Our readers are doubtless somewhat familiar with the methods of motion picture projection by which a series of pictures is flashed upon the screen at a rapidity of sixteen per second. About 75 percent of the time the screen is actually illuminated and during the remainder 25 percent it is darkened by a shutter which comes in the path of the projecting ray while the picture is being changed. Owing to a physiological phenomenon known as persistence of vision, the mental impression of the image upon the retina of the eye persists long enough to produce an apparent continuous motion if the pictures are "run" at this rate.

The sense of vision is, of course, considerably strained in viewing these pictures, much as the auditory nerves are strained in listening to the imperfect speech heard in a telephone receiver, and the eyes soon become tired by the flickering effect caused by the revolving shutter. Furthermore, the films, which are made of collodion, are usually just on the point of being exposed with even the instantaneous exposure in the intense light and heat which must be maintained in order to produce a sufficiently clear image upon the distant screen. Thus there is a considerable risk of fire and extreme precautions have to be taken in operating picture houses.

The Scientific American for Feb. 14, 1914, describes a new form of "movie" machine, called a vanoscope, which the inventors claim will do away with many of the objections to the old machines. There is no revolving shutter, no troublesome viewing through a continuous visual image is given from a steadily moving film by an apparatus which causes one image to dissolve into the next. This effect is produced by an arrangement of revolving mirrors by means of which the projecting beam of light is focused on the film in such a manner that during the period of transition of one picture into the next, both of them are illuminated by one half of the total illumination, which total always remains constant.

With this machine the pictures may be taken at longer intervals and need to be run at only about eight per second, thus enabling a "1000-foot play" to be run on a 500-foot reel. This process is not so dependant upon the persistence of vision and consequently it is not necessary to run the reels so rapidly, thus making the motion picture more valuable in a critical study of such matters as running, jumping, etc. The dissolving images make the pictures "stand out" with a remarkable life-like perspective. Because a weaker projecting ray may be used the reel may be run slow at will and the risk of fire is reduced. One of the most important improvements claimed for this machine is the substitution of a steady for an intermittent motion of the film and the consequent elimination of a somewhat jerky, indistinct image and noise of operation.

The University of Pittsburgh is offering a course in Esperanto this year.

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(Continued From Page One)

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