

**A Carbonic Acid Spring.**

While boring operations were going on at Sondra, near Gotha, the diamond drill was suddenly thrown up on July 27, when a depth of 627 ft. had been reached, and water and gas rushed up under a tremendous pressure. For 24 hours nothing could be done. The eruption of carbonic acid gas then quieted down sufficiently to allow operations to be restarted, but 20 ft. lower down gas was again struck, and this time the men had to flee for their lives. The roar was so terrible that the people around became seriously alarmed. It is estimated that hundreds of thousands of cubic yards of carbonic dioxide were discharged every hour, and that the original pressures of the gas amounted to 400 lb. or 500 lb. Heavy iron tools were tossed about like playing balls. Mr. Max Landgraf, the superintending engineer, was telegraphed for. For some time, however, nothing could be done but to rail in the place and wait for calmer days. At intervals of an hour and a half or two hours mineral water was thrown up 100 ft. This water resembled in its composition the water of the famous steel spring of Liebenstein, a favorite health resort of the Thuringian Forest, only a few miles from Sondra. This is the third time that powerful sources of carbonic acid have been met with in Germany in recent days. The acid spring near Münden, in Hanover, has been active for some time; the one at Salzungen was struck last March. During October the Sondra spring was successfully tapped, not without difficulty. The apparatus consists of a system of pipes screwed into one another, cocks for the water and the gas, and a manometer. It was supplied by Messrs. Biegleb, Hansen & Company, of Gotha, and took two days to fix; several times the whole apparatus was blown out again. The gas consists of very pure carbonic acid, 98 per cent, with 2 per cent of nitrogen. It rushes out at a temperature of about 40° Fah., and is now being secured—at least a small portion of it. The water, which contains sulphur besides the free carbonic acid, is as much appreciated as the Liebenstein spring. The first primitive attempts to secure the mineral water in ordinary bottles failed, the bottles being burst. The boring was undertaken by a Cologne company with the hope of finding potassium salts. This idea has not been given up, but for the present the carbonic acid claims attention, and the search for potassium salts will be continued in another place. The simultaneous outbreak of both would be undesirable.—Engineering.

**Spots on Prints.**

Referring to spots appearing on photographic prints, the British Journal of Photography says: "They are produced from a cause but little suspected by many, namely, from dust of a pernicious nature settling on the prints while they are in a moist state. The dust from coke stoves seems, from some experiments we made some years ago, to be of a highly injurious nature; and there is generally plenty of that about, where coke is burnt, when the stoves are disturbed and the atmosphere is dry. Sometimes these spots make their appearance before the prints are mounted, but, more generally, not till some time afterward. As a rule, there is no visible nucleus, as that, of course, comes away when the paper is dry, but not before the mischief has been done, although it may be at once manifest. Particles of coke dust are not the only ones that will cause these spots, for several of the things used in the dark room will do the same—bichloride of mercury, for example. A little of its solution spilt on the floor, and allowed to dry, becomes dust when the room is next swept out. If moist prints were always carefully protected from dust and floating particles, we should hear far less of mysterious spots on prints."

SPAIN produces annually 80,000,000 gallons of olive oil, Italy 35,000,000 gallons, and France about 30,000,000 gallons.

**THE LEAMY REVOLVING TRAPEZE.**

The application of mechanics to scenic and gymnastic displays has an interesting exponent in the revolving trapeze, an exhibition which, after attracting much attention in England, has come back to the United States, and is now being shown in the native country of its inventor. It forms one of the principal attractions of the Olympia Music Hall in this city. In the smaller cut we illustrate the mechanism

