(No Model.) 2 Sheets—Sheet 1.

T. C. READ.

DESK.

No. 373,753. Patented Nov. 22, 1887.

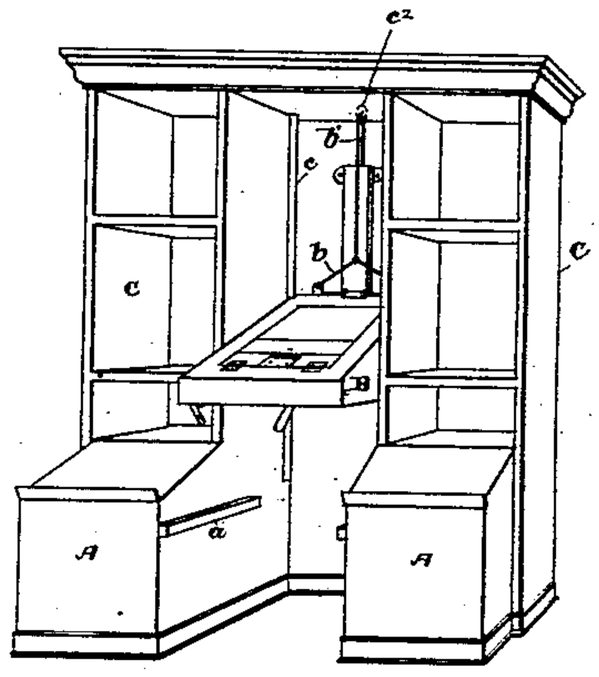

Fig. 1.

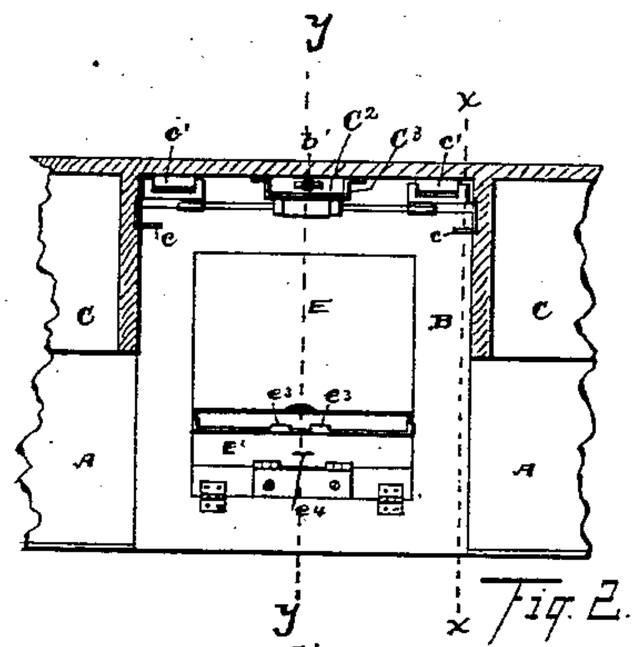

Fig. 2.

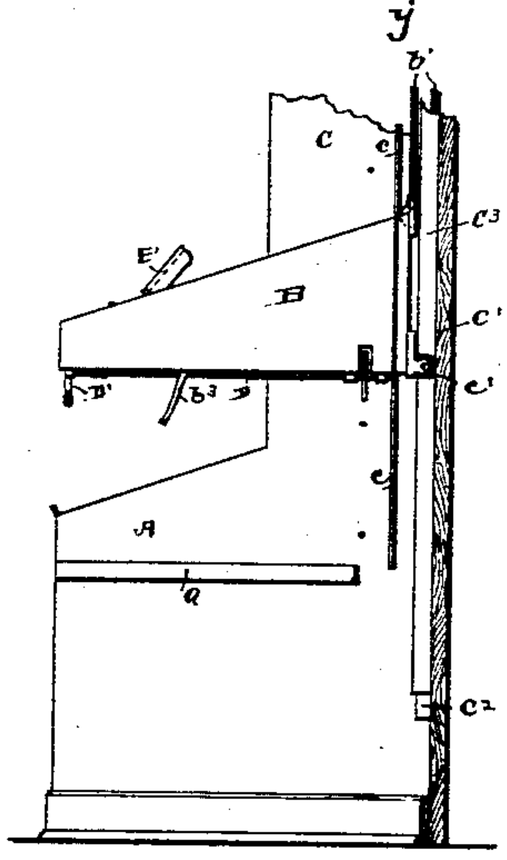

Fig. 3.

WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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DESK.

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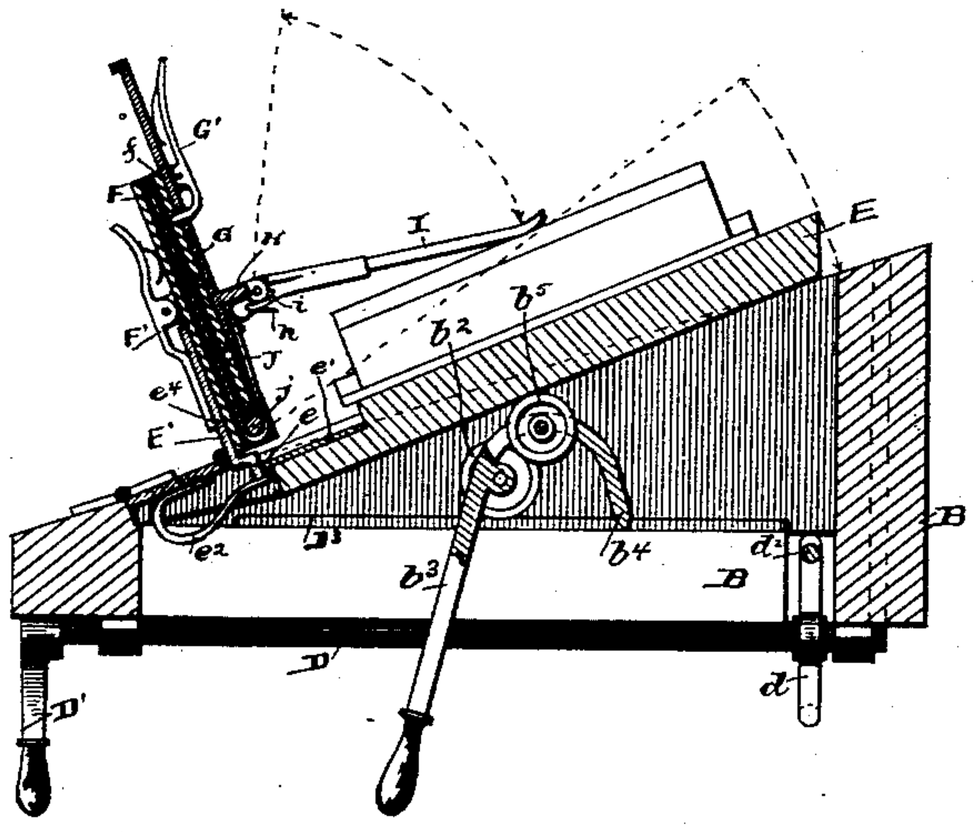

Fig. 4.

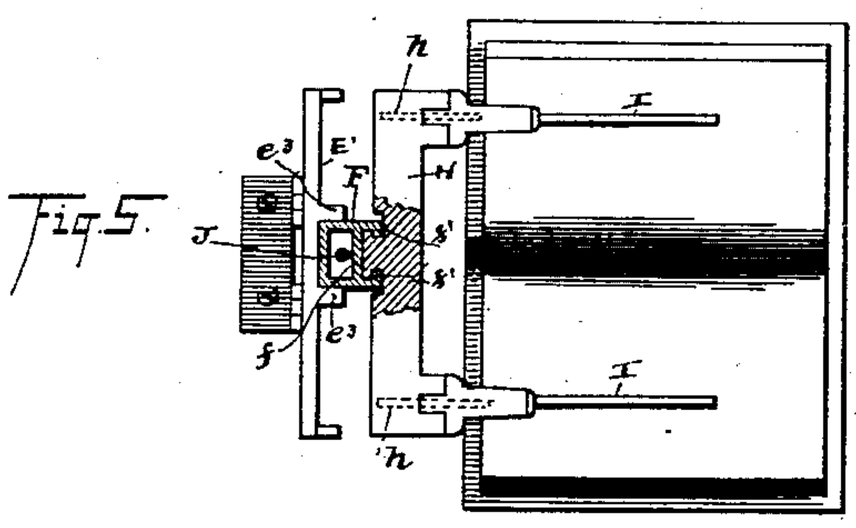

Fig. 5.

