

LIGHT THROUGH THE ALPS.

A despatch from Susa says the Alps were pierced through on Monday, and the workmen from both ends of the Mont Cenis Tunnel joined in congratulations upon the completion of the great work. The work on the great tunnel, which had been talked of for over a quarter of a century, was actually begun in 1857, on the Italian side, at Balnonneche. A little later, operations were begun on the French side, at Fourneux. The tunnel passes under the three peaks called Col. Ferjus, Mont Grand Vallon, and the Col. de la Roue, the first being on the French, the third on the Italian slope and the second almost equi-distant between the two. Mont Cenis, from which it takes its name is 17 or 18 miles from the French entrance and more than 20 from the Italian entrance, but it probably enjoys the honor of the tunnel's baptism from the fact that it is much better known than any of the summit ranges in the neighborhood.

The work on the Italian side was continued for four years, when about 1000 yards having been completed, the perforating machines were brought into requisition. The ordinary motive power steam, could not be employed in operating these machines, as steam needs fire for its generation, and fire needs air for its support. After long deliberation and countless experiments, compressed air was employed. The machine was composed of 17 or 18 iron tubes, in which, by a vibrating motion caused by the raise and fall of water, and regulated by pistons in the tubes, the air is compressed to one sixth its natural bulk. This when released exercises an expansive force equal to that of six atmospheres. As the piston ascends it forces the water up, compressing the air and driving it into a reservoir, as it descends a valve is opened near the top, through which the air rushes into the vacuum, and is in turn compressed and forced into the reservoir. From the reservoir a large iron pipe conveys the compressed air into the tunnel. Ten of these perforators were kept constantly at work the drills working by the compressed air were kept constantly boring the rock at the rate of nine feet a day. The perforators were not introduced into the tunnel at Fourneux on the French side, until 1863, two years after they had been in use on the Italian side. The entrance to the tunnel is twenty-five feet wide and as many in height. During the progress of the work, a double railway track ran into the tunnel carrying the implements and the stone for the mason work, and bringing out the fragments of broken and blasted rocks. A temporary wooden partition divided the tunnel into two equal galleries, above and below; the rarified air from the lower gallery rising and passing out through the upper, and fresh air coming into the lower to supply its place.

For some time after the work was begun, visitors were admitted at all times, but as the work progressed, stricter rules were adopted, and permission was given to inspect the work only on two fixed days of the month. The visitor is taken in charge by the director of the workmen, who gives him a long india rubber coat and a lighted lamp attached to half a yard of wire, and with these they set out on their journey.

After going some distance the patch of daylight furnished by the entrance is lost sight of, and the darkness seems tangible. A head through the blackness glimmer a number of lights, and the rumbling sound of the waggons carrying out the debris is heard. Then comes a dull, heavy rumble, echoing and re-echoing through the gallery,

and seeming to shake the mountain from base to summit. It is the sound of an explosion. One follows another in rapid succession, and, after seven or eight, the wooden doors which are closed just before the blast, are thrown open, and clouds of yellow smoke come pouring through the tunnel in such density and volume as to be positively painful. At the time of the completion of the tunnel the workmen from the Italian side had bored four and a half miles into the mountain, and those from the French side about three miles, the whole distance being seven and four-fifths miles.

Four miles from the outer world, and with more than a mile of Alps towering above their heads, the visitors find the men and machines at work. The drills make two hundred revolutions a minute, and scatter innumerable sparks of fire from the rock. After about ninety holes, three feet in depth and two or three inches in diameter, are bored, they are charged with powder and tamped, when—the minor—withdrawing behind the wooden doors the slow match is ignited, and the explosion takes place. So the labor was continued without interruption, day and night, week after week, including Sundays, month after month, year after year. The workmen were divided into three reliefs, eight hours being given to labor and sixteen to rest. The common laborers received only three francs a day, and the skilled but five francs.

