

Illustrated Interviews.

No. XXXVIII. — MR. HIRAM S. MAXIM.

By J. BUCKNALL SMITH.



O the versatile and original inventor, Mr. Hiram Maxim, a name now more or less familiar throughout the intelligent world, must be justly accredited one of the most distinguished positions in mechanical science of our times, to say nothing of his numerous valuable attainments in the electrical and chemical branches of science. As this famous inventor and talented mechanic has been entirely the architect of his own fame and fortune through his brilliant abilities, steadfast application, and indomitable perseverance—similar to a host of other successful and eminent men in many departments of life—features in his noteworthy career will be found to abound with peculiar interest and instruction.

Mr. Maxim, who now may almost be claimed as a British citizen, was born in the State of Maine, in the year 1840, of parents from amongst the oldest families in the United States, although his earlier ancestors in this country were French Huguenots, who resided about the locality of Canterbury. As a youth he attended such schools as they had in that part of the States in those days, until he was about fourteen years of age, when he was apprenticed to a carriage builder, although he had previously received some rudimentary insight into mechanical handicrafts and the use of tools at his father's works, which consisted of a wood-working factory and mill. From the very beginning of his career, young Maxim was characterized as a keen observer, serious student, and industrious worker, whilst at an early age he displayed a decidedly inventive aptitude and bent for scientific pursuits and studies, which virtues in a measure he had probably inherited from his father's side. Apparently his brother, like his father, possessed some degree of the inventive faculty, but Hiram's capabilities, how-

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ever, in that direction soon outstripped the other members of the family, although it was not until he was twenty-five years of age that he commenced to blossom into the inventor of promise that one might expect from his achievements of to-day.

From metal-working experiences gained at his uncle's works in Fitchburg, Mass., he rapidly extended his practical training and knowledge by entering the factory of a philosophical instrument maker, and later by joining the staff of some ironworkers and ship-builders, in each instance assiduously studying, in his leisure moments, the theories and sciences which were involved in his daily labours.

It was during 1877 that Mr. Maxim first turned his attention to electrical matters, when he was retained as consulting engineer to a Mr. Schuyler, who had undertaken the development of electric lighting in the States. About that time this system of illumination was practically unknown across the Atlantic; indeed, in Europe it had been mainly confined to experiments. Mr. Maxim then applied himself, with his characteristic ability and earnestness, to the study of electrical science generally, and the rapid progress which he accomplished in that branch will be vivid in the recollections of many. The earliest electric lights in the States were devised and erected by Mr. Maxim, about which time he was also identified with many very important electrical inventions.

During 1880 the eminent inventor first visited England and Europe, with a view of investigating practically everything of an electrical nature on this side of the Atlantic. The following year his exhibits at the Paris Exhibition won him the distinction of Chevalier de la Légion d'Honneur, about which time he became the permanent representative of the American company in Europe. In 1883 he returned to England, where



MR. HIRAM MAXIM, WHEN HE FIRST CAME TO THIS COUNTRY AT ABOUT FORTY YEARS OF AGE.
From a Photo. by Betts, Bridgeport, U.S.A.

he has practically remained ever since, and made London the headquarters for the European business of the company. Having now some leisure, and being an incessant and indefatigable worker, he turned his attention to inventing an automatic machine gun, which should load and fire itself. As now familiar to most readers, the application of his genius in this direction culminated in the production of a unique and terribly efficient rapid-firing weapon, which has practically superseded everything of the kind previously used in the international naval and military worlds. It is satisfactory to recall that the British Government was the first to recognise its merit and practically adopt the same. Those who have not

seen the gun in operation may in some measure form an idea of its frightful capabilities and execution in action from the fact that it can load and fire itself, by the recoil resulting from the discharge of the ammunition, over twelve times a second, or up to some 770 shots per minute. The inception of this wonderful weapon occurred to Mr. Maxim by reflecting over a violent kick he had once received whilst firing a military rifle in the States; also as a boy it had been apparent to him that, in those days, there was a great waste of time in loading and firing a sporting gun, owing to the use of the powder and shot flasks, wads and percussion nipple caps, etc. These impressions never left his fertile and retentive mind, and consequently at a later leisure in life he set about to contrive a gun which would not only keep on loading itself with incredible rapidity, but fire and throw away the empty cartridge cases automatically.

The gun was first fired in actual warfare by Sir Francis de Winton during the Sierra Leone Campaign. As many are aware, this wonderful invention was ultimately taken over by the Maxim-Nordenfellt Gun Company, which has a capital of nearly two million pounds sterling.

Mr. Maxim has been one of the best customers of the International Patent Offices,

he having taken out something like a hundred different patents since his residence in Europe, some of which relate to improved petroleum and other motors and smokeless gunpowders, etc., in connection with which he has also attained a high reputation. During a comparatively recent competition in the States, his powder was declared the best submitted, and it is almost identical to "Cordite," since adopted by the British Government. Mr. Maxim first began to bestow some attention to the solution of the problem of mechanical aerial flight in 1889; and since then his famous structures and demonstrations have involved an expenditure of nearly twenty thousand pounds.

The gifted inventor, however, only devotes his leisure moments to this problem, which may be appropriately described as one of his hobbies.

Enough has now been written to convey some meagre idea of Mr. Maxim's bold, original, and versatile inventive genius. He is further necessarily a man of diligent study, great vitality, and resolution. Knotty points and difficulties only stimulate his unremitting labours and dogged persistence, whilst accepted orthodox principles do not deter him from departing from any beaten tracks in science.

As a companion, he is highly entertaining and genial, with a distinctly humorous bent; to his fellow-man he is considerate, although a keen and thrifty man of business; he holds strict views concerning commercial integrity. In stature, Mr. Maxim is of medium height, but powerfully built, erect in gait and agile; his hair is now of silvery hue, but physically and mentally he is a well-preserved man. His dark-brown penetrating eyes are full of intelligence and vivacity—in short, his presence is unusually commanding. Mr. Maxim is rather deaf from the effects of the discharge of firearms and artillery; he works about fourteen hours daily, is a non-smoker, and practically an abstainer from alcoholic stimulants. His character of speech varies much, according to the



MR. HIRAM MAXIM (PRESENT DAY).
From a Photo. by Maull & Fox.

subjects of conversation: at times he speaks with slow and thoughtful emphasis, at others, with the volubility remindful of his gun. His accent is practically that of an Englishman, although most of his quaint idioms are decidedly American. Mr. Maxim is a member of many of the leading scientific and learned societies of Great Britain and America.

His intelligent and devoted wife is a very industrious, cultured, and genial lady, who not only takes immediate interest in all her husband's inventions and scientific pursuits, but directly assists him in various departments of his daily avocations; indeed, their labours and deliberations may be appropriately described as inseparable. Mrs. Maxim was born in Boston; her maiden name was Haynes—a family of English descent.