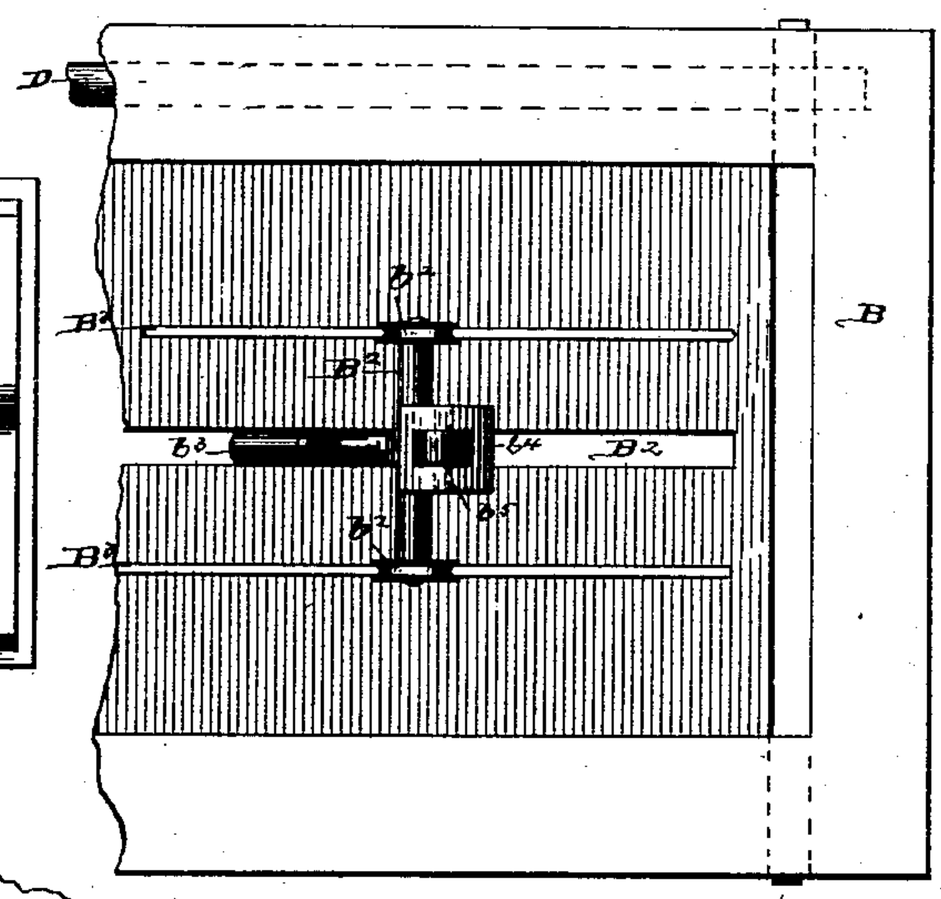

Fig. 6.

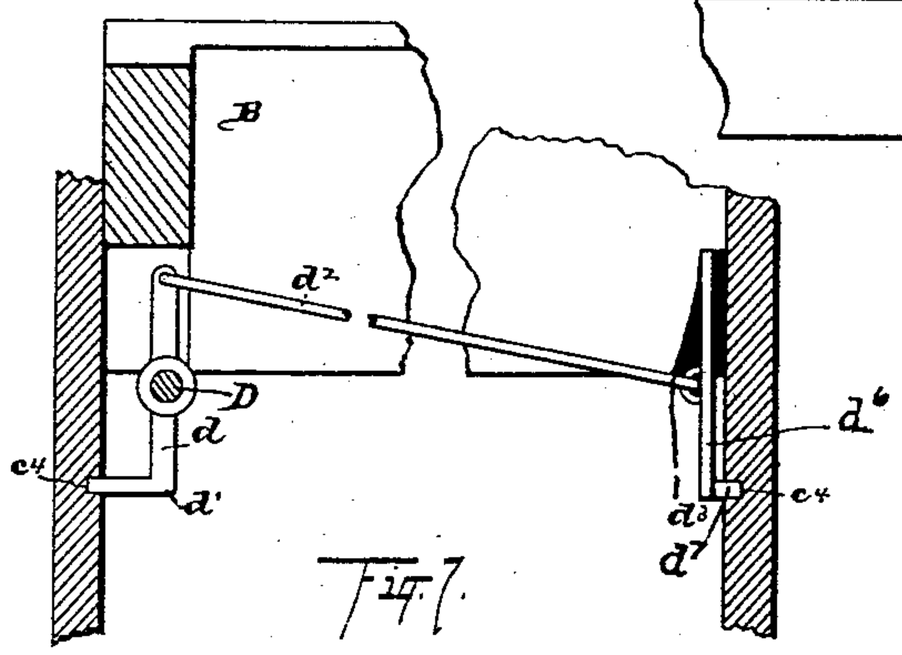

Fig. 7.

