

## The Prince's Derby.

SHOWN BY LIGHTNING PHOTOGRAPHY.



MR. PAUL AND HIS CAMERA.



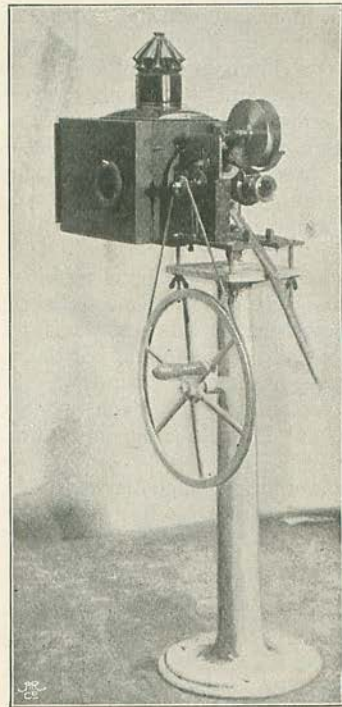
are told that nothing is new. Out of the ancient zoëtropé, or wheel of life, was evolved the gyroscope, which was exhibited in a gallery at the Polytechnic more than sixty years ago.

This was a wheel of black silhouette figures, revolving before a mirror, and giving the appearance of vitality. Half a century or so later, Mr. Edison produced his kinetoscope—a band of progressive pictures passing before the eye applied to an optical peep-hole, and creating the effects of life and motion.

During the Indian Exhibition last year, Mr. R. W. Paul, a clever electrical engineer, of Hatton Garden, made and exhibited the kinetoscopes there, and noticing the rush for these marvellous machines, he wondered if their fascinating pictures could be reproduced on a screen, so that thousands might see them at one time. This idea has

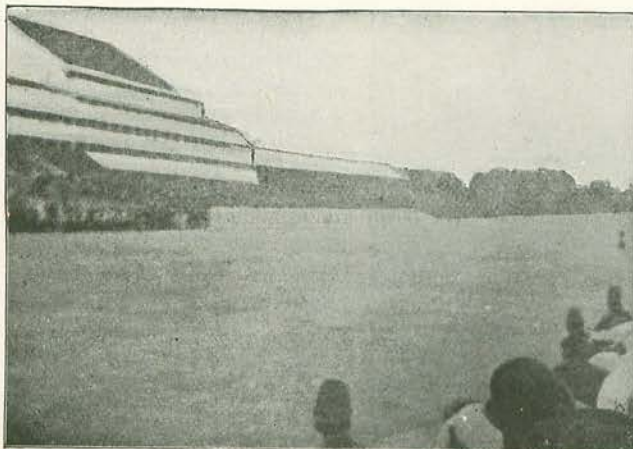
been brought to a triumphantly successful issue, though not without infinite patience and ingenuity on the part of the inventor. In Edison's machine the photos. are magnified six times only, whilst in Mr. Paul's apparatus, prints no bigger than a postage-stamp are projected on to a ten-foot screen. Plainly, then, such very high magnification calls for absolute perfection in the tiny originals.

Briefly explained, the whole thing amounts to this: Hundreds of photographs are taken with amazing rapidity—say, twenty a second—on an enormous length of transparent celluloid ribbon. These photos. are subsequently shown magic-lantern fashion, also with extreme rapidity, the result being "living pictures" which completely baffle description; they *must* be seen to be appreciated. On this page Mr. Paul is seen with his unique



THE PROJECTING APPARATUS.

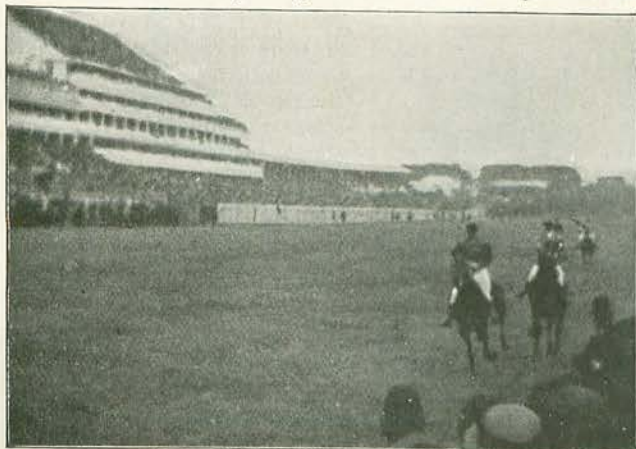
camera; he is looking into the "finder," ready to commence turning the hand-wheel the moment the desired picture comes into the field.



