

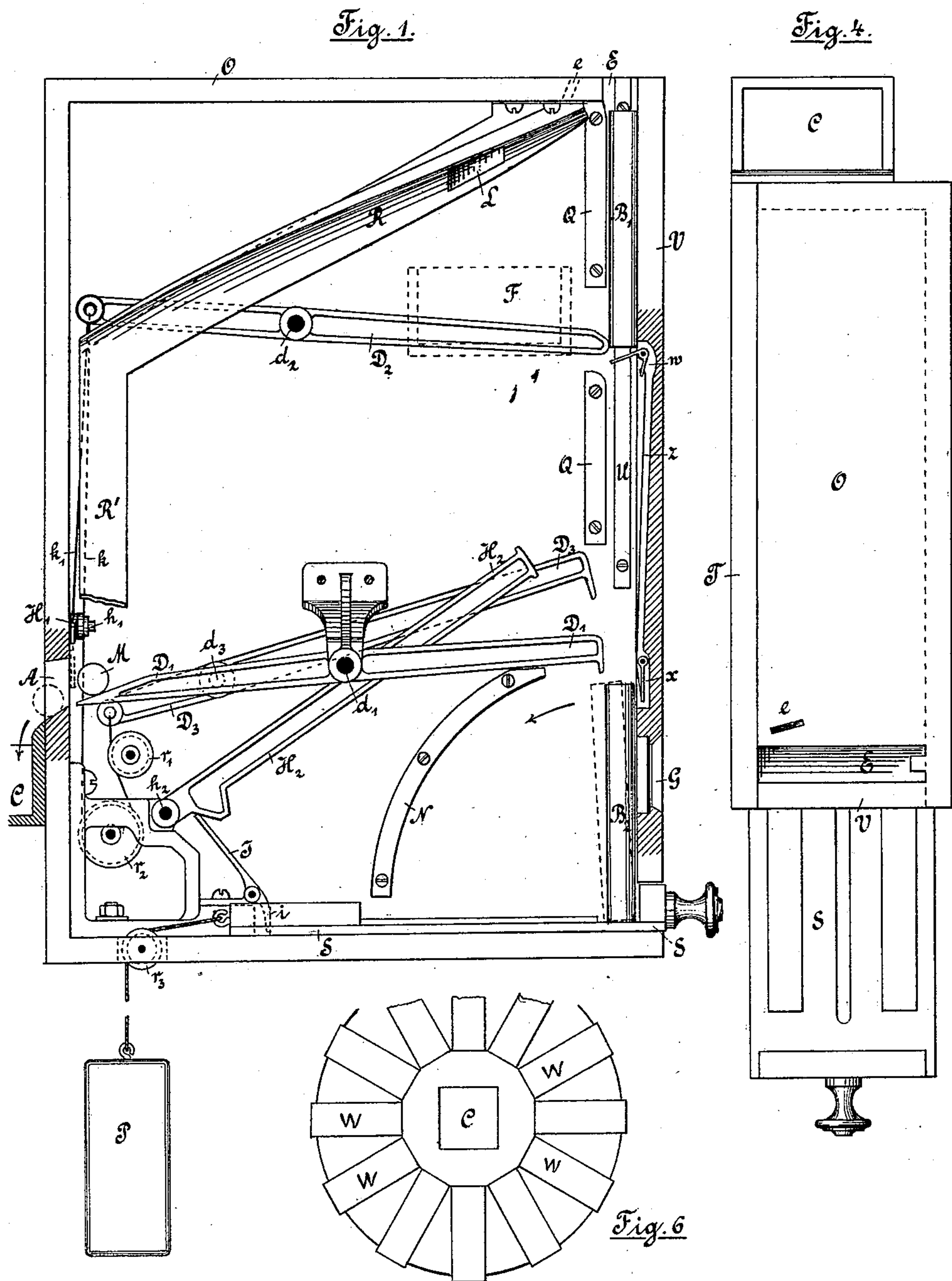
(No Model.)

2 Sheets—Sheet 1.

J. MEHLHARDT.
APPARATUS FOR AUTOMATICALLY CHANGING CIRCULATING
LIBRARY BOOKS.

No. 405,268.

Patented June 18, 1889.



Witnesses.
Chas. R. Burr.
Thomas Dureant.

Inventor.
Julius Mehlhardt.
by *Clunck & Clunck*
his Attorneys.