Their English home at Baldwyn's Park, Dartford Heath, is a picturesque estate of some 500 acres in area, abounding with relics of the Roman epoch; indeed, the site of the ancient city of Caswallan is located within its sylvan precincts. The residential mansion is commanding and spacious, although of simple external appearance, indicative of an old school of architecture. The house is handsomely furnished throughout in becoming taste, although Mr. Maxim, like so many men of in-



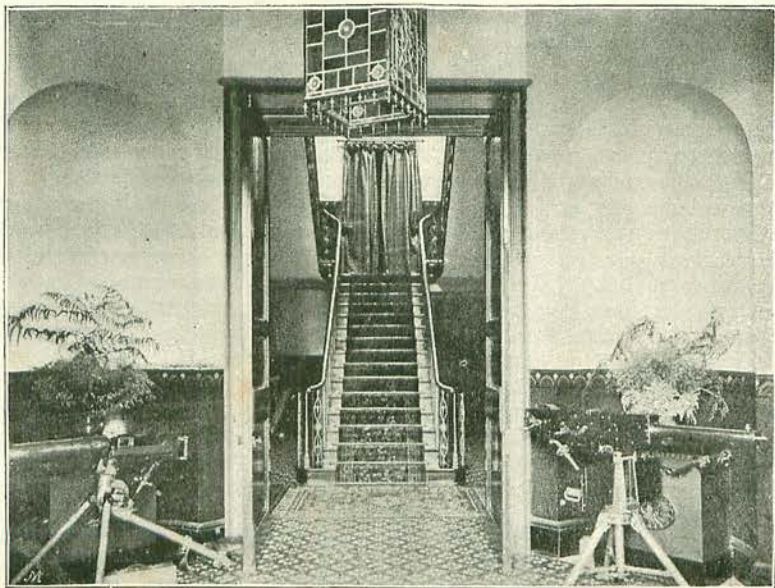
MRS. MAXIM.

From a Photo. by the London Stereoscopic Co.

tellectual predilections and culture, avoids anything approaching ostentatious luxury. The bulk of Mr. and Mrs. Maxim's leisure moments at home are spent in the library, which is well equipped with most of the leading modern textbooks and works of reference. Immediately on entering the lofty and spacious vestibule an elaborately finished and mounted Maxim gun meets the gaze of the visitor. At one side of the house will be noticed an extensive wooden structure, from which proceeds a broad-gauge railway—this is the in-

ventor's workshop and the home of his famous flying machine.

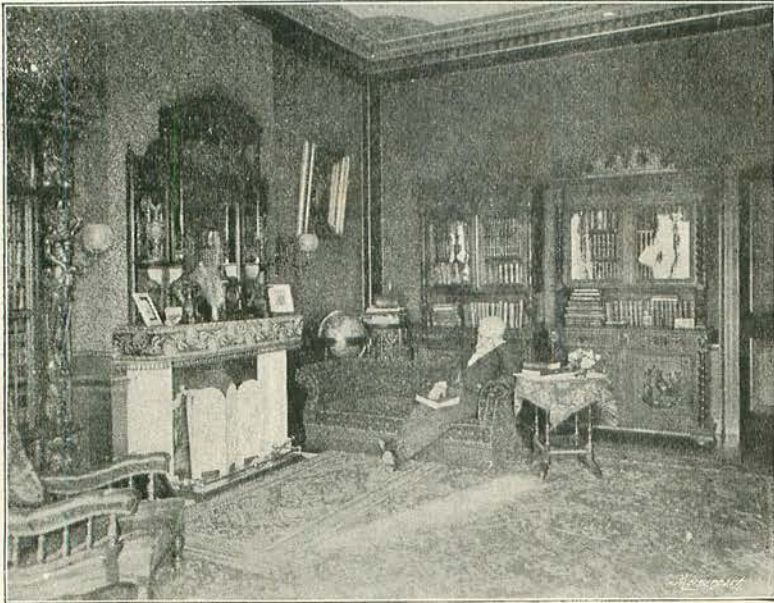
On the occasion of this interview I was, as usual, ushered into the comfortable library, where I found Mr. Maxim seated at his *escritoire* with a pile of papers and books before him; on his right hand was his indefatigable and invaluable assistant—his



From a

THE VESTIBULE—BALDWIN'S MANSION.

[Photograph.]



From a

MR. MAXIM IN HIS LIBRARY.

Photograph.

in the early days of electric lighting in the States, and when for weeks and months together most of the papers were preaching 'Edison,' which I think was fully two years before he had shown anything with regard to electric lighting. One of the first arc lamps erected in the States was put up by myself in the Park Avenue Hotel, New York. A great many people came to see the new light. One night whilst I was watching the lamp, studying the be-

haviour of the arc with a view of preventing its fluctuations, a young lady came close to me and observed:—

zealous wife. After receiving me with his accustomed cordiality, he bade me be seated. "Mr. Maxim," I promptly commenced, "I have had the privilege of having several interesting and instructive conversations with you; to-day, I would ask leave to have a popular chat about your distinguished inventive career in general."

Mr. Maxim, with an expression of some astonishment at the magnitude of my request, replied in kindly humour:—

"Well, that is rather a big order; where shall we commence?"

"Please give me a brief account," I responded, "of some of the early incidents connected with electric lighting which led to your first visit to England. I have just read in some recently published American biographical sketches, entitled 'Men of Achievement,' that your name was associated with the earliest pioneers of that industry, and according to Mr. Hubert, the author, and one of your own countrymen, Mr. T. A. Edison is described as 'rather a master mechanic than a master inventor, and that he has simply made practical what other men had discovered before him.'"

These statements proved effectual shots for opening the action, for Mr. Maxim, after drawing his chair closely up to mine, so as not to miss any points in the conversation, being, as before stated, rather deaf, proceeded in his fluent style of speech:—

"Yes! Some very curious events transpired

haviour of the arc with a view of preventing its fluctuations, a young lady came close to me and observed:—

"Ah! how truly wonderful! What a brilliant conception! How like is the effect to Pompeii by moonlight! Who but an Edison could have thought of such an illuminant?" and so forth.

"Excuse me," I ventured to remark, with reference to that misdirected eulogy, "but this is not Edison's light."

"What! Then it is not an electric light?" she hesitatingly inquired.

"I answered, 'Yes, it is an electric light, but not Edison's'; adding, 'I do not know that Edison has yet devised an electric lamp. I have never seen one, and I have never met anyone who has.'

"Ah!" the disappointed lady sighed, "an electric light and not Edison's! Then I have no further interest in the matter."

"Thereupon she gathered up about a dozen yards of brocaded silken skirts and majestically disappeared from the building."

"I presume at that time," I interrupted, "nearly everybody in the States thought that practically everything electrical must have been invented by Edison?"

"Yes! That was apparently about the size of it," Mr. Maxim facetiously replied.

"I put up a number of arc lights in various places in the States," he continued, "and the first questions nearly always asked me by spectators were, 'Is that an electric

light?' 'Yes!' 'Is it Edison's?' 'No!' and so forth."

"That must have been very irritating?" I ventured to remark.

"Well," resumed Mr. Maxim, "not always so annoying as monotonous, although I sometimes thought I should really inflict some bodily harm upon the next man who asked me, 'Is that light Edison's?' That reminds me: Being one day in a hurry to take a newly-finished lamp out of town, I did not stop to wrap it up in paper, but took it as it was and rushed for the ferry-boat. I took my seat in the boat alongside of two farmers, who soon began to eye me with evident curiosity; by-and-by, one of them touched me gently on the shoulder and in a subdued voice inquired, 'Excuse me, sir, but what is that machine you are carrying?' Had I replied, 'It is an electric lamp,' the granger would have been nearly sure to have asked, 'Is it Edison's?' So I evasively said, 'Oh, this, sir, is a sausage stuffer.' 'Ah! Indeed!' rejoined the countryman, 'and a high-fangled sausage stuffer it appears, too.' That answer, I believe, saved the man's life.

"When Edison's lamp finally came out, and everyone was talking about it, I heard someone asserting that his lamp was not altogether new, that incandescent lamps had been made before, when one fellow in the party put a clincher on the argument by saying, 'Well, Edison invented the vacuum, anyway; any fool can pump out the air, but to suck out the vacuum is the trick.'"

Judging that Mr. Maxim had a legion of

similar amusing reminiscences to narrate, I turned the conversation by suggesting that he might kindly give me an account of some of his early experiences with his famous automatic gun. This theme, I quickly saw, was if anything more palatable to him than his humorous electrical repertory.

