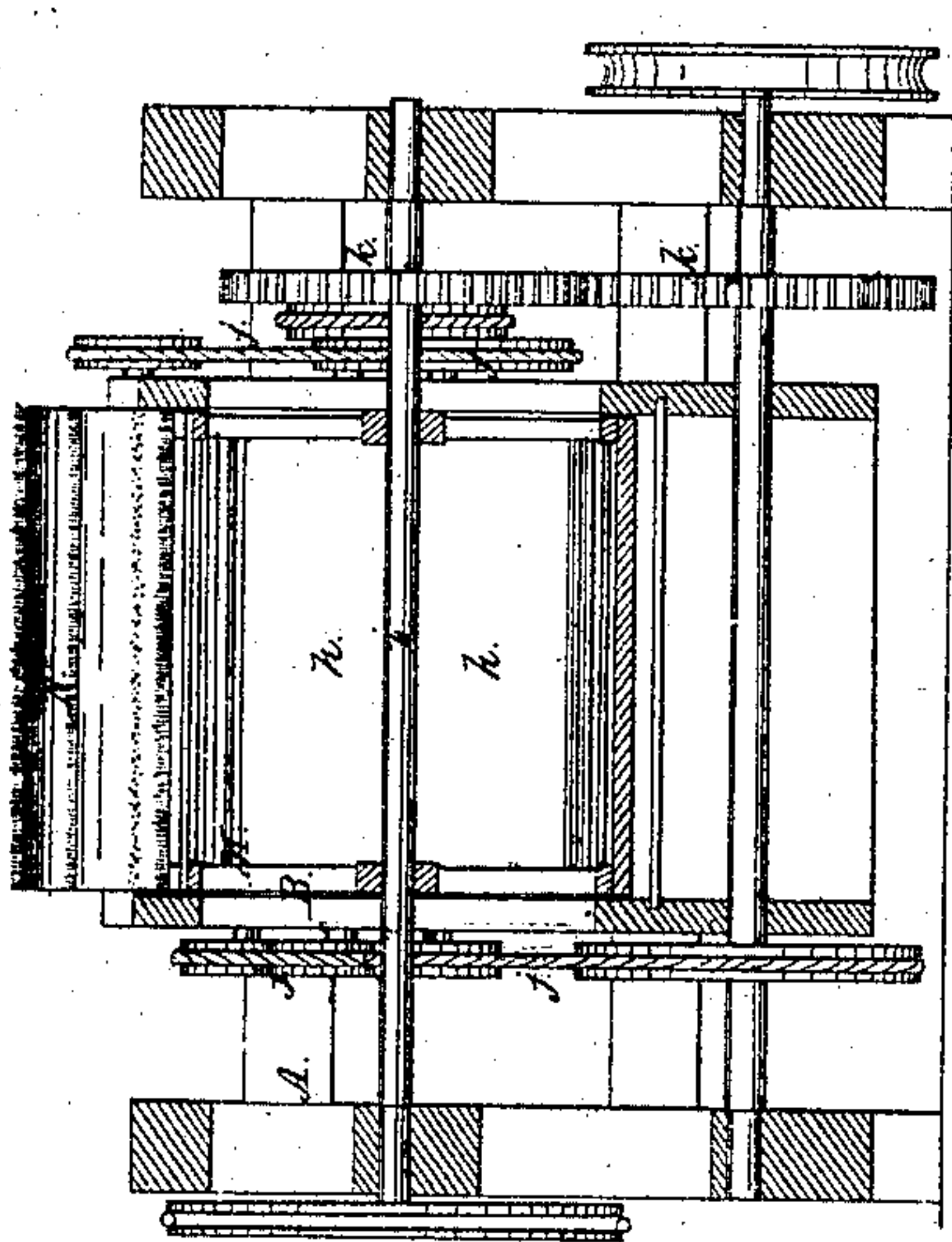


*A. S. Eastman.*  
