

F. ROCKENBACH.  
Automatic Fan.

No. 215,978.

Patented May 27, 1879.

Fig. 1.

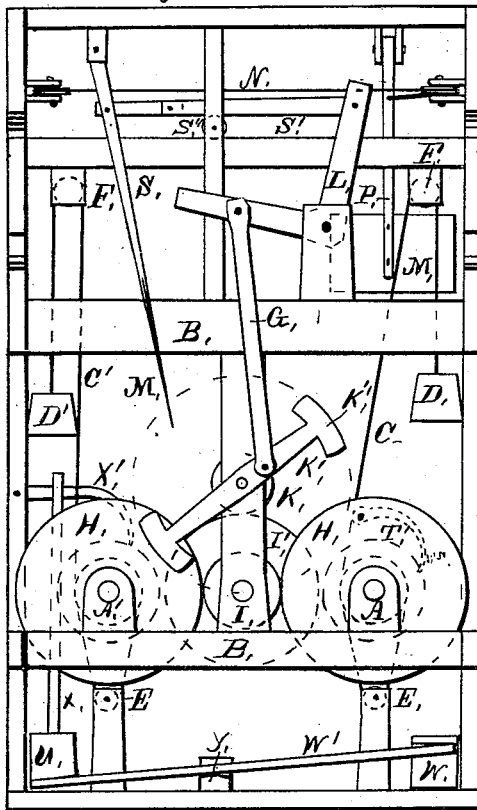
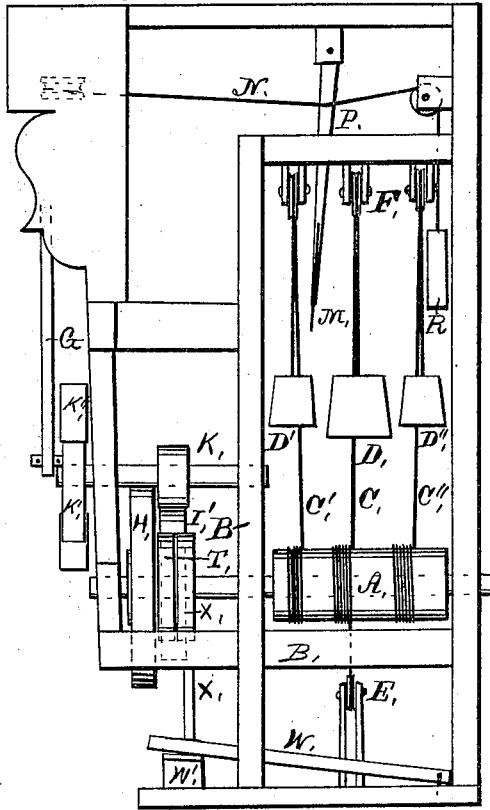


Fig. 2.



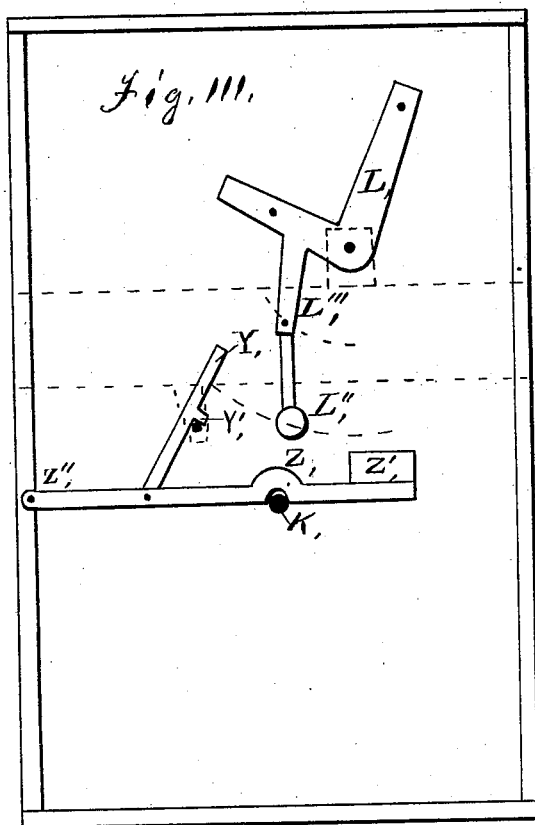
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# UNITED STATES PATENT OFFICE.

FRIEDRICH ROCKENBACH, OF KEOKUK, IOWA.

## IMPROVEMENT IN AUTOMATIC FANS.

Specification forming part of Letters Patent No. 215,978, dated May 27, 1879; application filed May 28, 1878.

