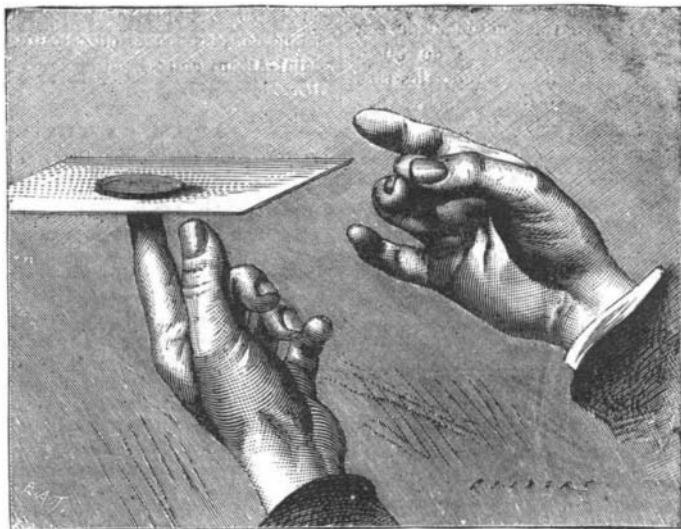


that we must acknowledge the cardinal point of Monseigneur Rougerie's theory, that the rotation of the earth is the principal cause of our atmospheric currents, and not the heat rays of the sun. We need hardly mention that Monseigneur Rougerie fully grants the great importance of relief, character of the surface, and other local factors, and especially also of the sun rays, but only in the second place. Whether the sun is thus to be partially relieved of one of his many onerous duties or not, further investigation will probably disclose. At any rate, the subject is a most interesting one.--*Engineering.*

THE PRINCIPLE OF INERTIA.

In treatises upon physics and mechanics, inertia is defined as that property of matter which prevents it from putting itself in motion when it is at rest, or from bringing itself to a state of rest when it is in motion. As we have before stated, it is by virtue of the principle of inertia that dust is expelled from our clothes when they are beaten, every particle of it tending to a state of rest. Although we have cited numerous experiments on the principle of inertia, we shall mention another one, which has been pointed out to us by Mr. H. Gilly, licentiate of sciences.

Upon the forefinger of your left hand, held vertically, lay a visiting card, and upon this place a silver dollar and try to remove the card without touching the coin. In order to do this, give the card a smart fillip with the fingers of the right hand and it will fly to a distance, leaving the coin balanced upon the forefinger. Care must be taken to give the fillip in an exactly horizontal direction, and in the plane of the card, as shown in the accompanying figure.—*La Nature.*



EXPERIMENT ON THE PRINCIPLE OF INERTIA.

EARTHQUAKE ON THE RIVIERA.

On Wednesday, February 23, early in the morning, the shores of the Mediterranean and the Gulf of Genoa, including both the French and the Italian coast, from Cannes to Spezia, were visited by a terrible earthquake, which destroyed some hundreds of lives. Its worst effects were felt along the Italian Riviera, west of Genoa, but especially between Oneglia and Savona, the central part of that coast, round the headland of Cape delle Melle, and in the small towns or villages of Diano Marina, Bajardo, and Bussano. The fashionable health resorts of English and foreign families within the French frontier, particularly Nice and Mentone, have suffered considerably; while Cannes, Monte Carlo, and the Italian seaside town of Bordighera, eleven miles from Mentone, as well as San Remo, were more fortunate. Inland, both through Piedmont and in the south of France, and to the east of the Gulf of Genoa, the shocks were felt nearly a hundred and fifty miles from the sea, affecting Lyons, Turin, Lombardy, and Tuscany; but the destruction of buildings and loss of life took place chiefly on the Genoese western shore. None of the English residents or visitors has been killed.

The first shock, or series of five quick shakings, was perceived, at Nice, two minutes after six o'clock in the morning; the second was about eighteen minutes afterward, and the third at twenty-five minutes to nine o'clock; but the two latter shocks were slight. People ran shrieking from many of the houses at the second shock, which brought down some buildings already shaken by the first; and in a few minutes every open space in the town, the Jardin Public, the Place Massena, Place de la Liberte, and other places were full of an excited, frightened mob of women and children.

