

the open portal. Standing on the topmost step of the porch, with his acolytes and surpliced choristers around him, the venerable white-haired priest, who has had charge of the parish for close upon 40 years, exclaimed: 'God in His mercy, my dear children, has sent me on this radiant night of the Nativity to bless your cattle and your flocks, because it is only right that the animals which constitute your greatest help and source of prosperity should participate in the joy which fills all our hearts. Now lead your flocks past me.'

The shepherds and cattle herders then began to drive the animals past us, while the rector, dipping the sprinkler into the silver ewer of holy water, showered the latter upon the oxen and the sheep; and amid the clang of the bells around their necks, their lowing and their bawling, as well as the words and cries of their drivers, ever and anon were heard the solemn words of the priest: 'Benedicat vos omnipotens Deus, Pater et Filius et Spiritus Sanctus,' the choristers bringing the blessing to a close with a resounding 'Amen.' As I watched the animals vanishing one after the other into the night, it seemed to me as if I were carried back to the primitive times of the early Christians, and as if our matter-of-fact prosaic and materialistic nineteenth century was not a reality, but only a nightmare.

EDISON'S DAY BOOKS

There is a general belief held by a great number of people that an inventor is a kind of favored mortal to whom Dame Nature willingly imparts her secrets, and all the lucky one has to do is to take out his patents and pocket the royalties without putting himself to any great amount of trouble. Those who hold such beliefs should spend half an hour with the 'Day-Books' of Thomas Alva Edison, when they will probably acknowledge that the volumes are the most wonderful tribute to the marvellous and indefatigable energy of the great inventor that could possibly be produced.

These books are many in number, folio size, and were first started by Edison when he was a mere boy nearly forty years ago. Like the conscientious diarist, Mr. Edison has never failed to keep them up-to-date, and to-day they stand as a monument to the most industrious life on record. They are, in fact, the most marvellous set of books in the world, and a single glance at them cannot but increase one's admiration for the man who is recognised as

The Greatest Inventor

of this or any other age. These 'Day-Books' contain the daily records of 'notions' which have come to Mr. Edison at odd moments, as well as the results of the experiments carried out in connection with them. As soon as Mr. Edison had an 'idea,' no matter how trivial, that 'idea' was at once transferred to the pages of the 'Day-Books,' to be afterwards thoroughly 'worked,' in order that its true value might be fully tested.

In these 'Day-Books' there are sketches of machinery drawn by him in pen and ink, accounts of every experiment made, and records of the very smallest inventive thoughts which at one time or another have flashed through his brain. Together with all this there are his own criticisms on every discovery made by him during the last forty years or more—all written in that exquisite penmanship which attracted the attention of the 'boss' when, as a boy, he was telegraph operator with the Gold and Stock and Western Union companies in New York.

Each page of every 'Day-Book' is dated, and the date attested by three witnesses. These witnesses—generally those men who have been working with him at the time—have also placed their initials at the foot of every paragraph of importance and also across the numerous sketches of the various machines which illustrate the books.

The object of having all these witnesses was that when a possible lawsuit arose—and in the early days they cropped up like mushrooms—these books might be produced as evidence against the infringers of his patents. In this way they have repaid Mr. Edison many times for all the labor he has expended upon them, and have probably saved him thousands of pounds by quickly bringing to a close suits which otherwise might have dragged out for weeks and months.

In These Remarkable Books

you will see column after column of entries, neatly ticked off, and having the initials N.G. placed before each. These letters stand for 'No good' and indicate

that the ideas have been thoroughly tried, but 'found wanting.' Some people would look upon these 'No good' entries as waste of time, but not so Mr. Edison, who declared to the writer a little time ago that he had learned more through his apparent failures than he had ever done through his greatest successes. Then there are long lists of different substances which he has experimented with in perfecting his numerous inventions, and by the side of many of these may also be seen the ominous letters N.G.

In one volume of these interesting 'Day-Books' is a long list of the materials which Edison tried when attempting to make a perfect carbon button for the telephone. The story is told in detail, and shows how months of failure may ultimately be crowned with splendid success. It was after thirteen months of daily experimenting that a happy incident revealed to the inventor the exact material he was looking for in connection with his now famous 'carbon button' for the telephone.

One night, after a long day of successful experimenting, Edison strolled into his office and found on the table a kerosene lamp which was smoking away and blackening the inside of the chimney. Instead of turning down the burner, as ninety-nine men out of ninety-nine would have done, Edison sat down and watched the smoking lamp, still thinking of his carbon button. As he watched, he wondered

Whether Kerosene Soot

was not the very thing he was looking for. As soon as the idea occurred to him he jumped up, lowered the burner, removed the chimney with the aid of his pocket-handkerchief, slipped it into one of his capacious pockets, and went home to experiment. As soon as he reached his room he carefully withdrew the chimney from his pocket, and began to gently scrape away the soot, beginning from the bottom. In the 'Day-Book' there is a record regarding the quality of the soot thus obtained from the lower part of the glass with the initials V.E.—'Very Encouraging'—appended. Having stopped scraping in order to make this entry Mr. Edison then began to remove the soot higher up, and the more he advanced in the same direction the better became the quality of the soot, until at the very top Edison obtained what he had hunted for over thirteen months—a material which he knew would enable him to make a perfect carbon button. At the end of this record in the 'Day-Book' appears the one word, 'Eureka.'

The record of Mr. Edison's search for a material which would make a satisfactory carbon horseshoe for the incandescent lamp covers many pages. The 'Day-Book' shows an account of every experiment made during his search for a proper substance, and in addition and attached to the pages are small bits of every material which he tried.

Among these materials are various kinds of rags and textiles steeped in chemical solutions, various sorts of papers, innumerable species of woods, different specimens of barks—outer and inner, and taken from the trees when the sap rises and when it descends—grapes, and Indian corn stalks prepared in many different ways. When Mr. Edison thought of cornstalks he was getting pretty warm in his solution of the difficulty, and so it is not surprising to find beside this material the initials V.E. once more. But it was not quite the thing he was looking for, though he was on the right track, and he knew

Nature Was Loosing Her Hold On The Secret.

After several experiments with cornstalks he remembered that bamboo belonged to the same family, and as he possessed a very fine Manila bamboo cane which had been presented to him, and which he valued highly, he determined to sacrifice it to the cause of science. He therefore broke the cane and tried the material of which it was made for his incandescent lamp, and it was sufficiently successful to warrant his placing the initials V.G. against Manila bamboo.

But Edison was not satisfied, and never has been, with 'Very Good,' and after a long consideration he placed in the hands of one of his young assistants (mentioned in these 'Day-Books' as 'Tom') the sum of 25,000dols., and ordered him off to China for the purpose of obtaining specimens of Chinese bamboo—the kind which the natives carve; for he argues that it must be of an even, homogeneous grain to lend itself to the sculptor's knife, and homogeneity in perfection was what he must obtain if his electric light was to be a success. 'Tom' went, secured the bamboo desired, and so at last Edison obtained that ideal carbon for which he had searched many years.