May 15, 1928. 1,669,870

B. A. FISKE

READING MACHINE

Filed Nov. 23, 1926

Fig. 1

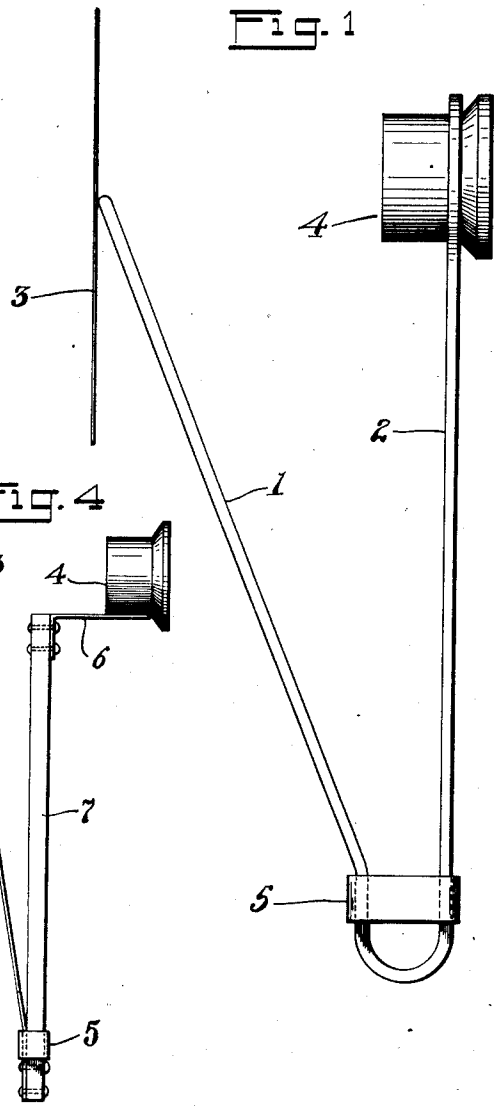


Fig. 2

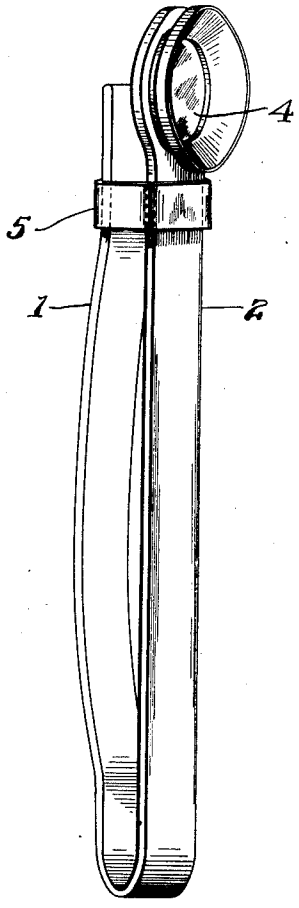
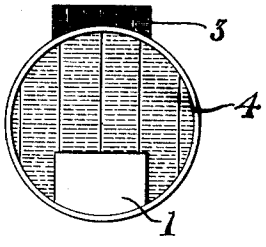


Fig. 4

Fig. 3



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UNITED STATES PATENT OFFICE.

BRADLEY A. FISKE, OF NEW YORK, N. Y.

READING MACHINE.

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My invention relates to an improved reading machine intended particularly for use in the reading of printed matter which may be bound in book form, such as telephone directories, city directories, and dictionaries with which quick results are desired and protracted reading is not necessary. In Letters Patent of the United States heretofore granted to me, No. 1,411,008, March 28, 1922, No. 1,457,429, June 5, 1923, No. 1,476,290, December 4, 1923, and No. 1,568,148, January 5, 1926, I have disclosed various forms of reading machines designed particularly for the reading of printed or typewritten matter on sheets, cards or strips intended to be inserted in the reading machine and moved relatively to the lens thereof after the latter has been properly focused. In my said prior patents, the reading machines described therein are preferably used in connection with printed matter of microcopic size, reduced in the proportion say of 6 or 10 diameters to 1. In this way, I have been able to effect a very great reduction in the size of the sheets used, so that the contents of a standard book can be brought down to a very small compass. Notwithstanding the substantial reduction in the size of printed matter, as thus proposed by me, it is possible to enlarge the image made on the retina to normal or even greater dimensions by the use of a lens of suitable power and with which the reading of the microscopic characters can be effected conveniently and without fatigue.