The number of houses at Nice which were so much injured as to render it dangerous to enter them is about sixty. The inhabitants of almost all the top floors abandoned their homes. In addition to people living in tents, numerous families took up their quarters in coaches, covered vans, and carts of all descriptions. The bathing cabins along the sea shore were let out as living rooms. On the Promenade des Anglais the stands raised for the Carnival were used for people to sleep in. The directors of the Casino had thrown open that establishment as a shelter for the frightened people. The fear of more shocks of earthquake was so great that about 10,000 people, foreigners and inhabitants, left Nice on Wednesday. The greater number of

people who had not fled took refuge on the heights of Cimies, where there were about 2,000 Americans, English, and Russians living under canvas. After the first shock, the Count and Countess d'Eu and the Duc de Nemours, who inhabit the villas des Caroubiers and Graziella, took refuge in their gardens, camping in the open air. On the other hand, the King and Queen of Wurtemberg had not left their house. The military authorities had pitched a large number of tents on the public places and squares, in order to provide shelter for the women and children; at night the soldiers patrolled the streets.

The steeple of the German church in the Rue Augsburg was thrown down. At the Church of St. Etienne, the spire and bell were shaken from their position, and fell through the roof into the church. The most serious accident, however, was at the Ecole Maternelle in St. Etienne. The house was completely shaken down, and the schoolmistress, Madame Cheylon, was buried

experienced; and I expected every moment to find the house falling with us. We dragged our little boy out of his bed, fortunately untouched by the falling rubbish, and rushed for the stairs just as we were, for there seemed no time to spare, if we wished to get down alive. Having got the child down in safety, we returned to aid our friends, and found a gentleman and his little girl were both buried under the debris, in rooms close to ours. With frantic exertions, they were both recovered; the father much hurt, but the child, most providentially, quite uninjured. She was completely covered, not merely by loose rubbish, but by masses of stonework so heavy that the ladies who were trying to rescue her had not strength to move it. I helped them with all my might, and we were fortunate enough to get at the right spot to find her, and to get her out before she had suffered from want of air. While we were doing so, another severe shock came, but, fortunately, not enough to add much more to the ruin, and, in a short time, all were out of doors.

"During the day and night there were frequent shocks, but, as a rule, diminishing in force. I noticed that a wave of disturbance came on about every three hours; but there were other shocks as well. Hardly any one on the west side of Mentone slept in a house that night. We lay on mattresses under the orange trees in the garden of the Hotel de Venise, close by; some under an improvised tent. Though but little mention has been made of Mentone, I believe it has suffered more than any other place on this part of the coast. I have, since the occurrence, passed in daylight along all the Riviera from there to Marseilles, spending some hours at Nice; and nowhere is there a twentieth part of the damage visible. Mentone, in fact, has much the appearance of having undergone a bombardment. It is sad, indeed, to see this lovely place reduced to such a state. The accompanying rough sketches were taken hurriedly in a pocket-book, but may be of interest."

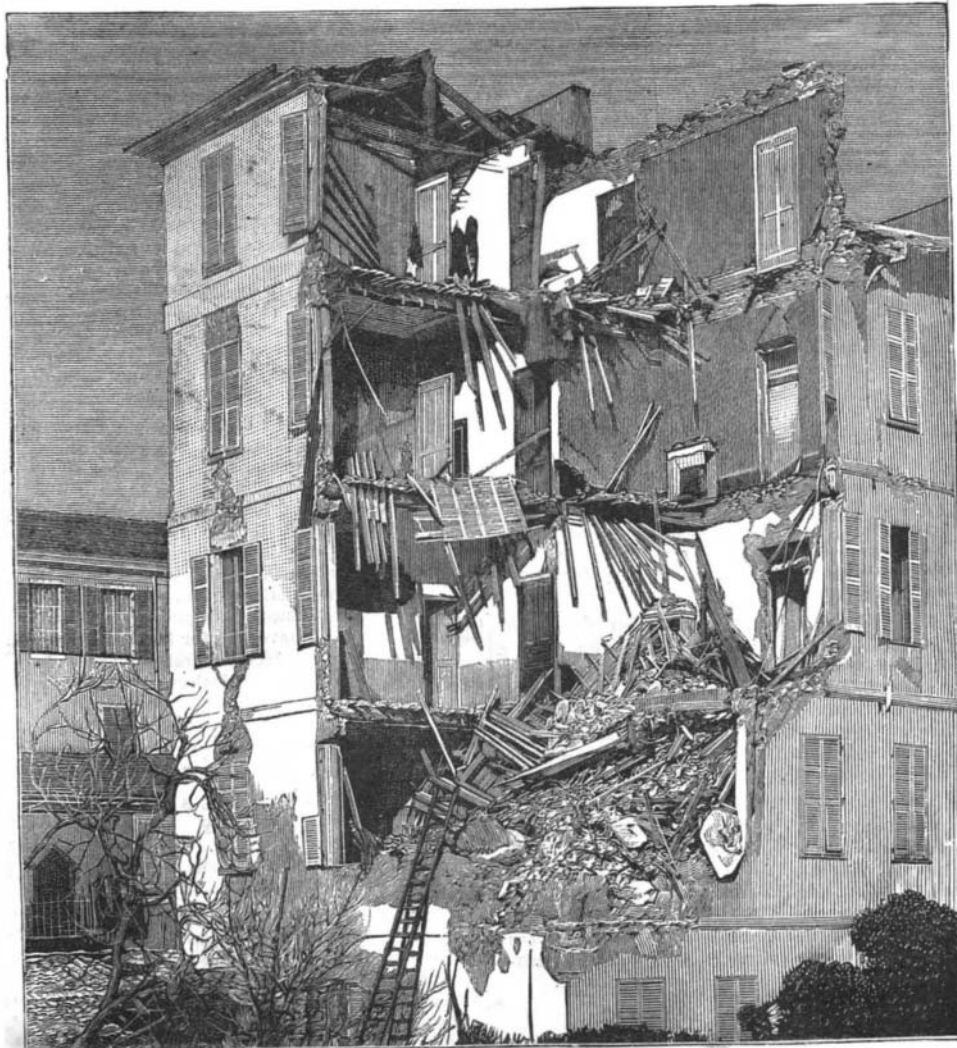
in the ruins. She was quite dead when, by the efforts of the sapeurs pompiers, the body was recovered.