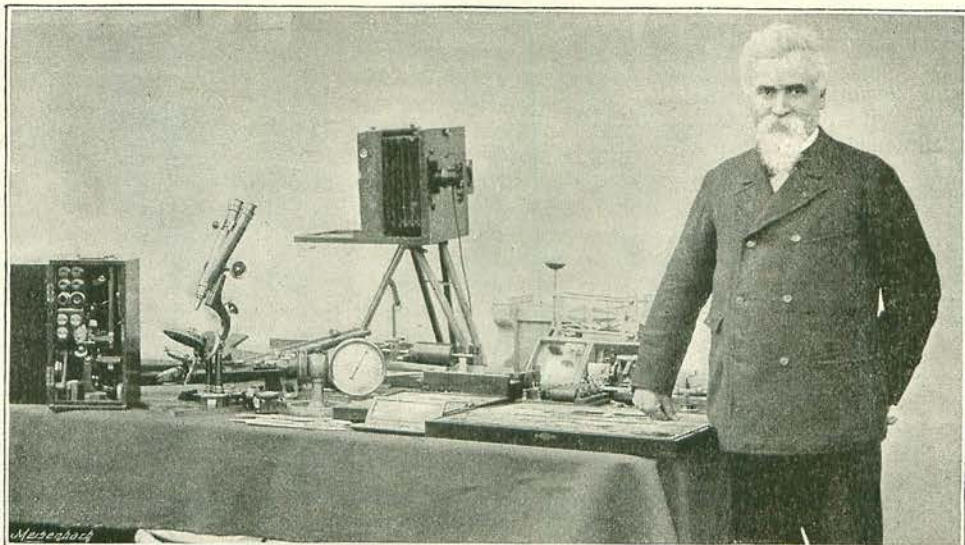
"Well," he resumed, in a serious tone and measure of speech, "you have seen the gun fired and know how it works and behaves?" which recalled to my mind the ghastly efficiency I had seen demonstrated with the weapon at the Erith works, when its inventor had mowed down wooden palings and egg-chests like grass with a scythe, and had inscribed his initials on the sand cliffs by a practically continuous stream of bullets, as thick as a tropical hailstorm.

"Yes! Yes!" I responded, with mingled recollections of horror and amazement; "but please tell me how you set about to devise such an awful engine of devastation and some events connected with its development and introduction."

Reclining back more leisurely in his chair, and after taking a glance at his watch, Mr. Maxim replied, in a reflective mood:—

"Your questions involve rather a long story. During the years 1883-84, having some little spare time in my electrical business, I decided to experiment with my contemplated automatic or recoil principle of working guns, as applied to a Winchester rifle.

"Failing, however, to get my instructions carried out in London, I proceeded to



From a

MR. MAXIM IN HIS LABORATORY.

[Photograph.]

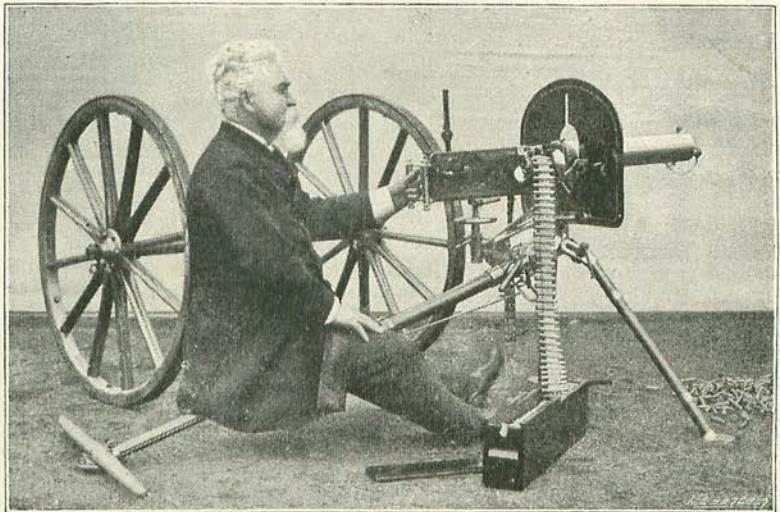
Birmingham, where I met with similar disappointments and hindrances, owing to prejudices in the trade. Finally, I went to Paris, and took my model and drawings to a philosophical instrument maker there, who made the necessary alterations without further trouble or assistance. Shortly after, remembering the difficulties I had encountered in the gun trade in England, I resolved to start a small works of my own in London. Accordingly, I procured some premises at 57, Hatton Garden, and equipped them with suitable tools, but before I had hardly commenced to get to work in earnest, troubles arose with my men. After discharging my foreman and making some alterations in the factory, I at length succeeded in getting my first experimental gun made, which was thoroughly successful, and more than met my expectations. So far as I can now recollect, the first outside gentleman who came to see the weapon was Sir Donald Currie; shortly afterwards I received a visit from the Duke of Cambridge, in company with Sir Frederick Bramwell.

"Then a number of other distinguished persons and members of the nobility visited the works, amongst whom were the Prince of Wales and the Duke of Edinburgh. The Prince fired the gun, and I was surprised to see how quickly he grasped its construction and operation. His Royal Highness congratulated me on having invented an entirely new machine gun. After this, titled people from all parts of the world came to see the Maxim gun, and it ultimately occupied two or three hours a day to exhibit and explain it to various visitors. To make up for this loss of time I had to work late at nights, and sometimes on Sundays. Soon the British Government ordered the first experimental gun, although the first big order I received was from the Austrians. I used to fire thousands of rounds of ammunition as a test of the weapon's reliability. The British Government stipulated it should not weigh

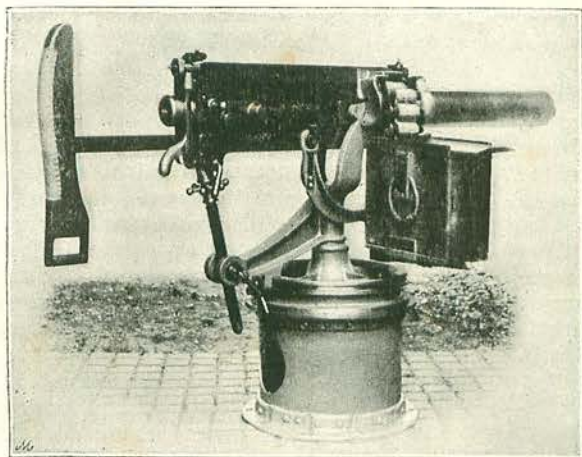
more than 100lb., and that it should fire 400 rounds a minute. The gun I, however, made for them weighed only 40lb. and fired 1,000 rounds in $1\frac{1}{4}$ minutes. Afterwards a long series of experiments were conducted at Hythe, Kent, with all known kinds of machine guns, and mine came out of the competition the best in all respects.

"My first experience of long-range shooting with my gun was at Thun, in Switzerland, when I entered into a machine-gun competition arranged there. This event was probably the turning-point in my life. My final opponent took the form of a double-barrelled monster, weighing about 2cwt., which had beaten all others in Europe. It, however, jammed in action, although it was claimed to be capable of reliably firing 330 rounds per minute; this performance I excelled in half the time without a hitch, my gun weighing only 50lb., and practically requiring no attendance. Further, my shots were found to be grouped all in the centre of the target, whilst my competitor's bullets were widely scattered. I then fired at a range of over 1,200 yards, with similar satisfactory results; indeed, at that distance I swept away 75 per cent. of the dummy soldiers erected as a target. I then proceeded to Italy, where my gun also beat all competitors, and resulted in my obtaining an order for thirty guns for the navy.

"My invention was now speedily recognised as the most deadly implement of warfare in existence. When my gun was first exhibited in Austria, near Vienna, the late Archduke William came over to see the experiments, and also fired the weapon himself.



MR. MAXIM FIRING HIS GUN MADE FOR H.I.M. THE SULTAN OF TURKEY LAST JUNE.
From a Photograph.



