T. CARTER.

Egg Hatcher.

No. 41,830. Patented March 8, 1864.

Fig. 1.

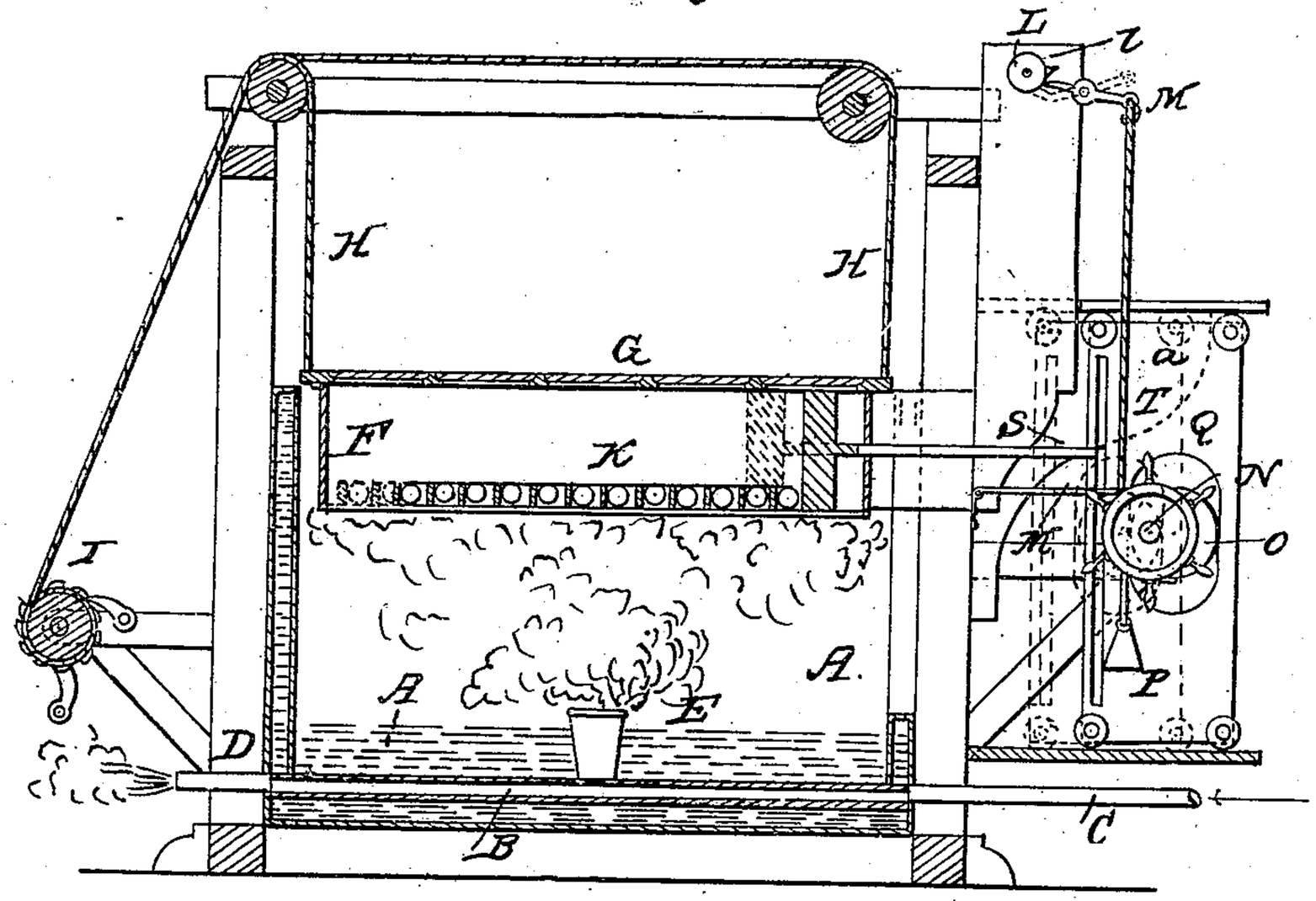


Fig. 3.