NO. 1.—COMING IN SIGHT.

By means of the unique photographs reproduced in this article, we critically examine literally every step of the Prince's Derby; the now famous race is, so to speak, placed under a microscope for our benefit. First of all, we just discern the leading horse in the distance. Then the horses draw nearer, and we notice their queer attitudes when at full speed—quite unlike the galloping horse of convention. We can realize from the photos. that the memorable Derby of 1896 was at the finish a contest between the favourites only, Earwig being quite a long way behind. The hotly-contested race is won as Persimmon and Watts vanish towards the left in illustration No. 13.

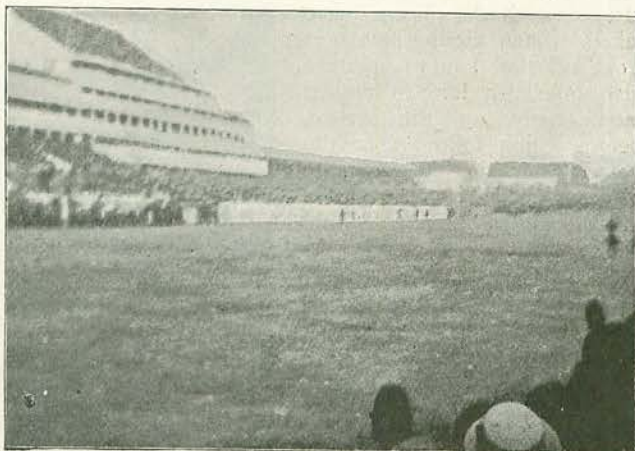
Next is seen the beginning of the inevitable



NO. 3.—ST. FRUSQUIN MAKES HIS EFFORT.

rush across the course. Notice the policeman in the foreground. The great race being over, he knows full well that the most arduous part of his duty has only just commenced. One can see his head turning round as the great river of humanity overwhelms the racecourse; and the last photo. shows that the river has grown into a veritable sea of human beings, each wild with excitement and delight at having witnessed the most popular horse-race of modern times—the Prince's Derby of 1896.

But to return to the method whereby these marvellous photos. were taken. The sensitive film is fed from a spool and

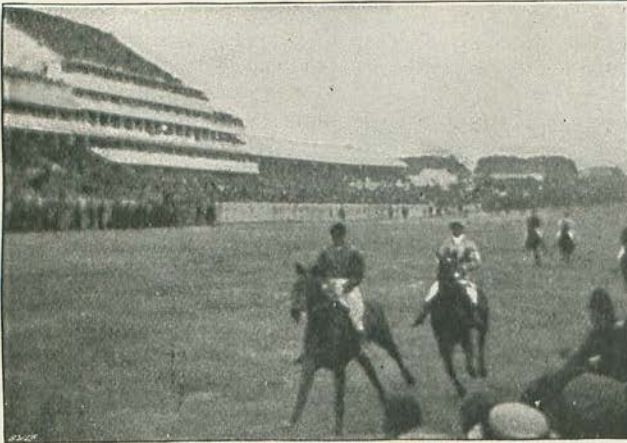


NO. 2.—THE STRUGGLE COMMENCING.

passes an opening in front of the lens. The process of taking one scene is as follows:

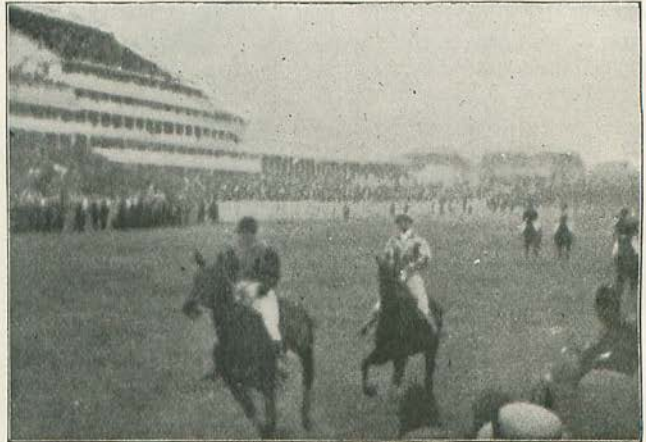
The film is moved forward exactly three-quarters of an inch (the width of the photo.); then it stops for the exposure, and moves on again for the next. While the film is actually moving, the light has to be cut off by the revolving shutter so as to prevent blurring, the exposure occurring only when the film is quite stationary. All these conditions are necessary for every picture; and yet Mr. Paul can take with this camera over 2,000 photos. per minute!

On the previous page is the inventor's projecting machine. The ribbon is made



NO. 4.—PERSIMMON HOLDS HIS OWN.

to pass step by step through a kind of magic lantern at precisely the same rate at which the photos. were taken. Each picture pauses in front of the lantern aperture just sufficiently long to appear momentarily on the screen, before being followed by the next. Thus the eye gets the different phases of the scene presented in rapid order. While one photo. is giving place to the next, the lantern aperture is covered with a movable shutter operating at a speed which deceives the eye. Needless to say, the mechanism is wonderfully delicate, containing an aluminium sprocket-wheel, a presser pad, a cam, a steel finger, and other comparatively uninteresting things. The camera and the projecting machine are identical in principle.



NOS. 5 TO 13.—PASSING THE POST.



NO. 6.

Anyone who hasn't seen Mr. Paul's amazing "living photographs" has decidedly missed a sensational thing. Take the arrival of the Paris express at Calais station. The great train appears in the distance, and rushes forward as though to overwhelm the audience, but presently slows down in time, and discharges its living freight amid a scene of bustle and excitement. The scene at Westminster, too, with its superb equipages, high-spirited horses, and passing crowds and omnibuses, fairly glows with life. Again, in the Hampstead Heath

set, we see the swings and roundabouts going merrily, the children skipping and 'Arry

working off his traditional exuberance of spirit. A "Rough Sea at Ramsgate" shows the breakers rolling in majestically, and the spray is thrown up in so realistic a fashion as to make the people in the stalls actually start involuntarily, lest they should be drenched!

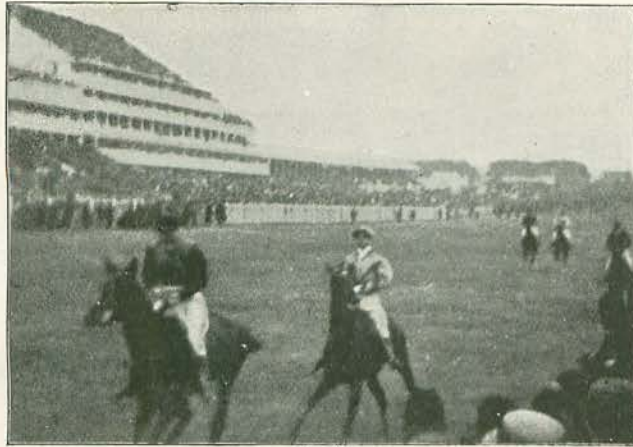
But the great sensation is, beyond question, the "Prince's Derby" of 1896, the most popular win the turf has ever known. Of course, Mr. Paul didn't know that the Prince of Wales was going to win the Derby; he merely went to get the finish of that great race, having less concern with the "blue ribbon of the turf" as such, than with the

black ribbon of film which should show to countless multitudes one of the most popular events of the Victorian age. At all events, our inventor was on the spot, with the result that he deposited at these offices some 80ft. of celluloid ribbon, containing about 1,280 unique instantaneous photographs of the historical race. The story of this remarkable photographic feat is well worth recording.