*Cotton Cleaner.*

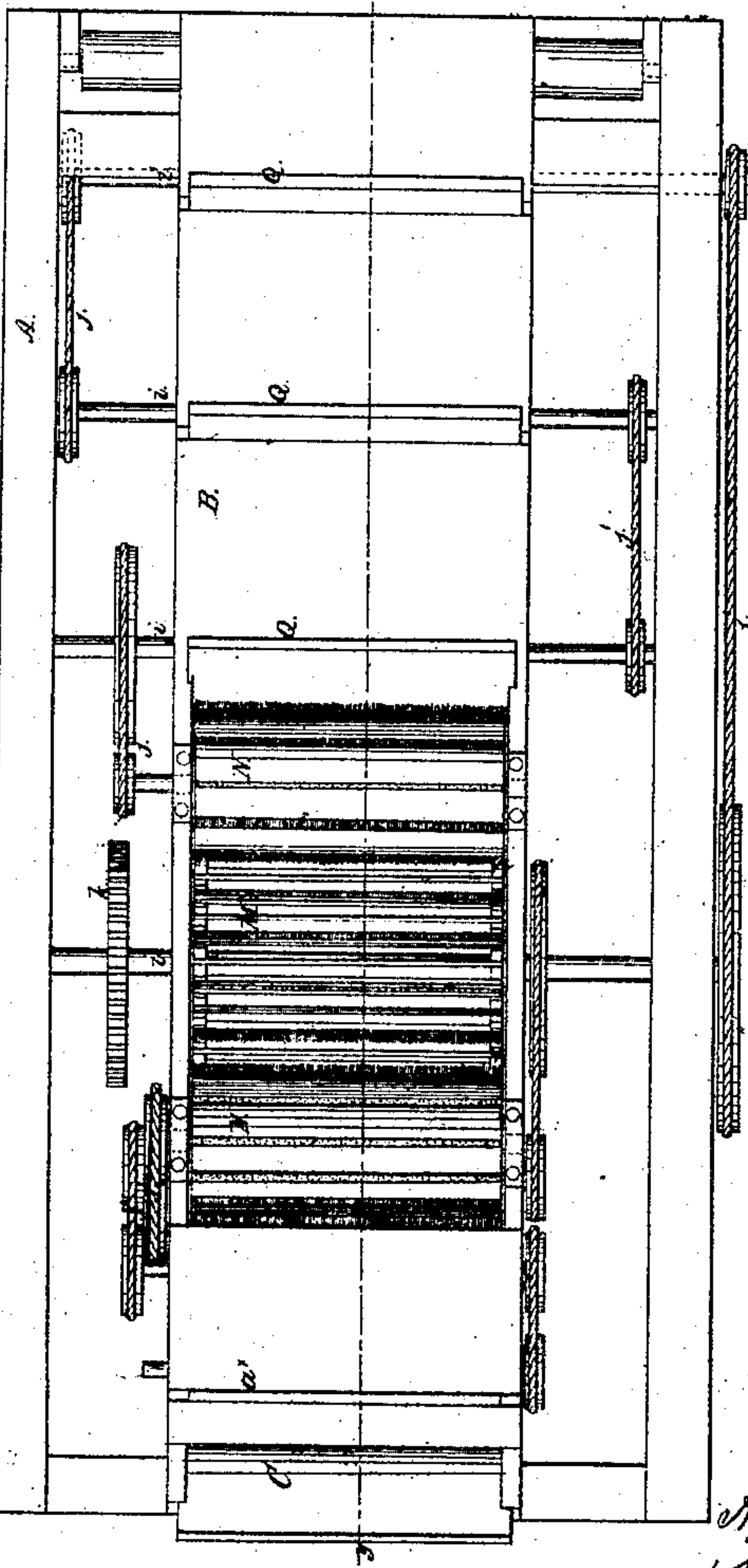