My present reading machine as heretofore stated is intended for the quick reading of printed matter which may be bound up in book form, which printed matter is preferably, though not necessarily, photographically or otherwise reduced to miscroscopic size. As an illustration, the New York telephone directory for the year 1926 is a volume of 1392 pages, weighing more than 5 pounds, and even with these great dimensions the character of type used is very small and can be read only with difficulty. Such a telephone directory, if printed or otherwise produced from microscopic type, as I have proposed in my prior patents, could be made into a book weighing not more than one-half pound, and yet, by means of my improved reading instrument, its contents could be more easily and readily explored than is possible with the present volume by means of the naked eye. A similar reduction can be effected in the size of dictionaries, city directories and similar works, which by reason of their special character are relatively ponderous. At the same time my present invention offers a convenient device for use with all books even when the type used is not microscopic, especially for elderly people or those having impaired eyesight.

The improved reading machine comprises a support for a lens of suitable power, and an elastic or resilient connection between the support and the printed matter permitting the printed matter to be moved toward and away from the lens in focussing; the support with the lens being moved with respect to and in resilient contact with the printed matter, to permit the reading thereof. I find in practice that by thus resiliently or elastically supporting a lens with reference to printed matter, the proper focussing of the lens is effected with surprising ease, and that no difficulty whatever is experienced in maintaining the lens in focus while the instrument as a whole is moved with respect to the printed matter. In the preferred embodiment of the invention the support for the lens comprises the end of one leg of a U spring, which is adapted to be grasped by the hand of the user, the other leg of said spring being adapted to be pressed against the printed matter. Normally the two legs of the spring will separate a distance somewhat greater than the focal length of the lens employed, so that a proper focussing of the lens involves a slight closing movement of the spring against the tension thereof. The two legs of the spring may be brought more or less together at any time by means of a slider or other suitable device, whereby the lens may be kept at any desired distance and any focal adjustment that the observer may desire may be maintained. A further use of the slider is to hold the legs close together, so that the instrument may be readily carried in the pocket. Preferably, the end of the spring which engages the printed matter lies within the field of the lens so as to thus constitute a convenient gauge or index for facilitating the operation.

In order that the invention may be better understood attention is directed to the accompanying drawing forming part of this specification and in which Figure 1 is a perspective view of the improved device in its preferred form, illustrating the same in use, Figure 2 is a side view, showing the device

in its folded condition, Figure 3 is a detailed view, illustrating the field of the lens and showing how the supporting edge of the U spring acts as a gauge or index, and Figure 4 is a side elevation of a modified form of the device. In the several views corresponding parts are indicated by the same numerals.

As shown, the spring is made of flat springy material and is of generally U shape having two legs 1 and 2. The spring constitutes a handle by which the instrument as a whole may be held and operated. The free edge of the spring leg 1 is held firmly in contact with the sheet 3 of the book. The other leg 2 carries a suitable lens 4 of the desired power. When the legs of the spring have separated to their normal distance, as shown in Figure 1, the lens 4 will be out of focus with the reading matter, but focussing can be readily effected by simply grasping the two legs of the spring with one hand looking through the lens and pressing the paper towards the lens with the other hand, against the resistance of the spring, until clear reading can be done. Then the instrument as a whole can be moved to any desired locality on the sheet or page with the end of the leg 1 in firm contact with the printed matter.

The book which is being read may be conveniently held in the left hand and the reading instrument in the right hand. I find in practice that in this way the reading of printed matter can be very conveniently effected without unfavorably influencing the proper focussing of the lens.

As shown in Figure 3, the edge of the spring leg 1 resting upon the printed matter is within the field of the lens, and therefore, acts as a convenient index or gauge for facilitating the reading and particularly for locating names or other collected data in telephone directories or other books of reference.

After use, the two legs of the spring may be collapsed, as shown in Figure 2, by means of a slider 5, so that the instrument becomes very compact and may be readily carried in the pocket.

It will be understood, of course, that the improved device may be modified in many ways without departing from the spirit of the invention as the same is defined in the appended claims.

For instance, in Figure 4 I show a modified form of device, in which the lens 4 is carried by a suitable bracket or arm 6 secured to a handle 7 of wood or other desired material. The said handle is provide with a spring 8 the free end of which is adapted to be engaged with the reading material.

Having now described my invention, what I claim as new therein and desire to secure by Letters Patent is as follows:

1. An improved reading machine comprising a U spring, a lens carried by one leg thereof, the edge of the other leg of said spring being engaged with the reading matter and being visible within the field of said lens so as to constitute an index or gauge, the elasticity of the spring allowing the lens to be moved back and forth with respect to the reading matter to permit focussing, substantially as set forth.

2. An improved reading machine comprising a U spring, one leg of which is adapted to engage the reading matter, a lens carried by the other leg of said spring and adjustable toward and away from the reading matter in focussing, and a slider co-operating with the spring for maintaining the same in a contracted position, substantially as set forth.

BRADLEY A. FISKE.