Mr. Paul went down a few days before the Derby to make his arrangements. Disappointed in the use of one of the stands, he at length rented a few square yards of ground from a man on the course,



NO. 7.



NO. 8.

whose legal rights were by no means well defined. The spot chosen was near Mr. D'Arcy's stand, on the opposite side to the Grand Stand, and about 20yds. past the winning-post.

At five o'clock on the morning of Derby Day, Mr. Paul set out for the Downs in a wagonette, with two assistants, and the camera shown on the first page of this article. As in the case of other expeditions, great care was taken to provide the necessary appliances. Among the impedimenta were a number of beams of wood, wherewith to shore up the vehicle, so as to take the weight off the springs. This

was in order that the camera might have a perfectly steady platform. Incidentally, the beams served another purpose: preventing the total annihilation of the entire party — wagonette, apparatus, and operators — by the surging thousands, who, at the finish of the race, became perfectly delirious with excitement, and were only kept from wiping out the hated intruders by being menaced with far-reaching clubs. It must have been a grand sight — the siege of the wagonette, I mean, not the race. No vehicle had ever been allowed on that spot before. Mr. Paul reached Epsom at eight o'clock, but his troubles commenced with his work. At ten, his erratic land-

lord (who had received the rent in advance) turned up in a "Derby-Dayish" condition,



NO. 9.

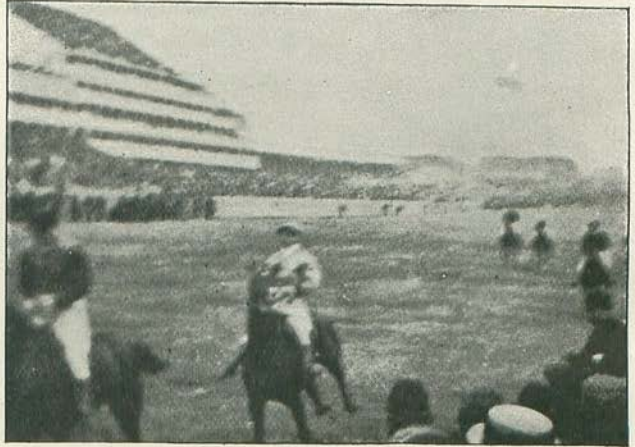


NO. 10.

and requested him to leave. That landlord must have felt strongly on the subject, for he spoke *very* strongly. Half an hour before the race, however, the man was removed, protesting.

The adventurous trio fortunately had the minor races on which to practise beforehand, so that the exact range was soon revealed by the finder. Presently the old cry was raised with its accustomed force and volume. "Off!" sounded with sonorous unanimity from innumerable throats. The Derby had begun. Hearts began to beat faster. Even philosophers, ready to recognise the supreme advantage of keeping cool in all circumstances, felt a peculiar sensation thrilling through their veins. Truly the pace was astonishing. The crowd by the starting-post had scarcely com-

menced its mad rush across the Downs in the vain hope of getting a glimpse of the finish, when the field "began to tail," as the sporting reporters say. Tamarin and Toussaint were already out of it, and Persimmon was so full of running that his jockey could be seen taking a pull at him. Almost before one could realize the rapid progress of events, the leaders were pounding away as hard as they could down to Tattenham Corner, the purple and scarlet of the Prince gradually forging to the front. But the mighty St. Frusquin was in no humour to be left behind, and came into the straight "going great guns." People held



NO. 11.

their breath, and wondered, with palpitating hearts, what the result would be. There were only two in it. The favourites left the others as if they were standing still, and the Derby of 1896 resolved itself into a close and desperate struggle. Cries for the Prince were already being raised, when St. Frusquin made a magnificent challenge, and it looked for an instant as if the spoils were going to Mentmore after all. Only for a moment, however. The Royal champion, full of running, answered with an invincible rush, and before he had reached the post the discerning multitude detected what was about to happen. The horses were



NO. 12.

a good twenty yards from the judge's box, but the verdict was, in the estimation of the populace, already assured. A few strides more, and there was no doubt about it. Cheering, which had already begun lustily, swelled into a surging, indomitable, all-conquering roar. It is easy to imagine the utter and complete abandonment of self-possession at that thrilling moment, when one united shout of semi-delirious joy broke from thousands of half-frantic spectators.

