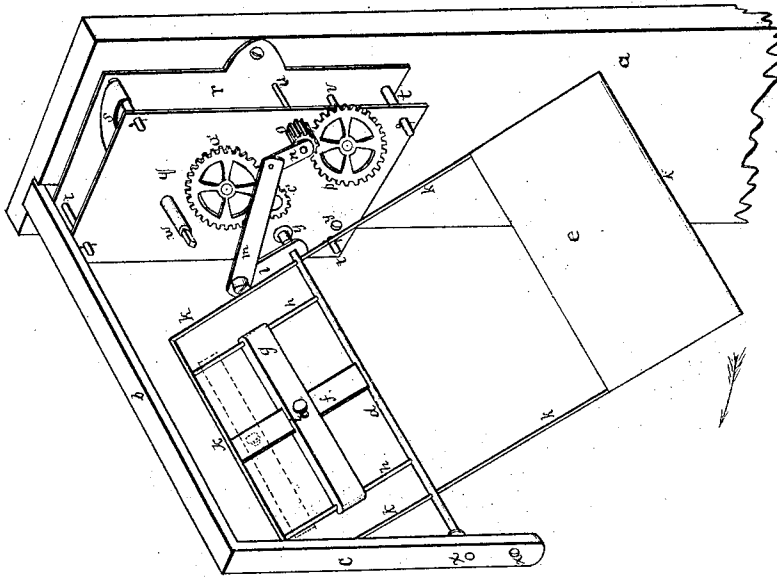


Tucker & Rose,

Automatic Fan.

No. 101,188.

Patented Mar. 22. 1870.



Witnesses:
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UNITED STATES PATENT OFFICE.

SYLVESTER J. TUCKER AND JOHN H. ROSE, OF RICHMOND, VIRGINIA.

IMPROVED AUTOMATIC FAN.

Specification forming part of Letters Patent No. 101,188, dated March 22, 1870.

To all whom it may concern:

Be it known that we, SYLVESTER J. TUCKER and JOHN H. ROSE, of Richmond, in the county of Henrico and State of Virginia, have invented a new and useful Improved Automatic Fan; and we do hereby declare the following to be a clear and exact description thereof, sufficient to enable others skilled in the art to which our invention appertains to make and use the same, reference being had to the accompanying drawing, making part of this specification, in which the figure represents a perspective view of our fan, with the mechanism for operating it.

Our invention consists in the combination and arrangement of certain parts to form an improvement in fans, as will be hereinafter described.

In the accompanying drawing, *a* is a post or frame, made of wood or other proper material, attached at its lower end to a base-piece. (Not shown in the drawing.)

To the upper part of the frame *a* is securely attached the plate *r*, to which is connected by the bolts *t t t t* the plate *q*. The plates *q* lie sufficiently far apart to admit a spring and gear-wheels with their shafts to be placed and to operate between them, as will hereinafter be more fully set forth.

S is a spring securely attached at one end to one of the upper bolts *t*, the other end of said spring being attached to the shaft *w* between the plates *q* and *r*, the shaft *w* being capable of being turned to wind up the spring.

On the shaft *w*, immediately back of the plate *q*, is a pinion, of comparatively large diameter, (not seen in the drawing,) which meshes with a smaller pinion, (not seen in the drawing,) on the same shaft with the pinion *a'*, which latter, meshing with the pinion *c'*, gives motion to the shaft of the latter, on which is a large pinion, (not seen in the drawing,) which meshes with a smaller pinion on the axis of the shaft *v*, which, through the pinions *p* and *o*, give motion to the crank *n*, which, through the levers *m* and *l*, loosely connected together and with the crank *n*, gives motion to the rock-shaft *d*, which is the fan-shaft. By this arrangement of gearing it is obvious that the spring having been wound up, its unwinding will, through the gearing above described, give an oscillating motion to the fan-shaft *d* and the fan *e*.

k is a frame extending above and below the

fan-shaft *d*, on the lower part of which frame is the fan *e*.

h h are two rods, extending from the shaft *d* to the upper part of the frame *k*.

f is a bar, also extending from the bar *d* to the upper part of the frame *k*.

g is a weighted bar, which may readily be slid up and down on the rods *h h* and bar *f*, there being eyes in the bar *g*, which surround or embrace the rods *h h* and bar *f*.

i is a screw passing through a perforation in the bar *g*, and bearing against the bar *f*, so that the bar *g* may be adjusted and fixed at any height or distance from the axis *d* of the fan. If the weighted bar *g* is slid up or moved away from the axis *d*, the movements of the fan will be less rapid, while to increase the rapidity of the movement of the fan the weighted bar *g* should be moved toward the shaft *d*.

b is a metal bar, attached at one end to the frame *a*, and bent at right angles to form the part *c*, which supports one end of the fan-shaft, the other end of said shaft having its bearing in the plate *q*.

x x in the bar *c*, and *y y* in the plate *q*, are perforations or holes for adjusting the fan-shaft at different heights above the base.

It will be seen that by arranging the fan-shaft perpendicular to the frame *a*, which supports the driving mechanism, much less space is occupied by the fan and its mechanism lengthwise than if they were arranged in a line with or parallel with each other; or, in other words, this arrangement gives greater compactness to the fan and its operating mechanism, allowing the fan to be operated in less space.

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

The fan *k k e*, axis *d*, arms *b c*, weighted adjusting-bar *g*, bar *f*, rods *h h*, support *a*, and the driving mechanism, combined and arranged together as and for the purpose described.

The above signed by us this 24th day of January, 1870.

S. J. TUCKER.
JOHN H. ROSE.

Witnesses:

HENRY F. DAY,
HARRY B. GAINES.