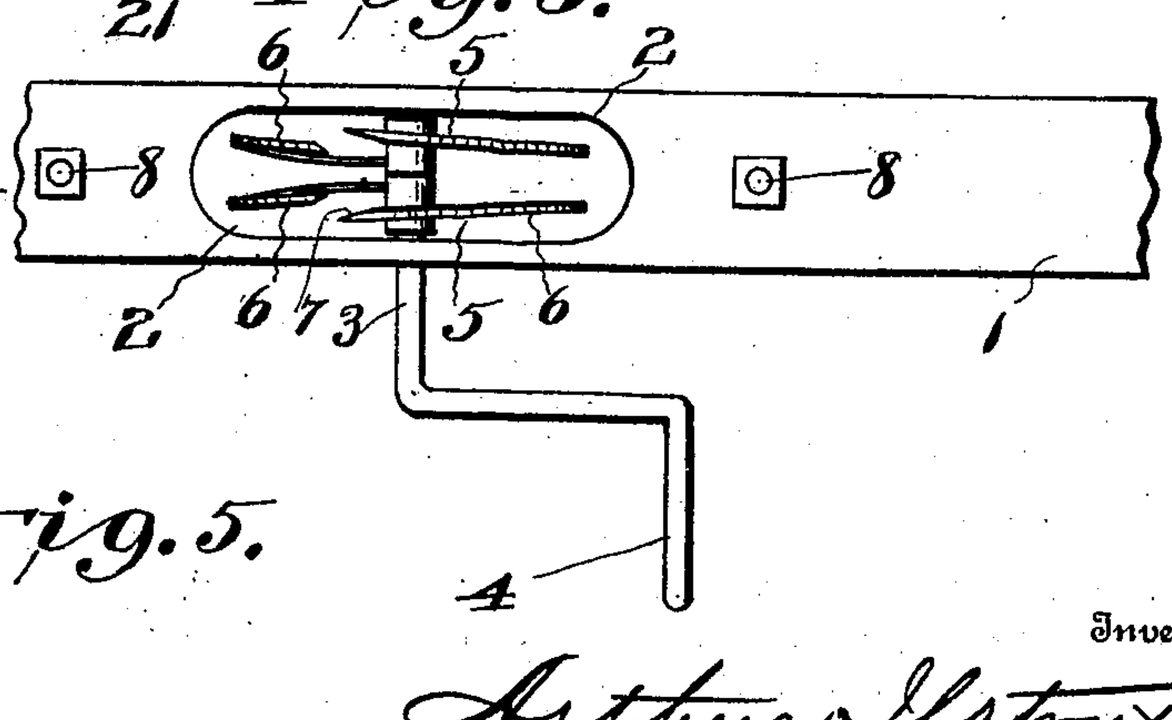


Fig. 4.

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UNITED STATES PATENT OFFICE.

ARTHUR ILSTRUP, OF ST. CLOUD, MINNESOTA.

BLACKBOARD-ERASER CLEANER.

No. 925,478. Specification of Letters Patent. Patented June 22, 1909.

Application filed December 16, 1908. Serial No. 467,857.

To all whom it may concern:

Be it known that I, ARTHUR ILSTRUP, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented certain new and useful Improvements in Blackboard-Eraser Cleaners, of which the following is a specification.

My invention relates to machines for cleaning black-board erasers and has for its object the provision of an improved machine of the type employing oppositely disposed oscillating arms to which the erasers are secured so that their faces engage one another when the arms are brought together to beat the chalk dust out of them, said rods being normally held so that the erasers on each pair are in engagement by means of springs and are actuated against the resistance of said springs into position so that the erasers are separated by means of cam wheels suitably operated.

The construction and operation of my improved eraser cleaner will be described hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a side view partly broken away of my improved machine, Fig. 2, a detail view of the guide plate showing the beater arms and arc-shaped bar in section, Fig. 3, a fragmental bottom plan view, Fig. 4, a front view of one of the beater arms, Fig. 5, a side view of a pair of arms, and Fig. 6, a view in elevation of the casing partly broken away and in section.

In the drawings similar reference characters indicate corresponding parts in the several views.

1 indicates the base plate of my improved machine, that may be mounted on any suitable support (not shown) and has a longitudinal slot 2 therein and a shaft 3 journaled thereon and operated by crank handle 4 or other mechanism.

5 indicates two wheels secured to shaft 3 and having their rims formed into a series of oppositely disposed blades 6, arranged in pairs with their ends toward the direction in which the wheels are rotated spaced farther apart than their other ends, so that the sides of said blades converge as shown, and the front ends of the blades beveled as shown at 7.

8 indicates an arc-shaped bar secured to base plate 1 adjacent to the two ends of slot 2 and having arms 9 pivotally secured thereto and arranged in pairs as shown. The outer ends of arms 9 are formed with offsets 10 forming shoulders 11 and have spring clamping arms 12 secured thereto to engage the grooves 13 in the sides of the erasers 14, said arms 12 being crimped as shown at 12^a to more securely engage the erasers. The other ends of each pair of arms 9 are bent outwardly away from one another as shown at 15 and then parallel with one another as shown at 16 and have rollers 17 journaled on their ends that engage the inner sides of blades 6.