*To all whom it may concern:*

Be it known that I, FRIEDRICH ROCKENBACH, of Keokuk, Lee county, Iowa, have invented a new and useful Improvement in Automatic Fans. This is made substantially as set forth hereinafter, referring to the accompanying drawings, in which—

Figures I and II, Sheet 1, are elevations, partly in section, at right angles to each other, of the machine. Fig. III, Sheet 2, shows details of part of the same.

This invention consists in an improved construction and arrangement of features to form an automatic fan.

The shaft A is mounted in the main frame B, so as to form a cylinder. It receives the cords C C' C'', bearing weights D D' D''. The cord C is fastened at one end to the cylinder A, then wound onto that a suitable number of times, then passes under a pulley, E, below, then over a pulley, F, above, and then down to the weight D. The cords C' C'' pass in the same way, except they do not pass under pulleys below.

The weight D is equal, or nearly so, to the two others, and the arrangement is such that while they pull up on the cylinder A the weight D pulls down on it, so as to equalize the strain on it, and enable it to turn freely without much friction. The cords and pulleys are arranged so that the weights may have a suitable fall, which may be either above, below, or at a distance from the cylinder A.

The shaft A bears a gearing-wheel, H, which meshes with a smaller wheel, I, on a shaft bearing a larger wheel, I', which turns a small wheel, K. The shaft of wheel K bears an arm, K', with weights K'' on its ends, to serve as a fly-wheel in regulating speed, and a crank, operating a bell-crank lever, L, through a connecting-bar. This lever is connected with a cord, N, so as to draw it at intervals as the lever moves one way, so as to operate fans M, mounted on arms P at suitable positions. These fans are arranged wherever desired about the house, the cords being carried over pulleys to any distance or story.

The arms P are hung on pivots or hinges, so as to swing freely when drawn, and swing back when released. The cords pass over pul-

leys at the farther ends to weights R, which draw them back when released from being drawn forward. Arms S are moved in like manner by jointed bars S' from lever L, supported by guide-pulleys S''.

The shaft A connects with wheel H, mounted loosely on it, by rack-wheel T on shaft A, and pawl T' on wheel H, having a spring to hold it in place. This is arranged so the wheel can move forward without the shaft, and the shaft backward, to wind up the weights without the wheel by the slipping of the pawl over the teeth of the rack, which are inclined one way.

A second shaft, with cords, weights, and wheel, is arranged in the same way to act on wheel I. These are arranged so that when the weights on one shaft run down those on the other are thrown into action and continue the action. Both shafts are wound up by cranks on their ends. If the weights are very heavy, a second shaft bears the crank and a small gear-wheel, turning a larger wheel on shaft A.

The weights of first shaft, A, bear down a lever, W, when run down. This operates a second lever, W', weighted at its far end to hold lever W up, and moves a bar, W'', to operate a pawl, X, which engages with a wheel, X', on the second shaft, A', to disengage it and let this turn, the first shaft having stopped. The second shaft is held by pawl X until the first runs down, and automatically starts it into action by lifting the pawl.

When a portion of the fans are out of use from any cause, the machine tends to run faster. To avoid this the weight L'' is hung to arm L'' of lever L, so as to be swung by it, with a motion in proportion to speed. When the speed is too great the weight strikes bar Y, so as to throw it back and thus disengage its pin Y' from a support on which it is hung. This lets a bearing, Z, fall onto shaft K, so as to act as a brake to reduce the speed. This bearing is mounted on a lever pivoted at Z'', and having a box, Z', into which weights are put to form any degree of friction desired.

I claim—

1. The automatic fans M, combined with the driving mechanism, having shafts A A', weights D D', cords C C', wheels H I I' K, weighted arm K', bell-crank lever L, cords N,

weights R, bar S', and arms P S, substantially as set forth.

2. In an automatic fan, a driving-shaft, A, combined with cords C C' C'', weights D D' D'', and pulley E, combined and arranged to operate substantially as set forth.

3. In an automatic fan, two separated driving-shafts, A A', having each a separate system of cords and driving-weights, combined with a system of mechanism arranged to hold one out of use till the other is run down, and to automatically release it, substantially as set forth.

4. In an automatic fan, a driving-weight, D, and shaft A, combined with a vibrating lever, L, and swinging weight, arranged to act upon a brake apparatus, as set forth.

5. The automatic fan M, having counter-balance-weight R, with suspension-pulley, the operating-cord N, and the swinging holder P, arranged substantially as set forth.

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Witnesses:

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