THE MAXIM MACHINE GUN, AS ADOPTED BY THE FRENCH AND RUSSIANS FOR NAVAL PURPOSES. BORE OF BARREL, $1\frac{1}{2}$ IN.; SPEED OF FIRE, 200 ROUNDS PER MINUTE WITH SHELL PROJECTILES.
From a Photograph.

When I was about to leave the field the Archduke said to me:—

“You certainly have invented the most deadly instrument of war I have ever seen. I had been told it was only a toy, whereas the accuracy and reliability of its firing are simply appalling.”

“I had now beaten all other similar guns brought into competition with me, and I had already a large number of orders in hand, amounting in value to over a hundred thousand pounds. Herr Krupp then visited me to discuss arrangements for manufacturing the gun in Germany, but, as you are aware, my invention was speedily taken over by the Nordenfolt Gun Company, of London.

“Last season, at the Wimbledon range, the Princess of Wales fired the Maxim gun without the slightest trepidation, although the smoke was blowing in her face the whole time, which, as you know, means considerable courage, as the sharpness and rapidity of the explosions are distressing to most persons’ ears and nerves.

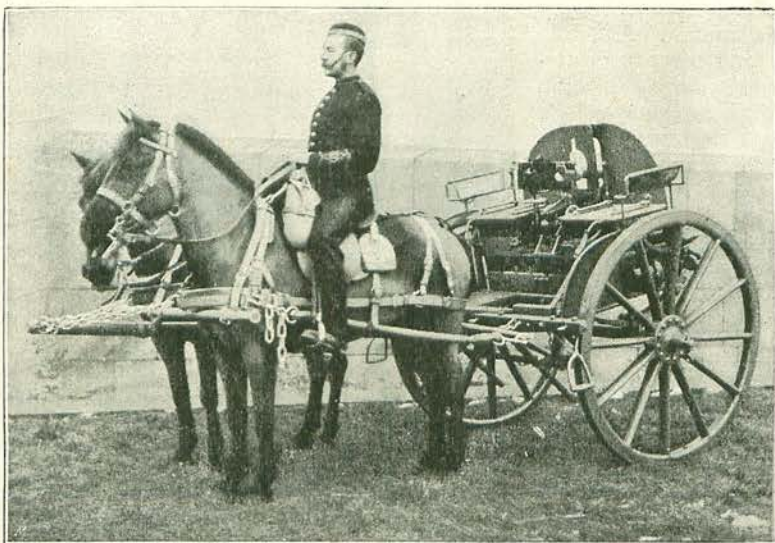
“When I was recently in St. Petersburg, His

Majesty the Czar directed that I should bring one of my guns to him at the Riding School, where he subsequently fired it himself.”

“During the Shah of Persia’s last visit to London, he expressed a wish to see the much-talked-about Maxim gun, so it was accordingly arranged that I should take one, with blank ammunition, to the Buckingham Palace Grounds, and fire it in the presence of His Majesty. I explained to him in French how the gun worked without the aid of any manual operation, and he seemed very interested. Before I took my departure His Majesty asked me to give him the gun, but as it was worth about £220 I could not see my way to comply with the august request. At this demonstration I had some anxious moments while preventing the Shah from shooting the Grand Vizier, who would persistently lean over the muzzle of the gun whilst His Majesty was playing with the breech mechanism.

“On one of the occasions when I was in France, I set a gun with an automatic regulator to fire only three shots a minute. An officer who came riding up inquired, ‘Is this the Maxim gun?’ A reply was given in the affirmative. He then continued, ‘I should much like to see it fired.’ To which a brother officer remarked, ‘It is being fired now.’ ‘No, it is not,’ he persisted; ‘why, there is no one by it.’

“The same gun will fire a shot once a week or 700 rounds in a minute.



From a) THE MAXIM MACHINE GUN AS MOUNTED FOR THE MATABELE WAR. [Photograph.]

"The latest development of my automatic gun is one just made to the order of the German Emperor; it weighs only 20lb.

"It is, of course, clear to you," Mr. Maxim continued, "that the gun, unlike others of the machine type, has only one barrel. This is kept cool by a water jacket. The recoil of the barrel operates the whole mechanism, hence the motive power cannot get excited in action like a hand-worked weapon. Any description of rifle ammunition can be used in the gun, consequently the range, velocity, and effect of the shots entirely depend on the class of cartridges employed.

We make at the Erith Works fully automatic guns up to six-pounders and semi-automatic cannon up to forty-five-pounders, which have effective ranges of from three to seven miles. Modern service ammunition when fired from a Maxim gun may impart to the bullet a muzzle velocity of some 2,000ft. per second, at which speed and pressure lead becomes practically liquefied, so that upon a bullet striking an object, it behaves more like a shell or explosive projectile, ripping everything asunder; the effect is frightfully destructive."

In answer to a question relating to the terrible execution done by the Maxim guns in the recent Matabeleland campaign, the inventor responded by placing before me a number of testimonials received by his company with reference to that war, amongst which I read one as follows, from Captain C. F. Lendy, dated from Buluwayo, on the 6th of January last:—

I was artillery officer in charge of all the British South African Co.'s guns, including seven "Maxims." It is a universally admitted fact, that to the Maxim guns is due, in a very great measure, the success of the Company's forces. Every Matabele we spoke to told the same story. They did not mind our rifles, as they had Martinis, but what beat them off and pre-

vented them from closing in upon us were the "Zi-go-go-gos," the name they gave to the Maxim guns. "If one bullet missed them," they said, "they were bound to be hit by the next if they stayed, whilst if they ran away the bullets would follow them up and kill them when the gun itself was out of sight."

At this stage I interrogatively remarked that from the conversation I had gathered that his guns were now used practically throughout the world, but that nothing had been specially mentioned about the United States, likewise what the eminent inventor thought of the comparative fairness displayed and opportunities offered to inventors generally in this and his own country; also,

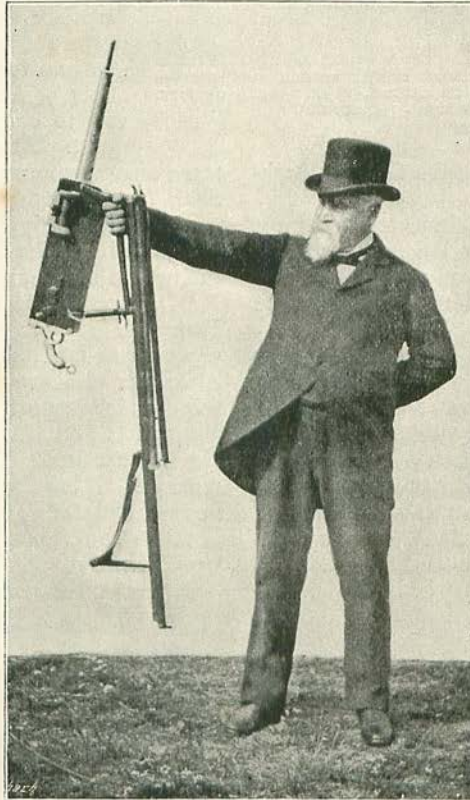
what Government he had found to be the most honourable in recognising inventive genius?