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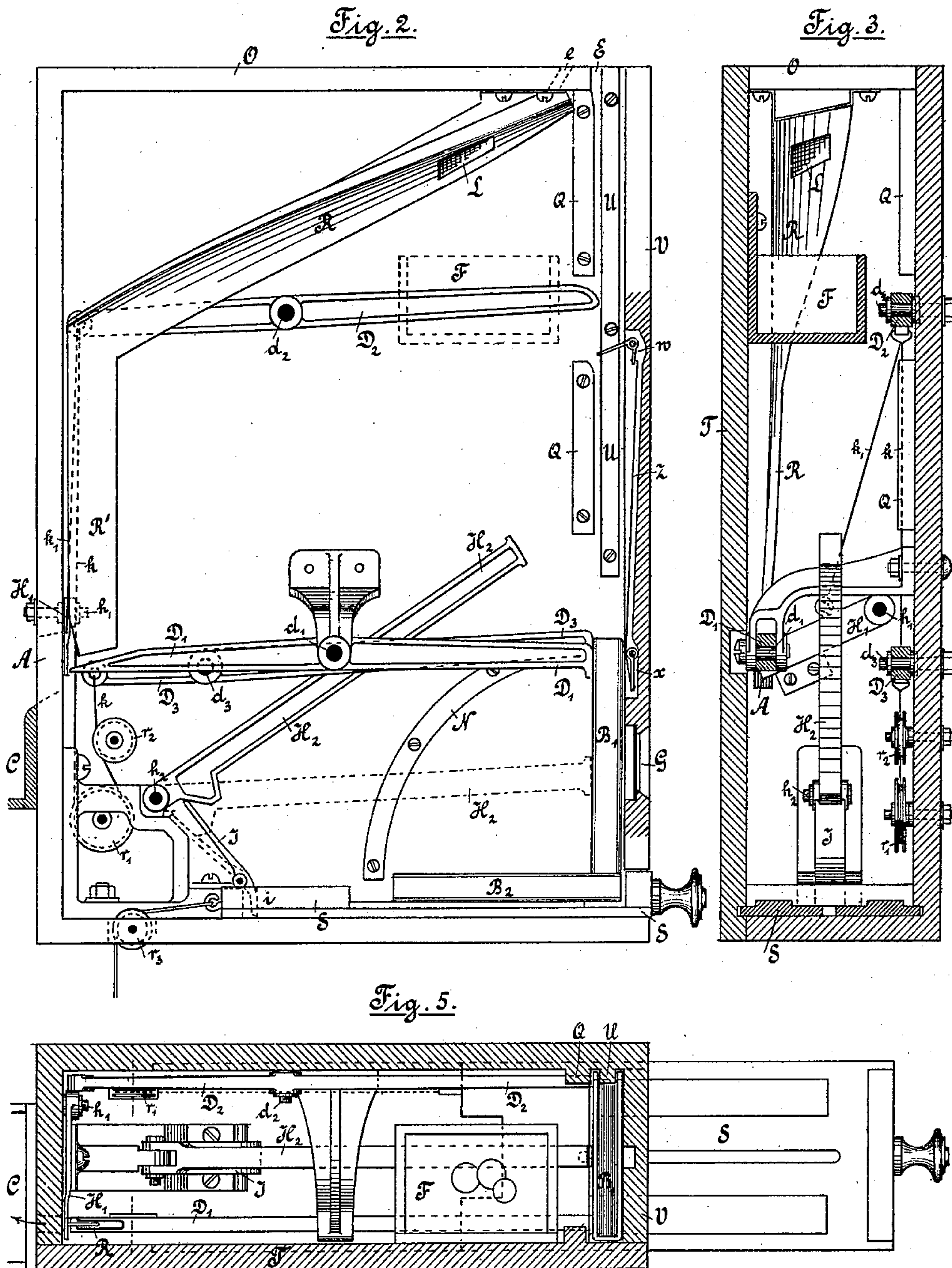
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UNITED STATES PATENT OFFICE.

JULIUS MEHLHARDT, OF DRESDEN, GERMANY, ASSIGNOR OF ONE-HALF TO
ANTON BRAUNE, OF SAME PLACE.

APPARATUS FOR AUTOMATICALLY CHANGING CIRCULATING-LIBRARY BOOKS.

SPECIFICATION forming part of Letters Patent No. 405,268, dated June 18, 1889.

Application filed July 5, 1888. Serial No. 279,113. (No model.) Patented in Germany March 16, 1888, No. 45,086; in England May 8, 1888, No. 6,878; in Luxemburg, May 14, 1888, No. 991; in Belgium May 15, 1888, No. 81,712; in Italy, June 19, 1888, No. 23,442; in France July 9, 1888, No. 190,402; in Canada July 24, 1888, No. 29,546; in Austria-Hungary August 16, 1888, No. 19,405 and No. 34,368, and in Spain August 20, 1888, No. 8,291.

