

tank, and incurred a ground-rent, and now, they were required at a great expense to dig up all this and alter it. As this was so, he required a succinct history of the case—the failure of the pipes, and the reason of the failure.—It was accordingly ordered that this should be prepared.

We have had a shower of letters on the subject, including statement respecting Croydon and Rugby, and must find an opportunity to look at the whole together.

#### AERIAL NAVIGATION.

##### FLYING MACHINERY AND AIR ENGINEERING.

THE first partially successful attempts have now been made to obtain such dominion over the air as man has long exercised in shipping over the ocean; and although still in a very rudimentary state, there is every prospect of a complete accomplishment of this grand desideratum, of which we have always been sanguine; more especially so soon as the steam or other engine could be made practically available.

At the Parisian Hippodrome, according to *Galignani*, an experiment in aerial navigation recently took place. The aerostatic machine, which was to ascend on this occasion, is the invention of M. Giffard: it is an oblong cylinder, somewhat in the form of a fish, of about 120 feet in length, and about 20 feet in diameter at its thickest part, and gradually tapering off at both ends. The directing apparatus is a very small and, it is said, beautifully-finished steam-engine, setting in motion a propeller, resembling in form the screw used in steam-vessels: this is suspended at about 20 feet beneath the balloon, from a long boom, which is attached to it, and which supports, at its extremity, a triangular sail. The preliminary preparations having been completed, the machine rose and went rapidly before the wind. Suddenly, by the action of the apparatus, its course appeared to receive a check, and it slowly veered round, thus proving some command of the aeronaut over his aerial vessel. It then, however, steadily and gradually proceeded in the direction of the wind, until lost in the distance.

A first step in the science of practical aeromotion, however, has thus been made; and had the propeller, which seems to have been a very inefficient instrument, been better adapted to its new uses, doubtless something more than mere turning might have been in this case effected. But, in truth, this propeller seems to have been nothing more than a mere steering apparatus, and the engine may be said to have had no proper apparatus at all through which to exert its force in such an element as the air.

A somewhat better and more hopeful idea, so far as regards screw propelling, appears to have been entertained in the design of a flying ship now on the stocks at Hoboken, near New York. In this case the floats or oblong cylinders containing the gas appear to be converted into sort of screw propellers themselves, and are intended to revolve by means of straps, communicating to them the power of a steam-engine suspended from them below, along with the car which is 64 feet in length, very sharp at either end; width, 6 feet; height, 6 feet 4 inches; the whole composed of a strong light wooden frame, covered with canvas, with doors and glass windows. The boilers are of copper, on the tubular plan, and occupy a space equal to 4 cubic feet. The engines are said to be very perfect, being composed of gun metal and cast steel: they are of twelve-horse power, and are to work 20 inches stroke sixty times per minute, and will give 400 revolutions of the floats, which are placed on a substantial framework on the top of the car. There is sufficient room for twenty-five passengers, with fuel for four hours. The float is 260 feet in length, of a cigar-like shape, 24 feet diameter in the centre, and has a gas capacity equal to 93,000 cubic feet, which gives a lifting power equal to 6,500 lbs. The entire weight of the car, floats, and fixture, is about 4,000 lbs. leaving 2,500 lbs. surplus. It is designed to run about 200 feet above the surface of the

earth, at a rate of speed varying from 25 to 50 miles per hour. The engines are a curiosity, their weight being 181 lbs. They are to be worked with coke and spirits of wine. The inventor of this machine is a Mr. Robjohn. He has expended 5,000 dollars already on his project, and has thus entirely exhausted his means, and awaits the help of some sanguine capitalist to enable him to wing his way to California or elsewhere.

A still farther and more decided step in advance than that already made at the Hippodrome, Paris, has quite recently, it seems, been made on the French frontier, at Luchon, by an aeronaut named Molés, who is said to have actually travelled five to six miles in a definite direction and back within half an hour to the spot whence he set out, besides wheeling in the air, and making a tour round the basin of Luchon and adjoining villages. In this case no engine was used, but if the report of M. Molés's success be true, his apparatus ought to be regarded as, in some sense, a model, by means of which to remedy the defects of M. Giffard's machine.

The apparatus of M. Molés is thus described in the *Paris Constitutionnel*:—"It consisted of a balloon of an ovoid shape, inflated with hydrogen gas, of merely sufficient size to support his weight, and that of the articles he had with him, and at the same time to have an ascensional power. To the net-work of the balloon was suspended a small table, on which Molés lay on his belly, his back being also secured to the net-work. To each of his legs between the knee and the instep was attached a kind of umbrella, acting freely on its sticks, and the opening of the silk of which was turned outwards. In each hand was a sort of hand-screen of silk, opening with hinges, and expanding or contracting at will. A rope from the valve of the balloon was placed round his neck, and round his body was a belt containing sand, and about six or seven pounds of shot as ballast. When the signal for letting go was made, the balloon rose gently to a height of about 200 yards. The aeronaut then began to make use of his means of impulsion. His legs were alternately crossed, and then put out at full length, the first motion closing, the second opening the umbrella, giving a *point d'appui* upon a large surface of compressed air, and causing the balloon to advance, whilst the arms were moving in the same direction. The atmosphere being at this time calm, the aeronaut found no difficulty in directing himself in a straight line on the axis of the valley towards the north, and the speed appeared to increase progressively as the apparatus worked better.