For the moment Mr. Maxim appeared a little perplexed, but speedily he resumed, in measured and thoughtful speech:—

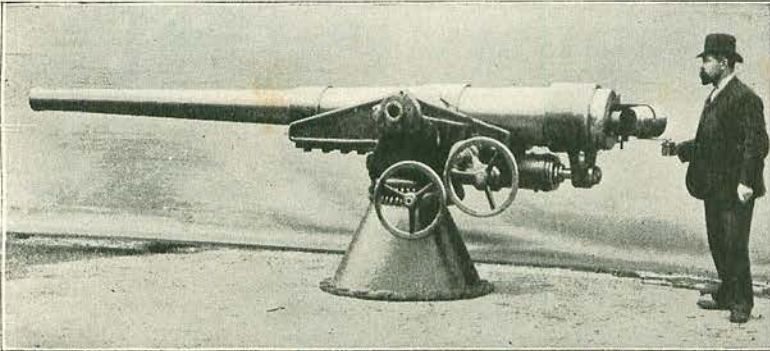
"I have not been treated well in my own country, and I am now of opinion that England offers fairer scope and openings for the inventor than the United States, where opportunities and contracts are not usually given on grounds of merit, but sold for the most advantageous terms. For this reason my gun is not adopted there, whilst my gun-carriage and smokeless powder patents have, I think I may justly say, been misappropriated in America.

As to the recognition of inventors by different Governments, I

think I may fairly state that I have found the French the most just and impartial; then the German, followed, perhaps, closely by the British, but the royalty paid by the last to make my gun is insignificant to that paid us by the first-mentioned Government. However, I consider an inventor has a fairer field here than in the States, and that your patent laws are on the whole better or more just than those across the Atlantic."



A LIGHT MAXIM GUN, MADE FOR THE GERMAN EMPEROR FOR CAVALRY USE. WEIGHT, INCLUDING TRIPOD MOUNTING, 30LB. *From a Photograph.*



A MAXIM-NORDENFELT 45-POUNDER IMPROVED BREECHLOADER, GUN MADE IN ONE PIECE ACCORDING TO MR. MAXIM'S TAMPERING PROCESS. TESTED PRESSURE, $22\frac{1}{2}$ TONS ($4\frac{1}{2}$ TONS IN EXCESS OF REQUIREMENTS); BORE, 4.7 IN.; MUZZLE VELOCITY, 2,260 FT.; PENETRATION, 10 IN. OF ARMOUR; WEIGHT OF PROJECTILE, 45 LB. [From a Photograph.]

"Mr. Maxim," I next inquired, "I understand that you have invented and adopted a new method of manufacturing artillery from one solid piece of metal, instead of building ordnance up of numerous separate metallic coils or rings, according to the accepted practice?"

"Yes! That is so," he replied. "Some years ago, finding that the manufactures of steel had been so much improved, I thought it was then feasible to produce an efficient cannon of average size from one large steel forging, which would thus effect an enormous saving in money and material. Guns so manufactured have been tested up to the exceptional pressure of $22\frac{1}{2}$ tons per square inch, without any damage or yielding. In this manner comparatively cheap serviceable artillery may be made. Perhaps it is not generally known that the big guns in the Navy are rendered useless after firing some 200 rounds, by the eroding action of the gases upon the rifling of the barrels."

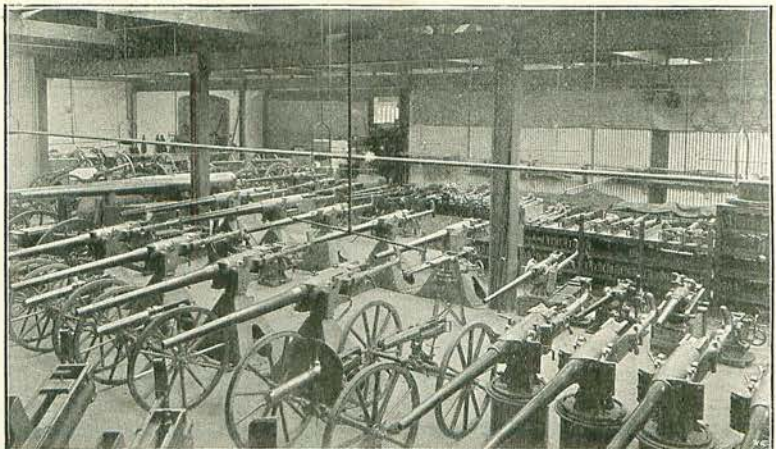
"I presume, Mr. Maxim, that you have been besieged at different times by poor inventors seeking financial assistance?"

"Oh, yes," he cheerfully rejoined, "a legion; and I always endeavour to give an ear and any reasonable help to worthy inventors; but obviously I cannot assist everyone who applies to me; besides, some are

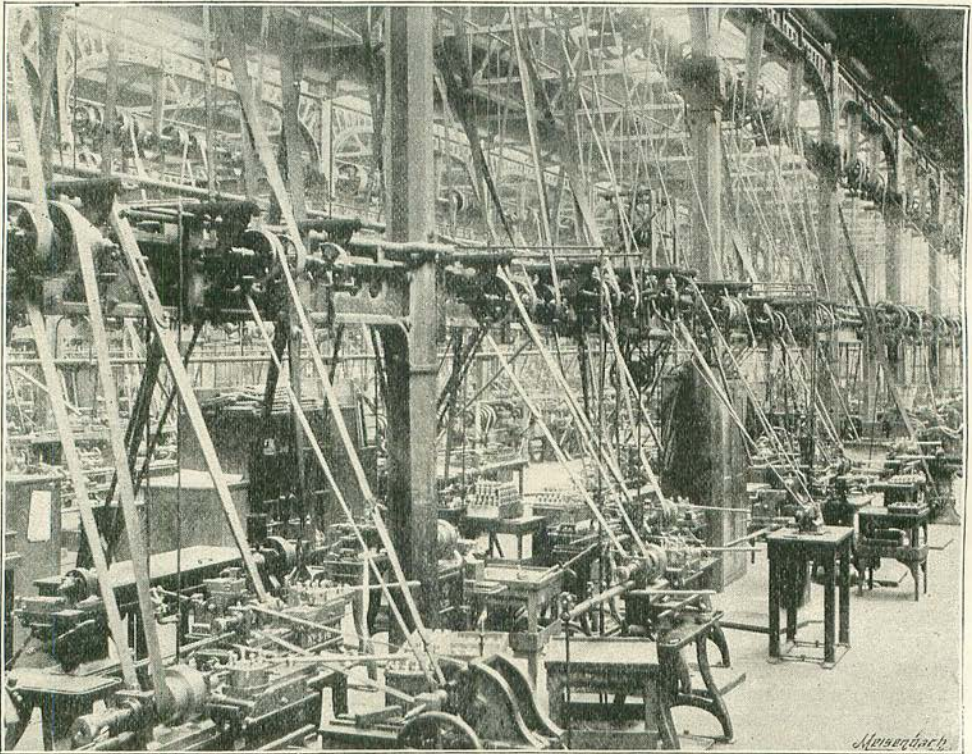
idle schemers, whilst many others are hare-brained 'cranks.' I think," he continued, "the funniest instance of an appeal to me for monetary aid was in the case of a well-known fasting-man, but to whom I felt compelled to remark that many men had come to me for food, but this was the first occasion I had been asked to help a man to starve. I thought that was one of the few things that could be accomplished without money."

At this juncture I asked Mr. Maxim to give me a brief account of his flying machine, and how he thought the prospects of a practical solution of mechanical flight stood at present. To these interrogations the inventor responded in serious parlance:—

"I think too much has been already said and written about this machine, and much nonsense embodied, although I thought it desirable that my achievements in this direction should be recorded, so that if anything happens to prevent me from proceeding with my experiments, someone else may take them up and bring them to a practical issue. I have thought over the problem of flight for many years, although I only first commenced to experiment on the subject in 1889, and I have worked intermittently in



A STORE OF MAXIM-NORDENFELT IMPROVED MACHINE GUNS, ARTILLERY, ETC., AT THE ERITH GUN WORKS. [Photograph.]



From a)

A VIEW OF A SHOP IN THE MAXIM-NORDENFELT GUN WORKS AT ERITH.