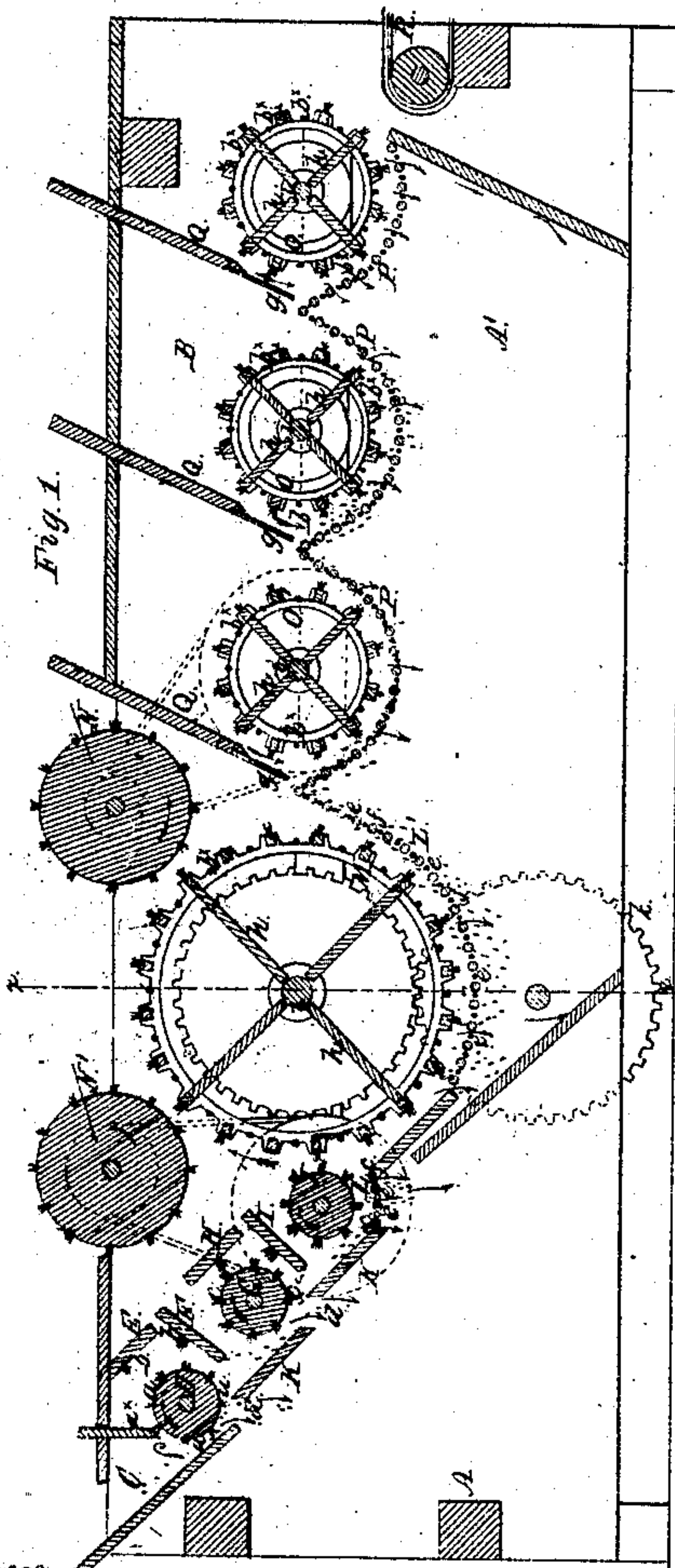
*Patented Mar 12, 1861.*

