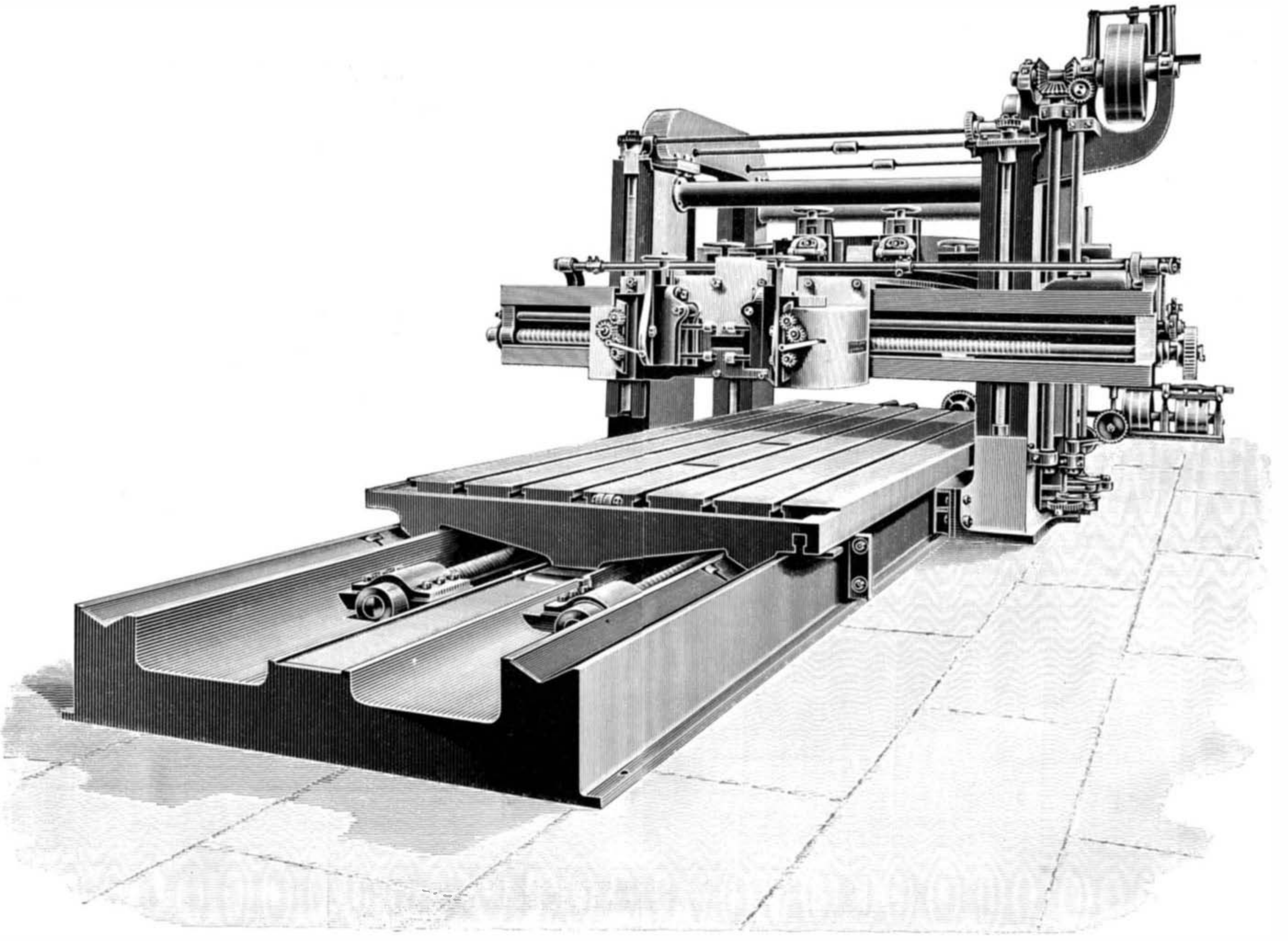