18 indicates springs secured to the ends 16 of arms 9 that normally push said ends 16 away from one another so that the erasers 14 on the other ends of the arms are in engagement.

From this construction it will be understood that when the wheels 5 are rotated by turning the crank handle 4 on shaft 3 the rollers 17 are engaged by the blades 6 at their beveled ends 7 and by continuing the rotation of the wheels the ends 16 of each pair of arms 9 are actuated toward one another so that the erasers 14 on the other ends of the arms are actuated away from each other against the resistance of springs 18, until the rollers reach the ends of the blades and are released from engagement therewith, when the springs 18 will throw the ends 16 of the arms 9 suddenly outwardly and the faces of the erasers 14 on the other end of the arms will be thrown together sharply. By continuing this operation the chalk dust will be thoroughly removed from the eraser faces.

If desired the rollers 17 may be provided with any ordinary construction of antifrictional bearings, such a construction being obvious and not necessary to be illustrated.

19 indicates a guide plate secured to base plate 1, arranged over wheels 5, and provided with transverse slots 20 to receive the portions 16 of arms 9 and having slanting offsets 21 to limit the outward movement of the arms under the impulse of springs 18 when there are no erasers secured to any pairs of arms. The arms 9 and wheels 5 are inclosed in a two part casing of which 22 indicates a semi-cylindrical member hinged, as shown at 23, at one end to the upper side of base plate 1 and having a catch 24 at its other end to secure it in position; while 25 indicates a funnel-shaped member secured under base plate 1 and 26 a cup or other receptacle removably

and replaceably secured at the smaller end of member 25 to catch the chalk dust.

Having thus described my invention what I claim is—

1. In an eraser cleaner, arms holding the erasers pivotally secured and arranged in pairs, springs secured to said arms to normally hold the erasers thereon in engagement with one another and means to swing the arms against the resistance of said springs.

2. In an eraser cleaner, a base having a slot, wheels mounted in said slot having oppositely disposed, non-parallel blades secured thereto, arms holding the erasers pivotally secured and engaging said blades, and springs secured to said arms to hold the erasers thereon normally in engagement with one another.

3. In an eraser cleaner, a base, an arc-shaped bar secured to said base, arms holding the erasers pivotally secured to said bar and arranged in pairs thereon, springs secured to said arms to normally hold the erasers thereon in engagement with one another and means to swing the arms against the resistance of said springs.

4. In an eraser cleaner, a base having a slot therein, a rotatable shaft journaled adjacent to said slot, wheels secured to said shaft and located in the slot, said wheels having oppositely disposed, non-parallel blades secured thereto, an arc-shaped bar secured to said base and located above the wheels aforesaid, arms holding the erasers pivotally secured to said bar and arranged in pairs thereon, said arms provided with ends that engage said blades, and springs secured to said arms to hold the erasers thereon normally in engagement with one another.

5. In an eraser cleaner, a base having a slot therein, a rotatable shaft journaled adjacent to said slot, wheels secured to said shaft and located in the slot, said wheels having oppositely disposed, non-parallel blades secured thereto, an arc-shaped bar secured to said base and located above the wheels aforesaid, arms holding the erasers pivotally secured to said bar and arranged in pairs thereon, said arms having their ends bent away from one another and then parallel and having rollers journaled on the ends of said parallel portions that engage the blades on the wheels, and springs secured to said arms to hold the erasers thereon normally in engagement with one another.

6. In an eraser cleaner, a base having a slot therein, a rotatable shaft journaled adjacent to said slot, wheels secured to said shaft and rotatable in the slot, said wheels having oppositely disposed, non-parallel blades secured thereto, an arc-shaped bar secured to said base and located above the wheels aforesaid, arms holding the erasers pivotally secured to said bar and arranged in pairs thereon, said blades to swing the erasers away from one another, a spring engaging each pair of arms to normally hold the erasers in engagement with one another, a guide plate secured to said base between the wheels and bar aforesaid, said guide plate having transverse slots therein to receive the ends of said arms and offset portions to limit the movement of the arms under the impulse of the springs.

7. An eraser cleaner comprising a base having a slot therein, a rotatable shaft journaled transversely of said slot, wheels secured to said shaft and rotatable in the slot, said wheels having oppositely disposed, non-parallel blades secured thereto, an arc-shaped bar secured to said base and located above the wheels aforesaid, arms pivotally secured to said bar and arranged in pairs thereon, the outer ends of said arms having offset portions with shoulders to receive the erasers, spring clamping arms secured to said shoulders and having crimped portions to engage the sides of the erasers, the inner ends of the arms having outwardly bent portions and rollers journaled thereon to engage the blades on the wheels when rotated to swing the erasers away from one another, a spring engaging each pair of arms to normally hold the erasers in engagement with one another, a semi-cylindrical casing hinged to the upper side of said base and inclosing the arms aforesaid, and a funnel-shaped casing hinged under the base.

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

ARTHUR ILSTRUP.

Witnesses:
J. I. DONOHUE,
J. E. C. ROBINSON.