[Photograph.]

the matter ever since. I thoroughly believe that before the close of the present century practical flying machines will be an accomplished fact, although I am of opinion that they will be more suitable to war than passenger or freight purposes. One of the chief problems to be solved was to obtain sufficient power for a practical weight of structure; some suggested 30lb. to a horse power. Well, as you know, I have reduced the weight of my motor to 21lb. per h.p., and I have succeeded, for the first time in the history of the world, in raising a machine, weighing over three tons, with a full complement of fuel, water, and navigating assistants, into the air. On the 31st of last July, you may remember that the margin of power developed in favour of flight was about one ton. According to Lord Rayleigh, M.A., F.R.S., the distinguished scientist, I have already solved three out of the five recognised problems involved in mechanical flight, the remaining two being to keep the machine on an even keel and to steer or manœuvre it, which I do not consider insurmountable difficulties. Lord Rayleigh referred to his trip on my machine as 'one of the sensations' of his life—however, you know the feeling of

the experience, as you have had a spin on it yourself."

This recalled to my mind the indescribable sensation of mixed exhilaration and trepidation, on rushing off at a speed of fully forty miles an hour on the bosom of a veritable hurricane of this mechanical bird's own manufacture. Tobogganing or shooting the chutes bear no comparison to the fascinating yet weird impression the run has indelibly left on my memory.

"Well," continued Mr. Maxim, "the wings or aeroplanes of fully 5,000 square feet measure 126ft. across; the engines deliver some 350 h.p. on the huge propellers, which make about 400 revolutions per minute; the steam boiler is composed of a multitude of small tubes, heated by a petroleum gas burner having over 7,000 apertures; the working steam pressure is about 200lb. to the square inch; the machine is disconnected, or let go, when the screws are exerting a thrust of some 1,500lb., then away it bounds, as you will remember, at a speed of about thirty-five to forty miles an hour, lifting or raising the same as it proceeds. The aeroplanes surmounting the machine act after the principle of a kite, and thus lift the entire contrivance from the

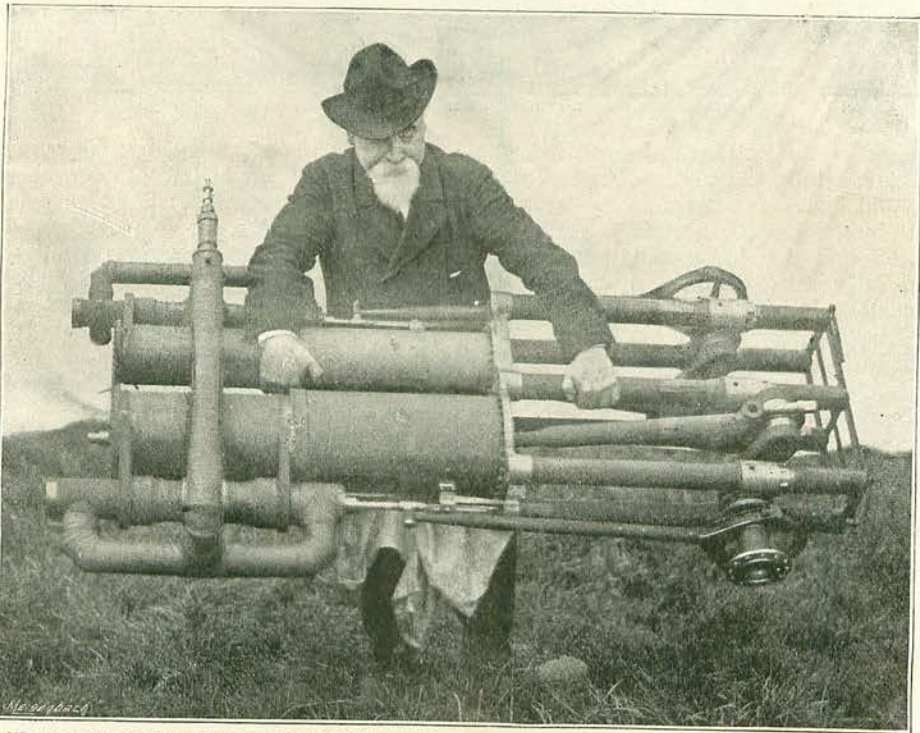
earth. The whole structure, as you are aware, is no model or toy, but a practical machine, capable of developing about as much power as a locomotive weighing some forty tons, whilst the wings or aeroplanes when fully equipped require a space to accommodate them equal to about twice the breadth of the drive on the Thames Embankment. Power for weight, I claim my flying-machine engines to be the most powerful yet devised in the world. I have already spent nearly £20,000 over my experiments on aerial flight."

"Your motor—indeed, the entire structure—appears amazingly light," I parenthetically

limits the ascent of the apparatus breaking away and getting foul of the structure, whereupon I shut off the steam and came to earth somewhat precipitously. The repairs cost me several hundreds of pounds."

Here I again interrupted by asking if the celebrated inventor had not been inundated with ridiculous communications offering to assist him with this highly complex problem which he is studying to solve.

"Oh, dear, yes," replied Mr. Maxim; "I have received hundreds of letters on the subject—amongst them one from a modest gentleman, who stated that he had discovered a method of reversing the law of gravitation,

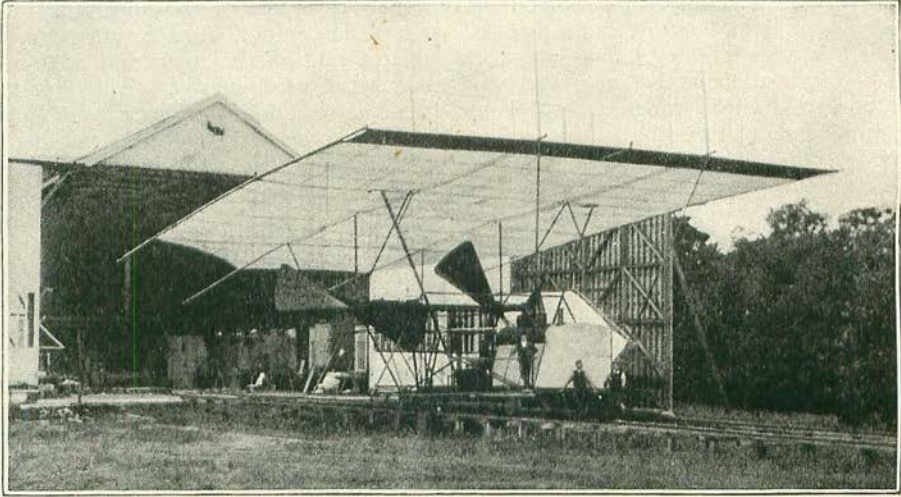


MR. MAXIM HOLDING ONE OF HIS FLYING MACHINE ENGINES: WEIGHT, 300LB.; EFFECTIVE HORSE-POWER, 180. From a WEIGHT AND POWER CONSIDERED, IT IS THE LIGHTEST ENGINE IN THE WORLD. [Photograph.

remarked, "for, according to Professor Thurston, locomotives weigh fully 120lb. to the h.p.; similarly, marine engines from 300 to 600lb. per h.p.; torpedo-boat engines 100lb. per h.p.; whereas the aggregate weight of your whole machine, with water, fuel, and men, is only about 20lb. per h.p. According to the same authority, the weight and power of birds are equivalent to some 20 to 25lb. per h.p."

"The accident which occurred to my machine last July," Mr. Maxim resumed, "was occasioned by part of the track which

so as to make that force pull up instead of down, or, indeed, in any direction—'so there you are!' He was very wroth with me because I ventured to doubt the accuracy of his claim. Others have suggested 'solidified' electricity or 'compound cakes' of energy of miraculous power for a trifling weight; nitro-glycerine, as a trustworthy means of ascent from this world; air pumps nailed to the clouds by which the machine could be sucked up, etc.; and, strange to add, most were willing to disclose their incredible secrets for a moderate sum down. An



From a

THE FLYING MACHINE LEAVING ITS SHELTER AND CONSTRUCTION SHOP.

