April 2, 1929. B. A. FISKE 1,707,351

READING MACHINE

Filed Dec. 16, 1926

Fig. 1

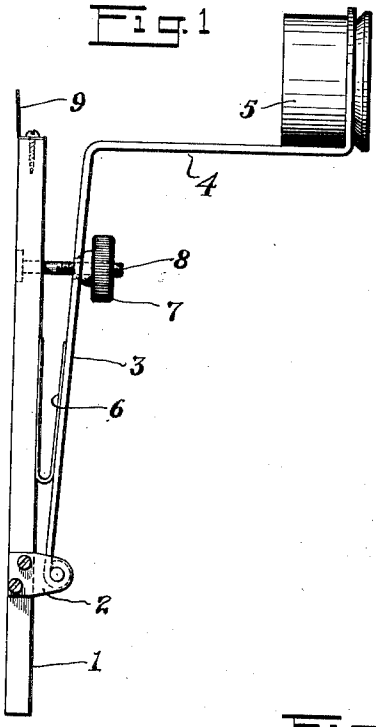


Fig. 3

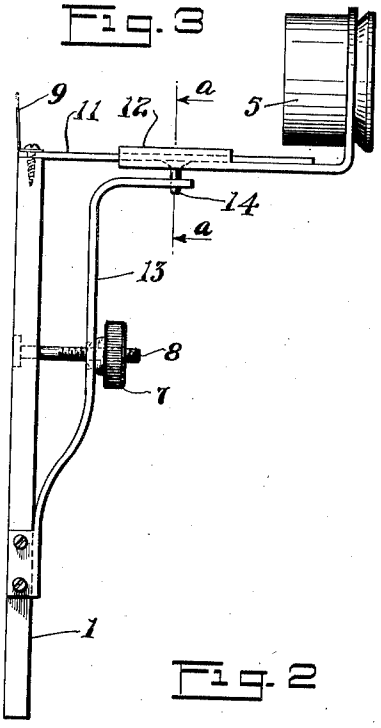


Fig. 2

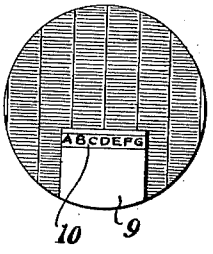


Fig. 4

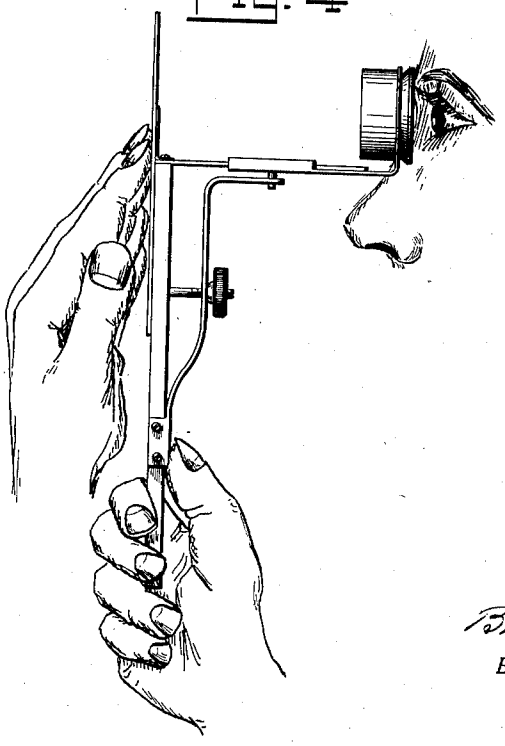
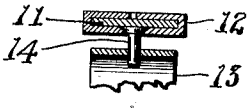


Fig. 3A



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UNITED STATES PATENT OFFICE.

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

READING MACHINE.

Application filed December 16, 1926. Serial No. 155,125.

My invention relates to an improved reading machine of the general type disclosed by me in application for Letters Patent filed November 23, 1926, Serial No. 150,224. In the reading machine disclosed in said application I employ a U-spring or its equivalent, one leg of which carries the lens and the other leg being adapted to be firmly pressed upon the book, sheet or card carrying the reading matter. With that device focussing was effected by applying a squeezing pressure between the two legs of the U-spring so as to properly adjust the lens with respect to the reading matter. As I pointed out in said application, the device thereof was particularly designed for use with books of the type of telephone directories, city directories, dictionaries, etc. and with which a cursory examination of the printed page was only necessary, involving a relatively brief use of the reading machine.

The reading machine of my said application as I have indicated therein, is not well adapted for effective use with ordinary connected reading matter involving relatively long periods of use because the effort of maintaining the lens constantly in focus involves fatigue.

It is the principal object of the present invention to provide a reading machine of the same general type in which the operation of focussing may be readily performed without the necessity of first bringing a portion of the reading matter into contact with the reading machine, and when once effected, the proper focus of the lens will be maintained without physical effort.

To this end the present invention comprises a reading machine consisting of a suitable handle adapted to be grasped by the right hand of the reader, said handle (through appropriate intermediate elements) carrying the lens. The latter is adjustable back and forth in a direction perpendicular to the plane of the handle to effect focussing. This focussing adjustment of the lens is performed by means of an adjusting screw or similar device.