Cannes escaped almost without any serious damage to property or accidents to persons. At Cannes and at Antibes, when the second shock of earthquake occurred, the level of the sea sank over three feet, and then rose about six feet, before resuming its ordinary level.

At Mentone, the head Post Office and the villas Cipollino and Molinari are in ruins. The earthquake at Mentone is described in the following letter to us from Lieutenant-Colonel A. F. Bingham Wright:

"Just as the day was breaking, on Ash Wednesday, we were roused from our sleep by a fearful noise and by the violent shaking of the room, with the crash of falling masonry and breaking glass and china. There was, of course, no doubt about the cause. It was an earthquake shock, and one of the most violent I ever

considerable, and at Savona; fourteen were killed in those towns. In the province of Porto Maurizio there are a considerable number of villages in the mountainous districts built in terrace fashion upon the side of hills. Scarcely any of these have escaped; the buildings on the upper slopes first collapsed, and crushed down on those below. At Bajardo, a small town of about 1500 inhabitants, when the first shock was felt, the inhabitants, men, women, and children, rushed in mad affright to the parish church, where, upon their knees, they implored divine protection. The priests moved about among the terrified people, trying in vain to calm their fears. Suddenly a severe shock caused the massive walls of the church to bulge, and in another moment the edifice collapsed, burying beneath its ruins several hundred people, of whom nearly 300 were killed or terribly mutilated. At Bussano, a village of 800 inhabitants, successive shocks razed to the ground nearly every house, and beneath the ruins lie one-third of the population, with no prospect of rescuing any alive. At Diano Marina, most of the houses fell, killing 250 persons.



EFFECT OF THE EARTHQUAKE AT THE ECOLE MATERNELLE AT ST. ETIENNE.

In the city of Genoa, the ducal palace and other houses were damaged. At the Carlo Felice Theater a masked ball, the crowning fete of the Carnival series, was in progress. The first shock caused a panic; the dance was instantly stopped, and the fantastically dressed people flocked into the streets. Beyond Savona all railway traffic has been suspended; in several places huge masses of stone, loosened from overhanging cliff-brows, threaten to fall at any moment. No further shock occurred after the night of Wednesday, February 23.—*The Illustrated London News.*

Furniture Polish.

The subjoined simple preparation will be found desirable for cleaning and polishing old furniture: Over a moderate fire put a perfectly clean vessel. Into this drop 2 ounces of white or yellow wax. When melted, add 4 ounces pure turpentine; then stir until cool, when it is ready for use. The mixture brings out the original color of the wood, adding a luster equal to that of varnish. By rubbing with a piece of fine cork, it may, when it fades, be removed.—*Eclectic Medical Journal.*

AN English and American syndicate is formed to work the coal fields in Zacatecas, Mexico.