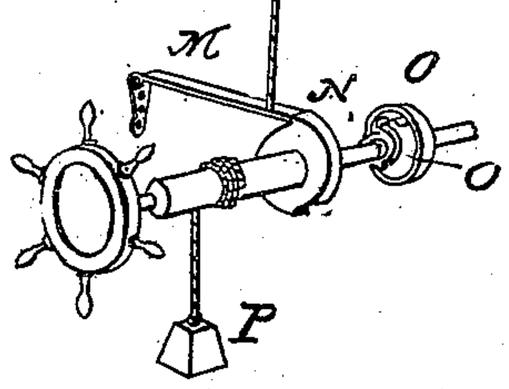
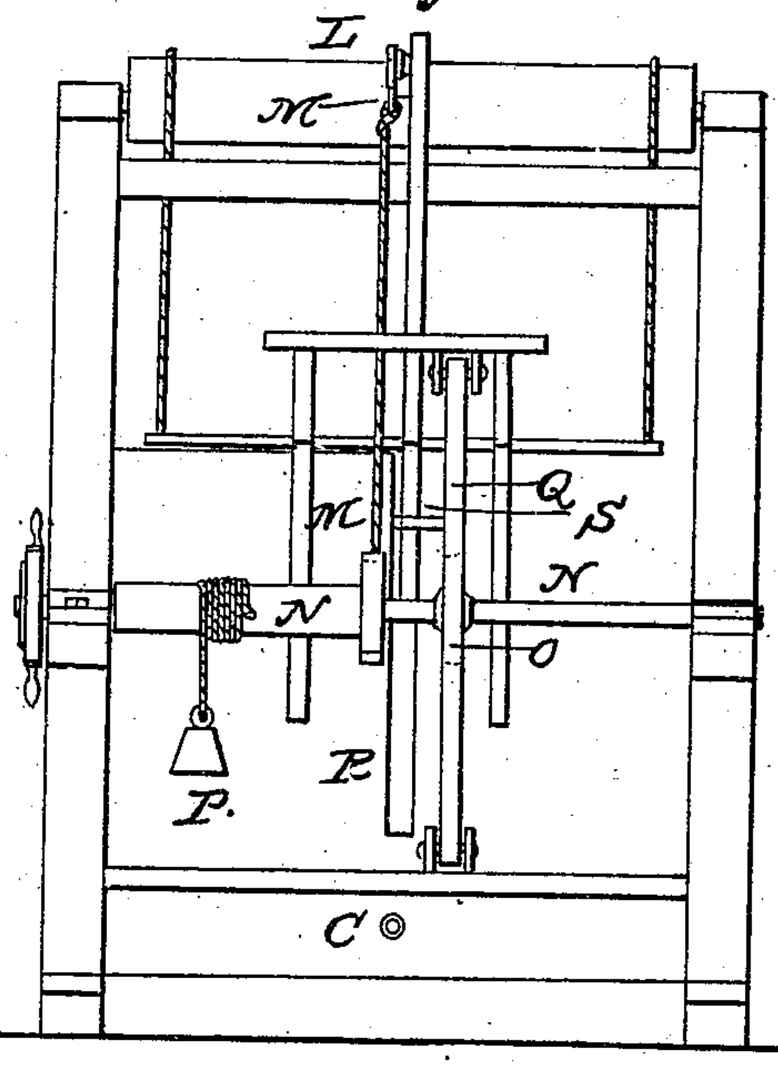


Fig. 2.



Witnesses
Charles L. Fisher
Lyman Walker

Inventor
T Carter
per Knight Bros
Attys

UNITED STATES PATENT OFFICE.

THOMAS CARTER, OF COVINGTON, KENTUCKY.

IMPROVEMENT IN EGG-HATCHING APPARATUS.

Specification forming part of Letters Patent No. **41,839**, dated March 8, 1864.

To all whom it may concern:

Be it known that I, THOMAS CARTER, of Covington, Kenton county, Kentucky, have invented a new and useful Improvement in Egg-Hatching Apparatus; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a longitudinal section of my apparatus. Fig. 2 is an end elevation thereof. Fig. 3 is a detached representation of the windlass.