WITNESSES
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UNITED STATES PATENT OFFICE.

THADDEUS C. READ, OF FOSTORIA, OHIO.

DESK.

SPECIFICATION forming part of Letters Patent No. 373,753, dated November 22, 1887.

Application filed April 19, 1887. Serial No. 235,371. (No model.)

To all whom it may concern:

Be it known that I, THADDEUS C. READ, of Fostoria, in the county of Seneca and State of Ohio, have invented certain new and useful Improvements in Desks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in desks and mechanisms connected therewith; and it consists in certain features of construction, and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in perspective of my improved desk. Fig. 2 is a plan showing more especially the movable part of the desk. Fig. 3 is an elevation in section on the line *x x*, Fig. 2. Fig. 4 is an elevation in section of the movable part of the desk taken on the line *y y*, Fig. 2. Fig. 5 is a plan of mechanism for holding the book open. Fig. 6 is an internal plan of the movable sections of the desk. Fig. 7 is a front elevation, partly in section, showing more especially the locking mechanism connected with the movable section.

A represents the stationary lower portion of the desk, B the movable section thereof, and C the upper portion of the desk, that I will for convenience call "book-case," as it is frequently used for this purpose. Cleats *a* are secured to the inner casing of the part A, for supporting the section B in its depressed position flush with the stationary parts. The section B, by means of suitable grooves, is made to embrace and slide on vertical ways *c*, the latter being secured to the inner faces of the book-case, near the back side thereof, these ways also extending down about on a line with the cleats *a*. Rollers *c'*, journaled in suitable boxes connected with the rear lower corner of section B, travel on the back C' and prevent the movable section from cramping on the ways. To the rear upper corner of section B is attached a bail, *b*, and to the bail is attached the cord *b'*, the latter leading up over a sheave, c^2, located at the top of the book-case. From thence the cord leads down along the back C', and is attached to a counter-balance, C^2, the latter operating inside of the casing C^3, the casing serving as a guide and screen for the counter-balance.

A locking device for holding section B in the desired position is as follows: A rod, D, extends rearward underneath and preferably near one side of section B, to which latter it is connected by means of suitable clasps, boxes, staples, or other device that will allow the rod to turn a limited distance on its axis. The rod has a handle, D', for operating the same, and has a cross-bar, *d*, at or near the rear end of the latter. The depending part of this cross-bar is turned laterally, as shown at *d'*, and is made to enter holes or notches c^4, made at suitable intervals along the inner faces of the book-case. The upper end of the cross-bar *d* is pivoted to a rod, d^2, the latter extending to the other side of the section B, to which section it is secured by a suitable clasp or staple. The end d^3 of this rod is loosely connected to a spring-plate, d^6, having a dog, d^7, which enters holes or notches c^4 in the opposing face of the book-case. By operating the handle D' the two dogs are simultaneously withdrawn from the notches c^4 by the tension of the spring-plate d^6, made to automatically react and engage the notches. This section has a lid, E, hinged at the front side thereof, so that it may be tilted, as shown in Fig. 4.

As the bottom board, B', of section B lies horizontally, and the lid E in its normal or depressed position is inclined, such relation of parts admits of a blocking or carriage located between the lid and bottom, and so arranged that the lid is tilted upward or downward by moving such carriage or blocking forward and rearward. The board B' has a slot, B^2, and parallel tracks B^3 are laid on either side of the slot. Grooved or flanged pulleys b^2 travel on these tracks and are mounted on an axle, B^4. A handle, b^3, is connected with the axle and extends down through the slot B^2 for operating the carrier. An arm, b^4, connected with the axle is curved or bent rearward in such shape that the free end of the arm may rest on the board B', and for this purpose the end of the arm is made broad enough to span the slot B^2 and rest on the bottom board on either side of the slot, this end of the arm being made to

serve as a friction-pawl. The arm b^4 has mounted thereon a roller, b^5, for engaging the under side of the lid. By tilting the handle b^3 rearward a trifle the pawl is raised from the bottom board, in which position the carriage is easily moved forward or rearward to elevate or depress the lid, and when the handle is left free the gravity of the parts will press the pawl upon the bottom board, by reason of which the carriage is held in any position to which it has been adjusted. The lid E has a foot-plate, E′, hinged thereto near the front edge of the lid for holding a book in position on the lid. The foot-plate when folded down is flush with the lid. The foot-plate has a depending toe, *e*, that, when the foot-plate is in position approximately at right angles to the lid, engages a plate, *e′*, the latter being secured to the lid to prevent the plate E′ from turning forward too far. A spring, e^2, is attached to the under side of the lid and presses against the toe *e′*, the tendency of which is to yieldingly hold the plate E′ in either position, open or folded.