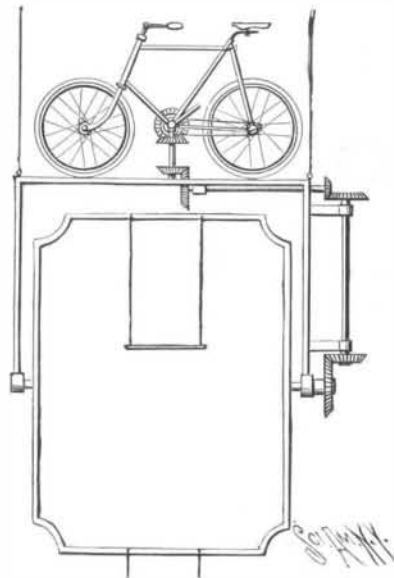
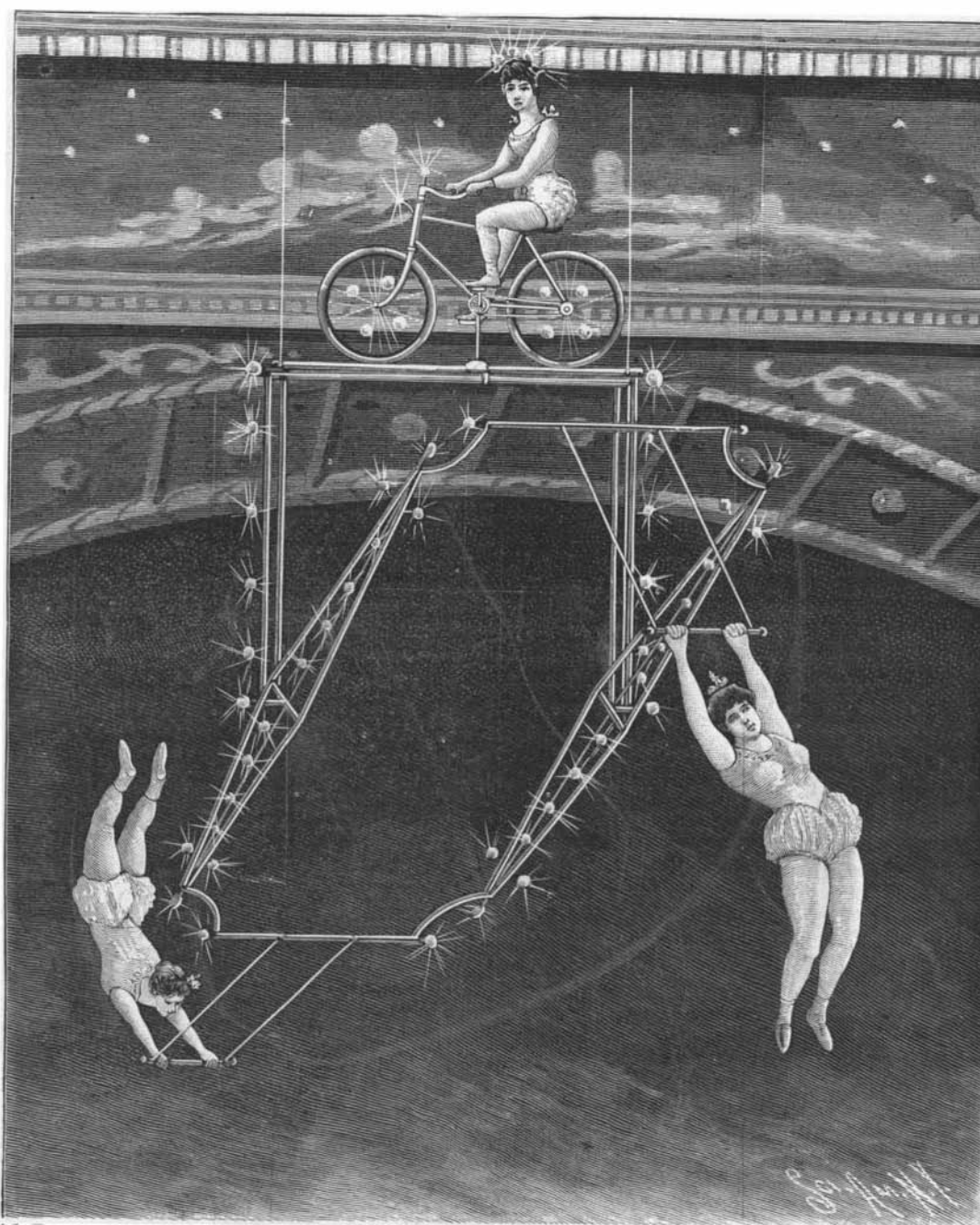