A is an apartment, whose sides and bottom are double, so as to inclose annular spaces or jackets *a*, which are filled with sand. B is a broad, flat steam-chamber, occupying the entire area of the apartment A, near to and parallel with its bottom. A constant current of low steam is introduced into the chamber B through a pipe, C, and the spent steam and water of condensation are discharged by a spout, D.

Resting upon the chamber B are one or more pans, E, for containing water, which, becoming heated by contact with the chamber B, acts, by the discharge of vapor, to preserve the proper humidity of the air within the apartment A.

A′ is a bed of sand, which covers the chamber B and envelops the pans E. The chamber B being thus completely embedded in sand, its warmth, together with that of the chamber A, is conserved and equalized, and all violent fluctuations of temperature are avoided. The sand walls which form the sides of the apartment A also act to preserve an equable temperature in the apartment. I have found a proper temperature to be about 100° Fahrenheit, and as much moisture should be constantly and regularly supplied as the inclosed air will hold in suspension without precipitation. Into the apartment A, thus carefully warmed and moistened, I introduce my egg-receptacle F, which, fitting the apartment snugly and without binding, serves to close in the upper part of the apartment.

The top of the receptacle F is a glazed sash, G, through which the process of artificial incubation can be watched.

The receptacle F is suspended horizontally in the apartment A by means of cords H, connected to a windlass, T, by means of which the receptacle F may be either lowered into close proximity with the heated bottom of the apartment A or be brought nearer to the top of said apartment, accordingly as the temperature of the receptacle F may require raising or lowering. Thus, in summer-time the receptacle may be elevated to the upper part of the apartment A, and in very sultry weather may be lifted even partially or wholly clear thereof, while, on the other hand, on a very cold day or night it may be lowered to within an inch of the heated floor of the apartment A.

The above described scrupulous nicety in temperature and moisture, although vital to the operation, is not, however, the only essential, for it is necessary that each and every egg should be rolled over through a half circle or inverted at regular intervals—say every second or third hour—day and night, for the space of the eighteen to twenty days necessary for hatching. To effect this purpose I provide a rack, K, composed of a large number of cells, each of which is of size and shape adapted to hold an egg. The rack K is, at regular intervals of time, shifted alternately to and fro a distance equal to the semi-circumference of an egg by any suitable automatic device.

L may represent a cam caused by suitable clock-work to revolve once in two hours. The projection *l* on the periphery of the cam L acts at the proper moment to trip a detent, M, which, being for the moment elevated thereby, permits the shaft N and cam O to be carried around a semi-revolution by the weight P, and thus to shift the yoke Q and rack K alternately backward and forward. The cam O is connected to the shaft N by a click, *o*, which permits the weight P to be wound up without disturbing the egg-rack.

A narrow vertical siit, R, in the end wall of the apartment A permits free vertical and longitudinal play of the rod S, which serves to connect the egg-rack K with the yoke Q, and a similar opening, T, in the latter permits the rod S to rise and fall with the rack K as the receptacle F becomes elevated or depressed within the apartment A.

I have selected to illustrate my invention an arrangement which practical use has proved to be efficient; but I do not desire to be understood as restricting the invention thereto so

long as the same results are obtained by means substantially equivalent. For example, a coil or range of pipes may replace the chamber B, and said chamber or coil may be heated by some other agent than steam. The receptacle F, in place of being suspended by means of cords, may be upheld on racks and pinions and elevated or depressed by the same.

I claim as new and of my invention herein—

1. The provision in an apartment, A, warmed and insulated in the manner described, of the egg-receptacle F, the same being capable of elevation and depression within the apartment, substantially as and for the purpose set forth,

2. The combination of the apartment A, heater B, and vaporizing-vessel E, all constructed, arranged, and operated as described.

3. In the described combination with a vertically-adjustable receptacle, F, the automatic egg-turner K, operated by mechanism substantially as specified.

THOMAS CARTER.

Witnesses:
G. W. HOWELL,
J. B. LENDRUM.