[Photograph.]

American also recently called upon me who could talk aeronautics and dynamics by the mile, and build flying machines with his mouth by the score, but when I set him to work I found that his mouth was the only organ in working condition about him, so, reluctantly, I had to dispense with his ingenious garrulity, which was on the same liberal basis as the remuneration required."

In reply to the question whether he had not been sought by company-mongers as a director, to embellish the prospectuses of many concerns, Mr. Maxim said:—

"Yes! An innumerable number of times, and even my wife has been approached by some of them, seeking her influence to induce me to go on different boards of direction. But, no! I will not lend my name as a 'guinea pig' to gull the public; besides, I have not sufficient time for my own undertakings and pursuits, without being mixed up in outside affairs."

As I had now trespassed on the illustrious inventor's valuable time to an unusual extent, I concluded the interview by adding: "Mr. Maxim, I recently heard some vague reference made to a desperate encounter you had some time ago with some thieves in France; may I ask you to kindly give me a reliable version of that event?"

"Now, really," he good-humouredly replied, "you are reverting to rather ancient history in my affairs, for that occurrence transpired fully ten years ago, or shortly after I first came to Europe." Referring to his voluminous book of Press cuttings, Mr. Maxim continued:—

"You may read for yourself several ac-

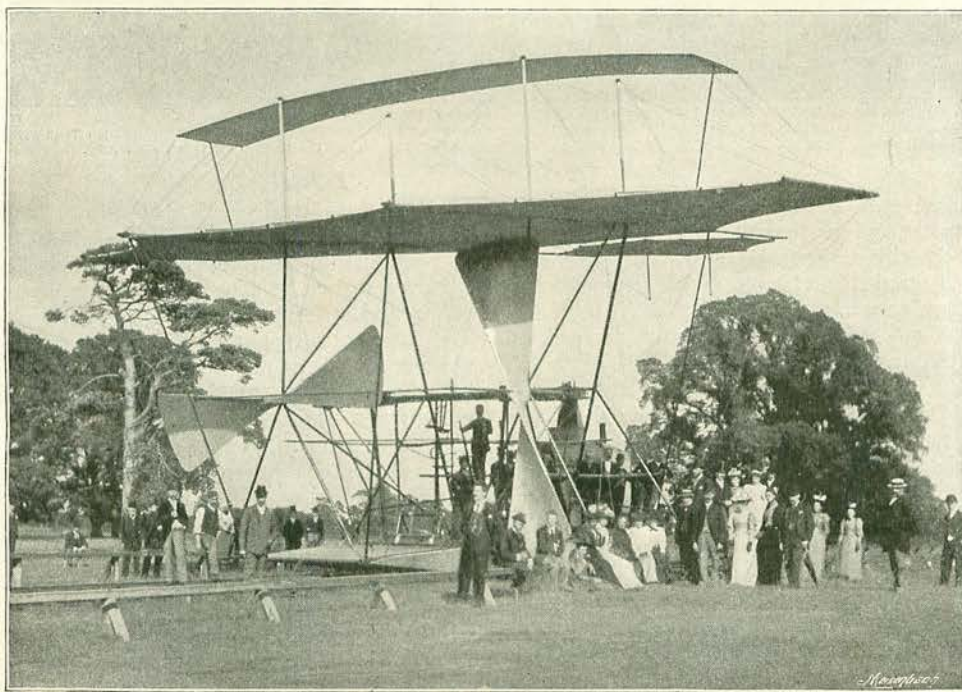
counts of the adventure, but if you wish, I will briefly tell you how it all came about.

"When I first went to Paris," he resumed, "not knowing the people or the language, I naturally sought the companionship and advice of English-speaking people, who I thought knew the city and its customs. I put up at the Grand Hotel, and one of the first persons I got acquainted with was a man of gentlemanly appearance, who styled himself Captain Graystone, of New Orleans. As he spoke something like a Southerner, swore, and chewed tobacco, I thought he was genuine and really hailed from thence. He seemed lavishly supplied with money and faultlessly attired; he showed me a good deal of attention, and would insist on paying liberally for most things when out together. One day I told him I had a letter of credit on a bank in Paris, adding, I presumed I should require someone to identify me. Upon telling him the name of the bank, he said, 'Oh! I know the people there very well; I will introduce you!' On the way to the bank he advised me in the most friendly manner never to carry much money about with me, but to pay practically everything by cheques, which could be afterwards arranged by keeping a deposit account at a small banker's alongside of my hotel. It was nearly closing time when I arrived with him at the bank on which my credit note was made out. I drew 10,000 francs, and then proceeded, after profuse thanks for his assistance, to return to the hotel. It was now too late for me to deposit the money that day in the other bank. On the way, however, he casually suggested that we should have some little

refreshment in a neighbouring café, which we accordingly entered. We sat down—he placing me in a corner behind a table. Soon another man came upon the scene, who appeared to be an Irishman unacquainted with the language. This new-comer shortly afterwards ostensibly introduced himself to us because he heard us speaking English. His fingers were literally covered with diamond rings, all his pockets seemed lined with bank-notes, which he soon ostentatiously displayed, whereupon my supposed fellow-countryman from the South reproached him for his reckless folly in carrying so much money

and whilst the Southerner was engaging my attention by so kindly explaining to me their value, he suddenly snatched them from me, and handed them to the Irishman and the pair then made good their escape, because I found that they had artfully barricaded me in the corner behind the table with several chairs, which I had failed to notice in the heated discussion. The English notes, which they had left on the table, turned out to be of spurious manufacture.

“I afterwards learnt that Captain Graystone was really a notorious thief and decoy named Jack Hamilton, who had formerly been a



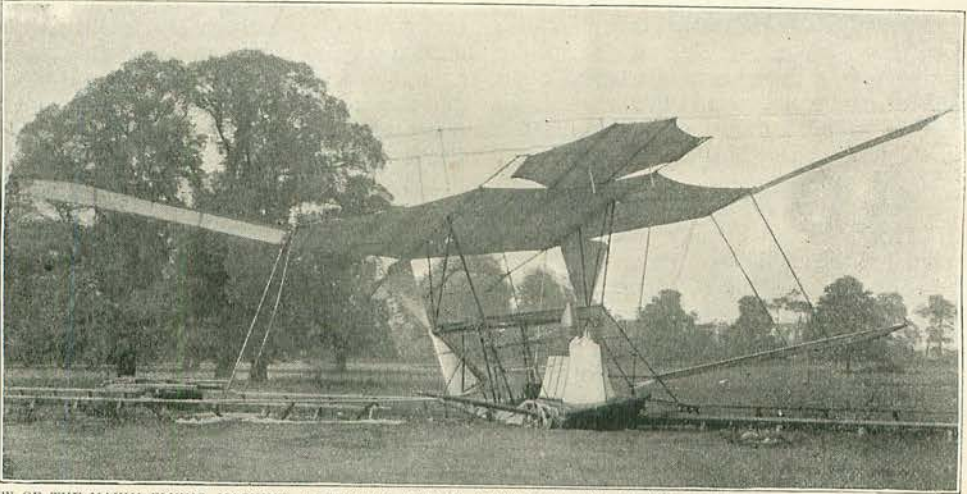
From a

MR. MAXIM GIVING HIS FRIENDS A TRIP ON HIS FLYING MACHINE AT BALDWIN'S PARK.