And no wonder. More than 100 years have passed since a Prince of Wales won the Derby. Of the eleven runners competing for the great race in 1788 (the same number, curiously



NO. 13.

second, or over 2,000 pictures a minute. The operator slowed down somewhat when the two favourites had passed the winning-post, but the curious photos. of the crowd pouring over the course were taken at about 15 a second. It took Mr. Paul exactly a minute and three-quarters to take the whole scene—the complete set of 1,280 photographs.

The inventor paid little heed to the appalling uproar that marked the finish of the race; he only turned his wheel for dear life, and for the benefit of the public who weren't there. The moment the race was over, Mr. Paul whipped out the film, packed it up securely,

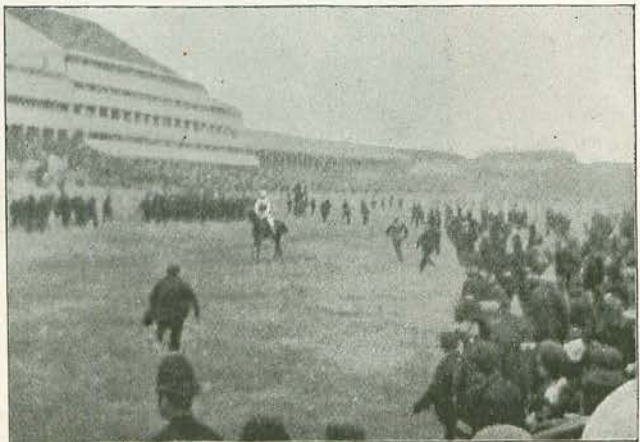
and made a dash for Epsom Downs station, only regretting that he couldn't take



NO. 14.—THE LAST HORSE COMING IN.

enough, ran in the historic Derby of 1896), the Prince—afterwards George IV. —supplied the favourite in his chestnut colt, Sir Thomas.

But let us get back to our enterprising photographer, Mr. Paul. Like a mariner whose vessel is in deadly peril, he stood with his hand on the wheel, looking anxiously along the vast expanse of green turf. Strange as it may seem, he commenced to turn the wheel eight seconds before the horses came into the "field"; of course, I mean the field of the camera. At first the photos. were taken at the rate of about 12 a second, but during the exciting finish the pace increased to 30 and 35 a



NOS. 15 TO 17.—THE CROWD SWARM OVER THE COURSE.



NO. 16.

the uproariously popular sequel to the race—the Prince of Wales leading in his superb horse, Persimmon. However, he had another worry on hand at the moment, for he was by no means sure that his prodigiously long negative was a photographic success.

Mr. Paul, I say, left wagonette, camera, assistants, and everything else, and hurried back to London, reaching Hatton Garden at six o'clock. The assistants, by the way, recommenced operations on the next race. The great negative was developed and hung up to dry at one o'clock in the morning. Later on the Thursday prints were made and

tested in the inventor's workshops at Saffron Hill, where a couple of projecting machines and a full-sized screen are always kept in readiness. Thus the same evening an enormous audience at the Alhambra Theatre witnessed the Prince's Derby all to themselves amidst wild enthusiasm, which all but drowned the strains of "God Bless the Prince of Wales," as played by the splendid orchestra. The favourites raced in once more with a tremendous stride, checking their speed only when the winning-post was passed; next

were seen the laggard horses, and lastly a seemingly illimitable multitude which swarmed over the course as far as the eye could see. In short, the great race, as depicted by Mr. Paul's animatographe, is a veritable marvel of modern photography and mechanism.

Reproduced in this article are several photos. selected from Mr. Paul's set of 1,280. Seen separately in this way the pictures look rather peculiar, and it is difficult to realize from them the astounding actuality and life of the whole set when spun through the inventor's projecting machine.



NO. 17.