To all whom it may concern:

Be it known that I, JULIUS MEHLHARDT, bookseller, a subject of the Emperor of Germany, residing at Dresden, in Germany, have
5 invented certain new and useful Apparatus for the Automatic Changing of Circulating-Library Books; and I do hereby declare the following to be a full, clear, and exact description of the same, the said invention having been
10 patented in England, No. 6,878, May 8, 1888; Austria-Hungary, No. 19,405 and No. 34,368, August 16, 1888; Canada, No. 29,546, July 24, 1888; France, No. 190,402, July 9, 1888; Belgium, No. 81,712, May 15, 1888; Germany, No.
15 45,086, March 16, 1888; Italy, No. 23,442/196, June 19, 1888; Spain, No. 8,291, August 20, 1888, and Luxemburg, No. 991, May 14, 1888.

The object of the present invention is the erection of circulating libraries in much-fre-
20 quented places—such as railway stations or the like—from which a book will be delivered automatically after introducing a predetermined coin and the book to be exchanged. Each single book is contained in a separate
25 apparatus, several of which are erected at the same station, so as to offer a larger selection, and the title of the book can be seen through a glass-covered opening in the apparatus. In the apparatus containing the book it is de-
30 sired to obtain a coin of the predetermined value is introduced, and also the book it is desired to exchange, when the book contained in the apparatus can be taken from a drawer of the apparatus.

35 In the accompanying drawings, Figure 1 represents a side elevation of the apparatus at the moment when the coin and the book to be exchanged have just been introduced, the door being removed to show the interior.
40 Fig. 2 is the same at the moment when the book introduced has reached the bottom and the book previously in this position is lying on the drawer ready to be delivered. Fig. 3 is a front view of the interior, the front plate
45 being removed. Fig. 4 represents the top plate with the money-slot and the opening for the introduction of the book to be exchanged. Fig. 5 is a plan of the interior, the top plate

being removed. Fig. 6 is a diagram of the manner in which a series of these apparatuses 50 may be grouped, so that the titles may be inspected all round.

The interior width of the apparatus is adequate to the width of the books $B' B^2$. Its height is about three times that of the books, 55 and the depth is according to the inner mechanism. The apparatus is provided with a door T on one of its sides, and with small glass windows G in front, and in the top are formed the slot e , for the introduction of the 60 coin, and the opening E , for the insertion of the book to be exchanged. It is advisable to erect a series of these apparatuses at each station, preferably in the manner represented in Fig. 6, so as to offer to the public as large a 65 selection as possible.

The operation of the apparatus is as follows: First, a coin of the predetermined size and value is introduced in the slot e . This coin falls onto a chute R , passes over the open- 70 ing L , and drops down the flat tube R' onto the pivoted lever D' , the opening A being still closed by the lever H' . Smaller coins fall through the opening L into the receptacle F , and therefore do not operate the appa- 75 ratus. The weight of the coin M depresses one end of the lever D' , while the other end liberates the book B^2 . (See Fig. 1.) When the book B' to be changed is introduced into the apparatus through the opening E , it 80 will in falling depress one end of the pivoted lever D^2 , the other end of which will rise. To this other end the cords or other flexible connections $k k'$ are attached. The cord k passes over the guide-pulleys $r' r^2$ to the pivoted le- 85 ver D^3 and actuates this lever in such a manner that its end which previously was bearing against the book B^2 is raised, thus also liberating this book. The second cord k' is attached to the lever H' , which until now cov- 90 ered the opening A and prevented the coin from falling into the receptacle C . Thus the book B^2 is liberated simultaneously with the uncovering of the opening A . In the arrangement, Fig. 6, one common coin-receptacle C 95 serves for the whole of the several apparatuses

W, each corresponding to the one herein described and arranged radially around said receptacle. When the coin rolls off the lever D', this will return to its original or normal position, and would again bear against the book B² if this had not meanwhile been forced to fall flat onto the drawer S. The book B² is thrown down in the following manner, viz: Simultaneously with the raising of lever D³ the book B' introduced into the apparatus will depress the angle-lever w, which is connected with the lever x by the cord z, thus raising the pivoted lever x, which will throw the book B² over onto the drawer S. The book B', Fig. 2, will then stand on the fallen one B² and the levers D' D³ resume their normal position. The book B² can now be obtained by pulling out the drawer S, which when released will return to its original position under the influence of the weight P, which is attached to the drawer S by means of a cord or other flexible connection passing over the pulley r³. To prevent the book B² from shifting the position of the book B' during the pulling out of the drawer S, the end of the lever H² will bear against the book B' and hold it in position. The nose i of the pivoted lever I bears against the drawer S when closed; but when the latter is withdrawn the nose i is released, and the lever I will fall down, thus releasing the lever H², against the nose of which the lever I previously engaged for the purpose of holding the lever H² up. The lever H² will now fall down and bear against the book B². (See dotted lines, Fig. 2.) The pivots of the four levers D', D², D³, and H² are respectively d', d², d³, and h². The book introduced is guided during its fall and prevented from opening by the guide-bars U and Q Q, which form the chute to properly guide the book, as will be readily understood. The curved bars N guide the book B² during its fall onto the drawer S. The whole of the operating mechanism is mounted inside the casing, and cannot be readily broken or spoiled. As the books drop vertically and are guided positively on three sides, the apparatus may be operated, even should the door be opened, said door only constituting the guide for the fourth side of the book, the only mechanism mounted thereon being the guides Q and N.