[Photograph.]

about with him. The assumed Irishman thereupon explained that he had recently come into a fortune, and it was his first day in Paris. Shortly afterwards an animated and ingeniously arranged discussion on the features and merits of international bank-notes was commenced between these highly-respectable gentlemen (?), with occasional cross-references to me for my opinion. Finally, I was induced to show them how beautifully American notes were engraved, whereupon the Irishman produced some, what I thought to be, English notes from every pocket, and dilated upon their merits. Then the conversation turned on French bank-notes, and as I had never examined any before, I was incited to produce the bundle from my breast-pocket,

prize-fighter, and had seconded Heenan in the great international contest with Sayers, and when in England lived at Brixton. His accomplice, the unsophisticated Irishman, was none other than Johnny Palmer, of Peckham, another incorrigible scoundrel. This pair, it appears, had for years, with other confederates, carried on a lucrative business by similarly robbing Americans who came to Paris, in some cases getting as much as £2,000 in each nefarious transaction. I was informed they purely devoted their kind but not appreciable attentions to my countrymen, and did not return to Paris until the old batch of visitors had cleared out. I, however, journeyed to that city too often for those enterprising



VIEW OF THE MAXIM FLYING MACHINE, AFTER ITS FAMOUS ASCENT OR TRIP OF THE 31ST OF JULY, SHOWING THE FULL ARRANGEMENT AND EXTENT OF THE AEROPLANES (LIFTING SURFACES), WHICH MEASURED 126 FT. ACROSS THE WINGS; TOTAL AREA, 4,000 SQ. FT.; ANGLE OF PLANES, 72 DEG. THE STEERING PLANES ARE SHOWN FORE AND AFT.

From a Photograph.

gentlemen," continued Mr. Maxim, with a sarcastic and vindictive expression, whilst his tightly closed lips and sparkling dark eyes proclaimed his characteristic alertness and determination.

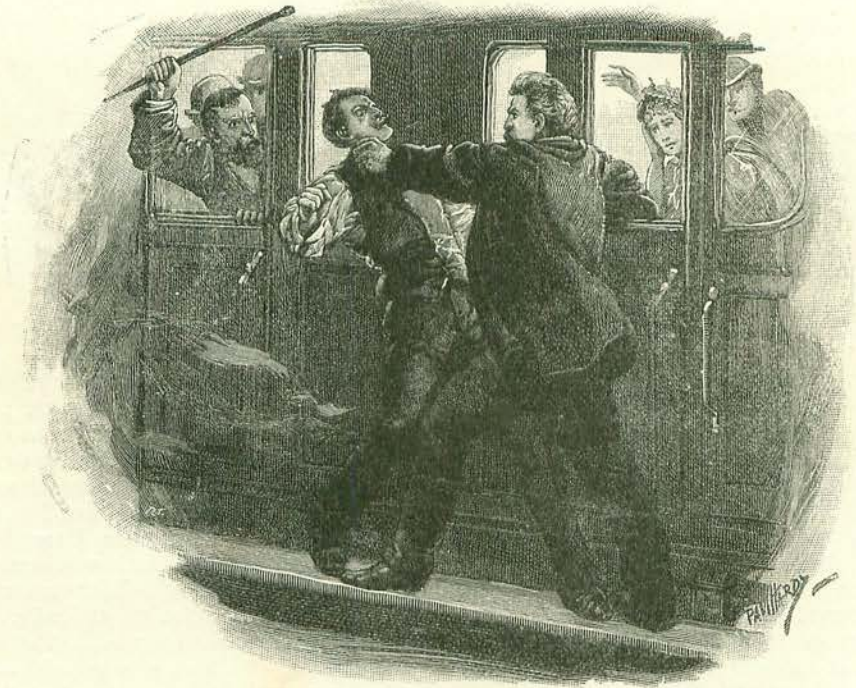
"Yes," he resumed, "I meant to be level some day with those scamps that had fooled me.

"One day, some months afterwards, I saw the two thieves walking along the Strand, and straight away I 'went' for them; one, however, escaped, but I 'buckled' the other and marched him off to a policeman near the Victoria Embankment, who took him in custody. Imagine my disgust the next day, after being charged at Bow Street, that he was dismissed because the robbery did not take place within English jurisdiction, when actually bad notes were found in his possession at the time of arrest!

"Thoroughly disappointed at the incomprehensible workings of the law and extradition saving clauses, I still resolved to capture those scoundrels some day, and bring them to justice.

"About two years after my money had been stolen—yes, it was in December, '83—I was returning from Paris by way of Dieppe and Newhaven, when I alighted at Rouen for some refreshment. It was midnight. There, amongst other passengers at the railway buffet, I beheld five men. My suspicions were aroused. I went close up behind them, and at once recognised the man that had robbed me. The central figure was Johnny Palmer. At last my long-awaited opportunity for a reckoning had come, and

on French soil too. Feeling sure there could be no mistake about his identity—although I had doubts about some of the others—I instantly rushed at him, grabbed him by the collar, and ran him completely away from his associates, who speedily dispersed in various directions. I could not, however, find a policeman on the platform, and the signal was given to start the train; but I held my man with an iron grip, and his violence soon abated. I then told him I was a resolute and powerful man, and that if he struggled again I might wrench his head off. Finding that he had more than his match, he became very quiet and begged me to handle him less roughly; so I slightly released my hold, whereupon he suddenly slipped out of his coat, which he left in my hands, ran like a deer for the departing train then in motion, and succeeded in getting on to the footboard. But I followed him like a cat after a mouse, and collared him again before he could enter the carriage. He tried to kick me off the moving train, but with one hand I held on by the window whilst I grasped him with the other. The train, with us struggling on the footboard, then entered a tunnel, and we were plunged in utter darkness. His four companions in a carriage not far distant endeavoured to reach me from the window, and beat me off the train with sticks. They evidently meant to murder me, but I kept the enemy at bay by holding my prisoner between them and myself—I nearly shook the life out of Johnny Palmer. Passengers now became alive to the desperate encounter



"I NEARLY SHOOK THE LIFE OUT OF JOHNNY PALMER."

proceeding, and screamed from the windows of the train; consequently, an alarm was given to stop its progress. Finally, when the train had stopped, I wrenched my man off the footboard and walked him back along the track, through the tunnel again, to the station, but the other fellows escaped me for the time through the stupidity of the railway officials. At Rouen I handed Mr. Palmer over to some narrow-chested policemen, whom he gave a very warm reception. However, he was ultimately overpowered, handcuffed, and taken to prison; finally, he got sentenced to five years in the New Caledonia Copper Mines.

"Jack Hamilton succeeded in returning to England, but I told you once before how I traced his address through a pretty girl who presided over a toilet soap stall at the Crystal Palace, and had him tracked, watched, and finally sent into penal servitude for a complication of offences. This peculiar business took a long time, much trouble, and money, before I had finished with it, but I ultimately attained my object in view, and that is always the aim of my life. They were a gang of swell thieves and sharpers; they used to dress in immaculate style and move

in the best of society, living on the fat of the land whilst the game lasted—which was fully ten years. From time to time they changed their attire and appearance, by 'making-up,' in a wonderful manner. Sometimes Palmer passed himself off as an Irish lord, whilst Hamilton assumed all sorts of impersonations, from a captain or parson, in appropriate apparel of the most dainty description, to a rough miner with 'Buffalo Bill' hat and red flannel shirt, etc. However, I got pretty well level with them in the finish. They were truly accomplished artists in their profession—but we must now close our conversation for to-day, as I see it is getting late" (Mr. Maxim interposed), "and to tell you all I found out about those ingenious rascals would occupy hours."

Learning that Mr. Maxim's carriage was waiting my pleasure to convey me to the railway station, I now, with thanks for his highly interesting conversation and patience, bade him and Mrs. Maxim a cordial farewell. As the vehicle moved away from the mansion into the peaceful moonlit glades of the park, I heard the genial parting words, "Good-night! Pleased to see you at Baldwin's at any time!"