Returning to his starting-point, he came to the ground slowly in the same meadow from whence he had risen. It is more easy to conceive than express the enthusiasm and excitement of the crowd of persons who had assembled. The aeronaut was conducted in triumph to his residence, and he has announced a second ascent for Sunday next. It is to be hoped that there will be then a little wind, in order to ascertain whether that will not prove an insurmountable obstacle. Antonio Molés has assured us that he has the means of overcoming any difficulty of that sort, as readily as the best vessel on the ocean."

We hope we shall hear no more of such absurd exhibitions as those of late imported from Paris. The only good they have latterly done, perhaps, is to familiarise the mind with the idea of a quarter to a half hundred people being transported through the air in one machine. The American one, which is to carry twenty-five passengers, is thus far no novelty. As for the manœuvres of acrobats and such like exhibitions, they are still worse than the suspension of mere cows and horses, and in the same rank must be placed a recent project for ascent while merely holding on by the keeper of a magnet hung below the car.

MR. JAS. FILLANS, SCULPTOR.—We are sorry to have to announce the death of this able sculptor. We have a strong recollection of a noble head of Professor Wilson executed by him.

#### IMPROVED DWELLING-HOUSES FOR THE WORKING CLASSES AT NOTTINGHAM.

ABOUT two acres of building ground have been purchased at Nottingham by an association formed some time since for the improvement of dwellings for the working classes, and building operations are to be immediately commenced. Tenants are already appearing before a single stone has been laid. The dwellings at present inhabited by the working classes in Nottingham are much overcrowded, and exceedingly defective in every respect, while the rents are high, and the poor people are often even obliged to pay bonuses for the privilege of entry. The *Nottingham Guardian* thus speaks of the plans on which the new dwellings are to be erected:—"The first step taken was to advertise for plans for two descriptions of houses—one kind to cost 130*l.* in the erection, and the other 100*l.* Two prizes—one of 20*l.* and the other of 10*l.*—were offered for the best designs. Seventeen sets of plans were sent in. At length it was resolved to award the first prize to Messrs. C. C. and A. Dennet, and the second to Mr. J. S. Norris. The first set of cottages designed by the Messrs. Dennet—those costing 130*l.*—are two stories in height. Each contains four bed-rooms, one parlour, a kitchen and pantry, a scullery, and a place for fuel, while behind there is a separate yard, with privy and other conveniences. The exterior is proposed to be executed in stucco with cement dressing. The rooms are large and airy: provision is made for a regular and copious supply of hot and soft water: the ventilating arrangements are excellent, as are also those for washing and other domestic operations. The ground plan of the 100*l.* houses is precisely the same as that of the others, the only difference being that the rooms will be a little smaller: in other respects the plans are identical, down to the minutest detail. Upon the ground floor of the more costly houses, in Mr. Norris's designs, there are an entrance lobby, a parlour, a kitchen, a pantry and place for fuel, with an enclosed yard at the back. The chamber story consists of four bed-rooms. As the houses are proposed to be set back from the street, there is thus allowed a small garden each, of about 10 feet in width, enclosed in an iron palisade. Each kitchen is provided with a copper and sink stone, with water tap over, and also with a moderate-sized range. Much care has been bestowed with respect to ventilation. The plan of the 100*l.* houses differs from the above only in the diminished size of the kitchens, and in each dwelling having only three instead of four bed-rooms."

#### OUR ESTATE AGENTS OF 1852.

MANY of your readers imagine the days of the George Robins style of advertising house property are gone for ever, but an occasional perusal proves that there yet remain a few who endeavour to tread worthily in the footsteps of their great departed leader. The *Times* a few days since contained some choice tit bits that ought to be remembered and cherished by your readers as quotations that cannot fail to be useful to them when obliged to resort to "puff." The following are all from a "West-end agency office, whose aim is by advice and system, and confuz of intelligence, to accomplish the utmost wishes of his applicants," and therefore are "the special newspaper announcements subjoined": "First, "A semi-suburban semi-provincial residence, hireable . . . near the incomparable resort that five-arched stone bridge spanning yonder wide, refreshing river, meandering with majestic course through a fertile happy valley till lost in woodland rural scenery. . . . The enjoyable home contains . . . and a category of erections . . . garden almost overpowering with brilliancy and fragrance . . . lawn of beautiful herbage . . . kitchen garden burdened with fruitage, and cumbrous in vegetative productions!" Second, "A gentleman's cottage . . . with a cow in full milk." Third, "A small country seat . . . situate on the rise of a picturesque hill . . . with luxuriant orchards, rich