

course of time attracted the attention of experimentalists in the then youthful art of photography. About ten years ago the French scientist, Marey, while at work on a flying machine, obtained photographs of birds in motion by means of a number of cameras, whose shutters were operated by the wings of the birds as they flew across the room. The idea was then taken up and further developed by Dr. Muybridge, of Philadelphia. At an earlier day than this, Mr. W. K. L. Dickson had been experimenting in the same field, and as the result of the subsequent joint labors of himself and Mr. Edison, the famous Edison vitascope was produced. The Lumiere Brothers, a firm of French photographers, brought out the cinematograph in 1894, and this was succeeded shortly afterward by the biograph, which last device, and the "mutoscope" and "mutoscope," are the inventions of Mr. Herman Casler, and form the subject of the present article.

The capacity of the mutoscope is coequal with the camera. It reproduces in motion anything which can be photographed, whether motion of human bodies or movements in mechanism or nature. Thus, the Falls of Niagara, conflagrations, moving trains, animals in action, athletic games and sports, scenes from plays introducing prominent actors in favorite rôles; in fact, any scene can be reproduced with perfect fidelity to nature and with the actual movements presented by the scene depicted in a most realistic way. Important events in public or private life can be perpetuated, such as parades, military, civic, etc., preserving for the years to come the movements and gestures precisely as the scene occurred at the time of its recording by the camera, although some or all the participants in the scene may have long since departed.

A Velocipede Shower Bath.

At the recent cycle show in Paris, a prominent English bicycle manufacturer presented a novelty called a "Vélo-Douche," which is an eminently practical device for combining exercise and the morning ablutions. Many wheelmen have doubtless often desired to obtain a shower bath after violent exercising on the wheel, so as to obtain the sedative effect of the brisk reaction.

Many bicycle and athletic clubs are provided with every facility for obtaining this end, but such means are not always at the disposal of the rider, especially in the country.

The device which we illustrate is really a combination of the home exerciser and shower bath, and it enables the rider to obtain any amount of exercise desired with or without the bath.

The machine consists of a shallow tub to which is secured a framework carrying a bicycle saddle, a handle bar, pedals, sprocket wheels and chain. The resemblances to the bicycle go no further.

The small sprocket wheel which is driven from the large sprocket on the main shaft by the medium of a chain is secured to a small rotary pump which is fastened at the rear of the frame. The suction pipe of the pump ends near the bottom of the tub and the discharge pipe



is curved as shown in the engraving and ends in the sprinkler arrangement common to all shower baths. A cock half way up the discharge pipe permits of the water being turned on to the sprinkler or through the hose and nozzle, depending on whether a bath is desired or not.

It is, of course, perfectly possible to obtain the exercise without getting wet, the pump furnishing the resistance necessary for the exercise and the water which is pumped being discharged by means of the rubber tube and nozzle. When the rider has exercised sufficiently, he can reach backward and turn the cock so as to let the water pass upward and out of the sprinkler. The harder he pedals, the larger the stream.

It is possible to direct a stream of water on any part of the body by means of the nozzle connected with the rubber tube. The tub can be divided into two compartments, one containing hot water and the other cold water, and the cold and hot douche may then be used at will. The device could be made to set in any ordinary bath tub. It would seem that the "Vélo-Douche" has a future for use in the cycle clubs, riding academies, sanitariums and in the army.