31,661

*Fig. 2.*



*Fig. 1.*



*Fig. 3.*

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# UNITED STATES PATENT OFFICE.

A. S. EASTHAM, OF WHARTON, TEXAS.

## COTTON-CLEANER.

Specification of Letters Patent No. 31,661, dated March 12, 1861.

*To all whom it may concern:*

Be it known that I, A. S. EASTHAM, of Wharton, in the county of Wharton and State of Texas, have invented a new and Improved Machine for Cleaning Cotton Preparatory to Ginning the Same; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1, is a side sectional view of my invention, taken in the line  $y, y$  Fig. 3. Fig. 2, is a transverse vertical section of the same, taken in the line  $x, x$  Fig. 1. Fig. 3, is a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The invention consists in the employment or use of a series of revolving brush cylinders, in connection with a card cylinder, stationary brush and stripping boards, and wire screens; all being combined and arranged substantially as hereinafter shown and described, whereby cotton, preparatory to ginning, may have dust, dirt, hulls and all foreign substances separated from it.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A. represents a framing which may be of rectangular form, and constructed in such a way as to sustain an oblong rectangular box or case B. and the necessary working parts of the machine. The box or case B. is open at its bottom, and at one end of it there is a hopper C. into which the cotton to be cleaned is fed.

D. is a cylinder which is placed in the box or case B. and at the bottom of hopper C. This cylinder is provided with brushes  $a$ , at its periphery, the brushes being placed in longitudinal rows on the cylinder, the rows being at equal distances apart.

E. F. are two boards which are placed in the box or case B. at right angles to each other, and each board is provided with a row of brushes  $b$ . In an oblique downward direction from a cylinder D. there is a similar cylinder G. provided with brushes  $c$ . and also two brush boards H. I. similar to E. F. and having the same relative position with each other and their cylinder G. Below the cylinder G. and on the same plane with cylinders D. G. there is another brush cylinder J. which is constructed precisely similar to the brush cylinders D. G.

K. K. are inclined boards placed transversely in the box or case B. at such points as to leave spaces  $d$ . immediately below the cylinders D. G. J. and card cylinder M. Screen L. is composed of wires  $e$ . and cylindrical bars  $f$ . The latter may be of wood and of larger diameter than  $e$ .

M. is a large brush or card cylinder which is placed in the box or case B. parallel with the cylinders D. G. J. The cylinder M. is opposite cylinder J. as shown clearly in Fig. 1, and over the cylinder M. there are placed two brush cylinders N. N'. which are at opposite sides of a vertical plane in which the axis of the cylinder M. is placed.

O'. O. O. are three brush cylinders, placed in the box or case B. The axes of these cylinders are in a horizontal plane, and said cylinders are larger in diameter than the cylinders D. G. J. but smaller than cylinder M. The cylinders O. are also provided with wires  $b^x$ . between their brushes. Underneath the cylinders O. there are placed concave screens P. which are constructed precisely the same as the screens L. L'.

Q. Q. Q. are inclined boards which are placed in the box or case B. and are at the front side of each cylinder O. These boards have attached to their lower ends plates  $g$ . which extend down nearly to the screens P. as shown clearly in Fig. 1.

The brush cylinders D. G. J. are solid, but the larger brush cylinders O'. O. O. are of skeleton form and provided with radial plates  $h$ . attached to the axes  $i$ . These plates serve as fans, and as they rotate generate a blast within the box or case. A'. is a flue which communicates with the lower parts of the box or case B.

The operation of the machine is as follows: Motion is given the several brush-cylinders, in the direction of the arrows, by means of belts  $j$ . and pulleys and gearing  $k$ . as shown more particularly in Fig. 3. Gearing however may be substituted for belts, if desired. The cotton to be cleaned is fed into the hopper C. The cylinder D. carries the cotton around part of the stationary brushes  $b$ . of the boards E. F. This operation loosens the hulls in the cotton, and a portion of them will drop through the first space  $d$ . The cotton is passed down by the several cylinders D. G. J. to the cylinder M. and in passing down the hulls are loosened in consequence of the cotton being drawn up around the lower edges of the boards F. I. and the



back-board *a*\*, of the hopper C. the hulls passing out at the opening *d*. The brush or card cylinder M. revolves with greater rapidity than the cylinders D. G. J. and the cotton is pressed against and made to adhere to the card cylinder M. by the brush cylinder J. it then passes forward to the brush cylinder N'. The brush cylinder N' serves as a stripper and knocks hulls and other foreign substances off from the cotton as it passes under it. The brush cylinder N. takes the cotton from the card and delivers it to brush cylinder O'. The brush cylinders O'. O. O. in their operation are similar to that of the cylinders D. G. J. The cotton is drawn under the edges of the plates *g*. and all remaining foreign substances separated from it. The blast generated by the plates *h*. expels all dust and light foreign substances from the case, the heavy substances passing through the screens P. L. and down flue A'. The cleaned cotton is delivered on an end-

less apron R. by which it is carried to the gin stand. The wires *b*\*, of the brush cylinders O. and also the wires and rods *e. f.* of the screens, serve to loosen the dirt and dust from the cotton as they cause friction as the cotton is drawn over them.

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

The brush cylinders D. G. J. brush-boards E. F. H. I. and the oblique boards K. arranged relatively with each other, as shown, in connection with the combined fans and brush cylinders O'. O. O. stripping boards Q. and concave screens L. L'. P. and card or brush cylinder M; all arranged for joint operation substantially as and for the purpose set forth.

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Witnesses:

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