A device for holding a book open and holding the leaves down is as follows: A hollow standard, F, has a partition, *f*, running lengthwise thereof, and has hook ends *f′*, these portions forming ways for the sliding bar G. (See Figs. 4 and 5.) The standard fits in between ribs e^3 of the plate E′, and the standard is held in place sufficiently firm for the purpose by means of a spring-dog, F′, the dog passing outside the plate E′ and engaging a notch, e^4, made in this plate. By pressing the handle of the dog toward the standard F the dog is drawn out of the notch e^4, after which the standard may be removed from the plate.

The slide G has attached a cross-bar, H, to which latter, and near the extremes thereof, are pivoted the fingers I, made to swing in a vertical plane. These fingers extend over the book for holding the latter open, and may be elevated in placing the book in position or in turning the leaves thereof. Each finger has attached a toe, *i*, shaped substantially as shown in Fig. 4. The bar H has springs *h*, attached for respectively engaging the toes *i*. When a finger is elevated to a position substantially at right angles to the plane of the book, the spring *h* engages the end of the toe *i* and holds the finger in such elevated position. When the finger is depressed, the spring engages the side of the toe and holds the finger down on the book. Of course the different parts may be made light, as it requires but little force to hold the book open. For adjusting the fingers to the thickness of the book the slide G is moved endwise in the standard. This slide has a spring-dog, G′, attached, the point of which enters holes or notches made in the partition *f*, to hold the slide in the desired position. An elastic cord, J, is attached to the lower end of the slide G, and passes under a tiny roller, *j*, mounted on the standard F at the lower end thereof, from whence the cord leads back into the chamber of the standard, where it is fastened. This cord would draw the fingers gently upon the book in case the dog G was in position between two notches.

With the arrangement of parts shown and described the section B may be adjusted and held at the desired elevation to accommodate a person sitting or standing, and for reading or writing.

When the book-holding mechanism is used, the lid is tilted to such angle as will render the character of the book most legible. Meantime the stationary portions of the desk are always in convenient proximity for writing.

It is believed that my improved desk will be of great value not only to persons engaged in literary pursuits, but will be desirable for general office use.

What I claim is—

1. The combination, with a desk having stationary end sections and a vertically-movable middle section mounted on vertical ways, of a rocking shaft located on the middle section, and a pair of dogs connected to said shaft and adapted to enter notches in the stationary sections, one of said dogs having sufficient tension to normally hold the dogs in contact with the stationary sections, substantially as set forth.

2. The combination, with a desk having a hinged lid set in its normal position oblique with the bottom member of the desk, of a carriage located inside the desk and made to elevate and depress the lid by its engagement therewith, substantially as set forth.

3. The combination, with a desk having a hinged lid arranged substantially as indicated, of parallel tracks located inside the desk, on the bottom member thereof, a carriage mounted on such tracks, a roller mounted on the carriage for engaging the lid, and a friction gravity-pawl connected with the carriage, the parts being arranged substantially as described.

4. The combination, with a desk, hinged lid, tracks, and carriage, substantially as indicated, of a handle and friction-pawl rigidly connected or made integral with such carriage-axle, the parts being arranged substantially as indicated, whereby the pawl engages the bottom member of the desk by gravity of the parts, and is disengaged therefrom by tilting the handle, substantially as set forth.

5. The combination, with a desk having a hinged lid, substantially as indicated, of a foot-rest for a book hinged to such lid, so that it may be folded down flush with the face of the lid, or tilted to an upright position, and springs connected with the lid and made to engage projecting toes of the folding rest, to hold the rest in position, open or closed, by means of the tension of the springs, substantially as set forth.

6. The combination, with a desk, a lid

hinged to the desk, and a foot-plate hinged to the lid, of mechanism for holding a book open, such mechanism being detachably secured to the folding foot-plate and having hinged fingers to extend over the book, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 7th day of April, 1887.

THADDEUS C. READ.

Witnesses:
A. J. STACKHOUSE,
J. G. CALAHAN.