DIAGRAM OF THE REVOLVING TRAPEZE.

of the apparatus, while the performance executed upon the apparatus is shown in the larger cut. From the ceiling of the great auditorium is suspended a vertical three sided rectangular frame open at the bottom. In its lower extremity is journaled at the center a four sided rectangular frame, from whose extremities two trapezes hang. To the upper side of the vertical frame is secured a bicycle, which by gearing shown in the



THE LEAMY REVOLVING TRAPEZE AT THE OLYMPIA MUSIC HALL.

small cut connects with the axle of the lower frame, so that when the cranks of the bicycle are worked the lower frame is turned round and round. It can be brought into accurate balance by means of shot. The whole apparatus, including the bicycle, is studded with incandescent electric lamps, and the performer who rides the bicycle wears a helmet carrying electric

lights. The very striking performance is explained in great measure by the cut.

One of the performers sits on the bicycle and, turning the cranks, as if riding, keeps the lower frame in rotation, while two performers perform different evolutions on the trapezes thus carried around through the air. A switch board is placed at the head of the bicycle, and by manipulating switches the vari-colored electric lights are turned on and off so as to produce any desired effect. Independent of the high merit of the performance simply as gymnastics, the mechanical points are of value; for ease and safety of manipulation and security from any failure is an absolute essential. No one has anything to do with its operation except the three performers, so that it is constantly under their control. Where any attempt is made to operate such mechanism from behind the scenes, there is always a great liability of trouble or partial failure, but here the performer on the bicycle does all the work of actuating the mechanical portion and has every part under constant supervision and control, while the illuminated bicycle, located as it is at great height from the floor, is an added attraction. It is not too much to say that this exhibit is one of the star pieces of the entire performance. The length of the trapeze ropes, it will be observed, is so adjusted as to allow the performer to pass through the frame without touching it, and the absence of a center bar in the frame is necessary to the same end.

**An Earthquake in Persia.**

On November 17, 1893, a most destructive earthquake occurred at Kuchan, Persia. The city was practically destroyed, and the loss of life was enormous, it being reported that twelve thousand persons perished.

A cable dispatch from Teheran, Persia, dated January 9, states that two severe earthquakes, causing the loss of 1,100 lives, have occurred in the Khalkhal district.

The first shock, which was experienced on January 2, was very severe. It completely destroyed the vil-

lage of Zanzabad and partly destroyed other villages. Three hundred persons perished in the several villages.

On the following Sunday there was another and severe shock which destroyed the small town of Goi and did great damage in many of the villages in the district affected. Eight hundred persons were killed in Goi alone. Large numbers of cattle and sheep perished.

The London Times of January 10 published a dispatch from Teheran saying it is reported in that city that severe earthquakes were felt on January 8 at Meshed and Kelat.

No damage was done at the former place. What, if any, damage was done at Kelat is not known at present.

**The Swiss National Exhibition.**

The Swiss National Exposition will be held at Geneva, beginning May 1 and ending October 15, 1896. The Swiss Confederation has made liberal appropriations and the different cities and cantons have contributed largely to a popular subscription. The exhibition grounds are on both banks of the river Arve, and the directors of the enterprise have erected some fine buildings, which are now rapidly approaching completion, and great attention has been paid to landscape gardening. There are many unique features in the mechanical and the electrical departments. The electric exhibit will be one of the most important collections of electrical appliances ever seen in Europe. Twelve thousand horse power will be derived from the River Rhone and will be transmitted to the exhibition grounds from a long distance. An interesting feature of the exposition will be the electric carriages which will convey the visitors to the part of the grounds which they wish to visit. The exposition promises to represent all that is best in industry and science in Switzerland.