All books belonging to these apparatuses must be of the same dimension and have uniform covers with strong projecting edges in front, and are preferably bound with metal rims.

The title of the book is placed on the cover in such a manner that it will be visible through the glass-covered opening G when the book stands in the apparatus. Any one desirous of using these circulating libraries must first obtain a book belonging to these apparatuses and a check from some authorized person—for instance, the hall-porter of the hotel or railway-station—on payment of a deposit representing the value of the book. This book may now be changed as often as

desired by introducing the necessary coin and the book into the apparatus, as described, and on returning a book and the check to the authorized person the deposit originally paid will be returned.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In an apparatus for the automatic exchanging of library-books, the combination, with the receptacle for containing the books, of a lock adapted to be released by the weight of a coin and a lock adapted to be operated by the weight of the book in the act of being replaced, and means for withdrawing said book when both locks are released, substantially as described.

2. In an apparatus for the automatic exchanging of books, the combination, with the receptacle, of locking-levers, one adapted to be operated by the weight of a predetermined coin and the other by the weight of a book in the act of being returned, and two chutes leading to said levers, one adapted to accommodate the book and the other the coin, substantially as described.

3. In an apparatus for the automatic exchange of books, the combination, with the two locking-levers operating independently to retain the book, one adapted to be released by the weight of a predetermined coin and the other by the weight of a book in the act of being returned, of two independent chutes or ways leading, respectively, to said levers and adapted to accommodate a coin and book, respectively, substantially as described.

4. In an apparatus for the automatic exchange of books, the combination of the receptacle having the vertical chute or guide for the introduction of a book into the receptacle, and the lever below the chute adapted to engage a book to retain it in a vertical position at a point below the chute and adapted to be operated by the weight of a coin to release the book, substantially as described.

5. In an apparatus for the automatic exchange of books, the combination of the receptacle having the vertical chute or guide for the introduction of a book into the receptacle, and two independent levers below the chute adapted to engage a book to retain it in vertical position at a point below the chute, one of said levers adapted to be operated by the weight of a predetermined coin and the other by the passage of a book through the chute to release the book within the receptacle, substantially as described.

6. In an apparatus for the automatic exchange of books, the combination, with the chute for the introduction of books within the receptacle and the coin-chute, of locking-levers for retaining the books within the receptacle, one adapted to be operated by the weight of a coin, and a lever projecting into the book-chute and adapted to be operated by the passage of a book through the chute to

operate the other locking-lever, whereby the book held by said locking-lever is released, substantially as described.

5 7. The combination, with the levers for retaining the book within the receptacle, one adapted to be operated by the weight of a coin and the other by the weight of a book to be exchanged, of a retaining lever or gate for retaining the coin in engagement with the coin-operated lever, and a connection between said lever or gate and the lever operated by the book, whereby the coin is released by the book-operated lever, substantially as described.

15 8. The combination, with the levers for retaining the book within the receptacle, one adapted to be operated by the weight of a coin and a lever adapted to be operated by the book to be exchanged connected to the other to operate the same, of a lever or gate for retaining the coin in engagement with the coin-operated lever, and the connection between the same and the lever operated by the book, whereby the coin-operated lever is depressed
20 until the entrance of a book, substantially as described.

9. In an apparatus for the automatic exchange of books, the combination, with the levers for retaining the book in upright po-

sition, adapted to be operated by the entrance 30 of a book to be exchanged and the weight of a predetermined coin, of a lever also adapted to be operated by the book to be exchanged and engaging the book within the receptacle to throw the same on its side, substantially 35 as described.

10. In an apparatus for the automatic exchanging of books, the combination, with the receptacle and the drawer for withdrawing a book, of the lever engaging a book to retain 40 it in upright position and operated by the drawer to release the book, substantially as described.

11. The combination, with the drawer and the lever operated thereby to retain the book 45 in upright position, of the lever projecting in the path of the drawer and engaging said first-mentioned lever to release the same when the drawer is closed, substantially as described.

In testimony whereof I have hereto set my 50 hand in the presence of the two subscribing witnesses.

JULIUS MEHLHARDT.

Witnesses:

OTTO WOLFF,
BRUNO KÄSSNEY.