Carried by the handle and as near as possible in the plane of the reading matter is a symbol such as a letter or character upon which the lens may be focussed. Specifically I prefer to locate the focussing symbol upon a very thin plate of sheet metal at the forward end of the handle and within the field of the lens, the said plate or strip being brought into contact with the reading matter in use, although other arrangements may be employed falling within the scope of my invention.

By making the metal strip very thin, the surface upon which the focussing symbol is located will be substantially in the plane of the printed matter and therefore by focussing the lens with respect to said symbol, the printed matter will be also in focus since the focus of the lens is relatively long, about two inches. Thus it becomes possible to perform the focussing as a separate operation, independent of and apart from the reading matter, and when the proper focus has been secured, as I will explain, it is retained indefinitely in use.

In order that the invention may be better understood, attention is directed to the accompanying drawing forming a part of this specification, and in which:

Figure 1 is a side elevation of my improved reading machine, illustrating one form thereof.

Figure 2 a view showing the end of the handle and illustrating the focussing strip with respect to which the lens may be focussed, showing also the field of said lens.

Figure 3 is a side view of a different form of the invention.

Figure 3^A a cross-sectional view on the line *a—a* of Figure 3, and

Figure 4 a perspective view illustrating the manner of use of my improved reading machine.

In all of the above views, corresponding parts are represented by the same numerals.

Referring first to Figure 1, the handle 1 is made of wood or other material, being grasped by the right hand of the reader with its free end in firm contact with the printed page, sheet or card. Pivoted to the handle 1, between ears 2 is a metal arm 3 having a right angle bend 4 and the other end of said bend carries a suitable lens 5. This lens as shown overhangs the free end of the handle 1 to permit the reading matter to be obesrved. Mounted between the handle 1 and the arm 3 is a spring 6 tending to swing the arm away from the handle. Thumb nut 7 engaging screw 8 moves the lens in the opposite direction in focussing. Obviously the reverse arrangement may be used, the spring tending to move the lens towards the handle, and the thumb screw moving it in the opposite direction.

The extreme forward end of the handle 1 carries a very thin sheet metal strip 9 adapted to be brought into contact with the reading matter in use. As shown in Figure 2, this strip carries upon its upper face, one or more symbols 10 which lie within the field of the lens. In focussing the lens the thumb nut 7 is adjusted so as to bring the lens in focus with respect to the symbol or symbols 10. Owing to the thinness of the metal strip 9, when the lens is focussed with respect to the symbol or symbols 10, it will be similarly in focus with respect to the printed matter with which the said strip engages. Thus it becomes possible to focus the lens independently and away from the printed matter.

As suggested in Figure 2, the printed matter is of microscopic size as I have already described in patents heretofore granted to me. It will be understood, however, that the printed matter may be of normal size or less, the only requirement being that the lens shall be of the proper power to permit the printing to be easily read.

The form of device shown in Figures 3 and 3A is similar to that which has been disclosed. The handle 1 is provided with a very thin sheet-metal focussing strip 9 as before. Extending perpendicularly to the plane of the handle is a metal guide 11 upon which a sleeve 12 is adapted to travel. This sleeve carries the lens 5 as shown. A spring 13 is fixed at one end to the handle 1 as shown and is connected at the other end to the sleeve 12 in any suitable way, such as by means of a pin 14 entering a hole in the spring. As in Figure 1, the spring may be adjusted by means of a thumb nut 7 engaging screw 8.

When the lens has been properly adjusted as explained, the handle will be grasped by the right hand and the book, sheet or card carrying the printed matter will be brought by the left hand into contact with the bottom of the focussing strip 9 as shown in Figure 4. Reading will be effected by moving printed matter with respect to the lens by means of the left hand, this being a very convenient and comfortable way to operate the device.

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

1. A reading machine, comprising in combination a support having an extremely thin portion and a lens mounted thereon and adjustable with regard to such thin portion of said support, visible in the field of said lens so as to be brought into focus therewith, said thin portion of the support being adapted to be manually pressed into contact with the surface of a sheet carrying reading matter, whereby the lens will be automatically focused thereon, as and for the purpose set forth.

2. A reading machine, comprising a support having an extremely thin portion, a lens mounted thereon and adjustable with respect to said thin portion, a symbol or reference mark on said thin portion visible in the field of the lens so as to be brought into focus therewith, the thin portion of said support being adapted to be manually pressed into contact with the surface of paper or other suitable material carrying reading matter whereby the lens will be automatically focused thereon, as and for the purpose set forth.

3. A reading machine, comprising a flat support or handle, a thin metal focusing strip on the end of said support or handle and a lens mounted on said support or handle and adjustable with respect to said focusing strip so as to be brought into focus therewith, said strip being within the field of the lens and being adapted to be manually pressed into contact with the surface of paper or other suitable material carrying reading matter whereby the lens will be automatically focused thereon, as and for the purpose set forth.

BRADLEY A. FISKE.