Of course, in such a work innumerable accidents must happen. It has been told that more than 1000 workmen have lost their lives up to 1870; but the guides and directors declare that not more than fifty or sixty had been killed outright, though a number of others had been seriously wounded. Most of the accidents have occurred on the railway, from the falling of rocks and from premature explosions. One premature explosion killed five men and wounded nine others, three of them fatally; and one rock falling, crushed three men to death. It is not improbable, therefore, that during the twelve years in which the work has been going on at least 1000 men have lost their lives.

The cost of the tunnel has been about 170,000,000 francs.

BENJAMIN DISRAELI.

THE FIRST APPEARANCE OF THE FAMILY IN ENGLAND.

About the middle of the last century, when George II. was king, a little swarthy Italian, Jew in religion, and by trade a merchant, set foot on the shore of England to deal with the natives. The emigrant's name was Beniamino d'Israeli, that is, Benjamin of Israel—name selected by one of his ancestors, when driven from Spain to Italy, in lieu of a less distinguished cognomen in the Gothic style. Coming not without a few pounds in his pocket, Beniamino settled down in the capital to speculate in scrip and lend out money at a good percentage; and manœuvring with the wonted skill of the people of his race, his small capital rose up into a considerable fortune before the world and he had grown a score of years older. Contented Beniamino then gave up all idea of returning to the bosom of the Israel family, but resolved instead to become a British citizen. He swore allegiance to George II., and built himself a house at Enfield, on the borders of Middlesex; and took unto himself a wife, and begat a son whom he called Isaac. It was Beniamin's intention that his son should follow him in his business; but Isaac, coming of

age, showed literary ambition, and to the horror of his parents bloomed up finally and irrevocably as a maker of books, both in rhyme and prose. All through the course of a long life, before and after the death of his father, Isaac set to with indefatigable industry, in his chosen task, employing not only his pen, but his scissors, and turning out, in quick succession, volumes counted by the dozen with his name on the title page. So much was he absorbed in this pursuit as even to shun the society of the fairer half of humanity, and it was not till past the age of 40 that he fell in love with a Jewish maiden, and made her the partner of his home in the paternal cottage at Enfield. Isaac d'Israeli, or, as he had begun to spell his name, Disraeli, was honestly attached to the religion of his fathers; but his wife did not consider it quite genteel to be called a Jewess, and when they had been a dozen years married she succeeded in inducing him to go over with her to the Christian pale. Previous to this event several children had come to be born in the Enfield cottage, the eldest of whom, a boy, was called Benjamin after his grandfather. It was on the last day of the year 1805 that he saw the light of Middlesex, this little Benjamin, destined to become Prime Minister of Great Britain, leader of the ancient Tory party, and one of the most extraordinary statesmen of the present generation, if not of all ages.

The London Times correspondent at the seat of war says: "The Prussians have neither shrapnel nor time fuses. After this war they will adopt both. Their common shells with percussion fuses answer very well as long as the range is moderate, the ground hard and nearly level, but they do not burst at all when the range is long and the ground much broken. Soft soil is especially destructive to their action; either in it, or in banks of earth, or against a hillside they penetrate like a shot and burst, if they burst at all, without doing the slightest damage. To arrive at the true value of the mitrailleuse it is necessary to leave the charmed circle of headquarters and ask questions among the men who have to face it. It is also necessary to take into consideration its bad service by the French gunners, who are too hot and thoughtless to make perfect artillerymen. But there is a mass of evidence to prove that the Germans would rather face a large number of infantry than half-a-dozen mitrailleuses. They try to disguise their feelings under the appearance of jocularity, as when they say 'If we are to be killed it matters little whether we are killed very much or not.' But I find among the fighting men, a general agreement that the mitrailleuse especially when behind a little cover is very dangerous. A bold dash against infantry causes the chasseur to be fired at random, or even in the air. The mitrailleuse once laid, shoots steadily for it has no nerves. I was told by a general that, the Germans will certainly adopt the new weapon in some form or another after the war, for positions in the field, and I observe that there is more triumph over one mitrailleuse taken from the enemy than over many guns. The instrument is capable of much development, and it should not be mounted on such heavy carriages as those of the French."

It is stated as a fact that not less than 25,000 persons in Hartford do not habitually attend any place of worship in that city, either Roman Catholic, Jewish or Protestant.