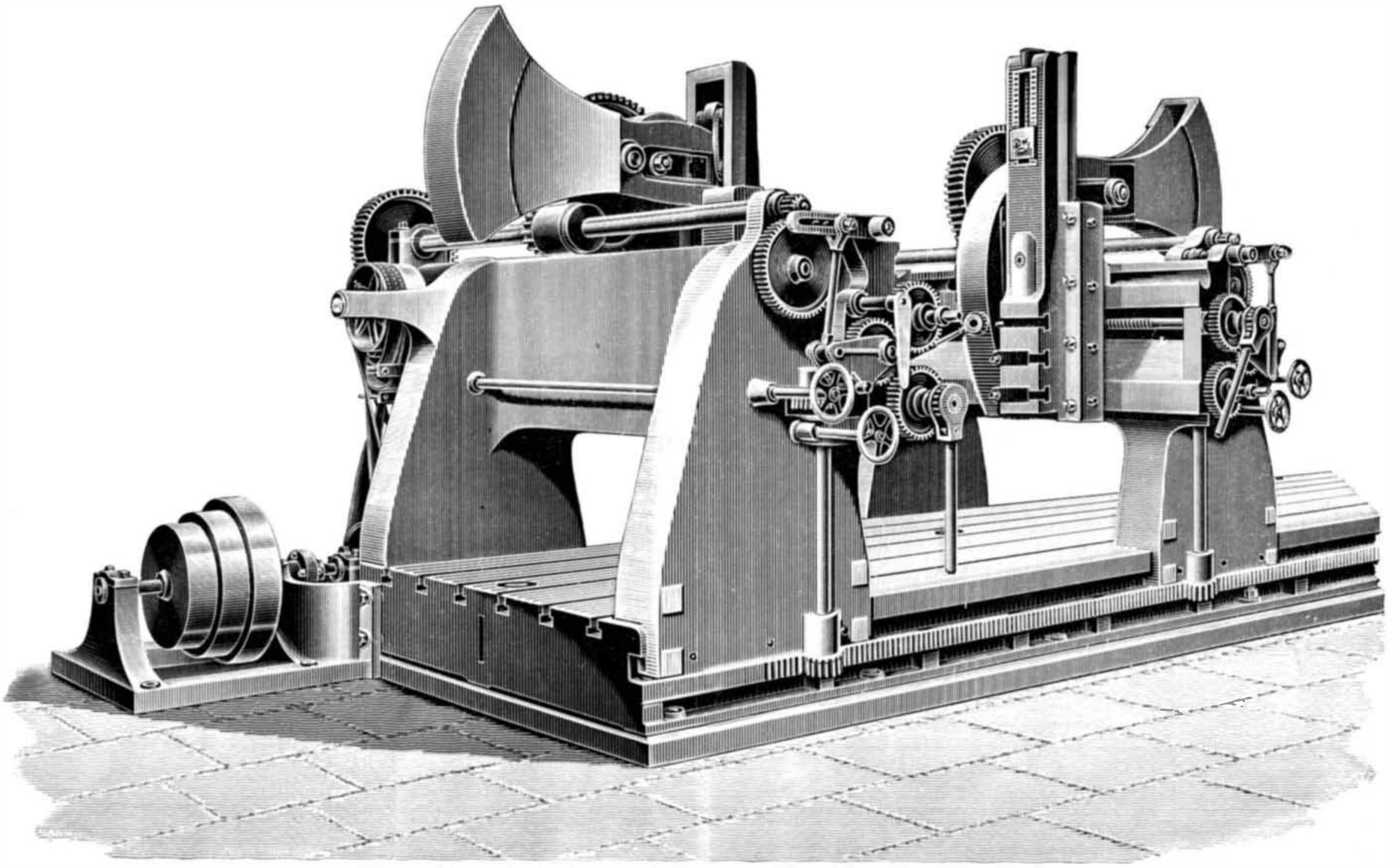
ENGLISH MACHINE TOOLS FOR AMERICA.

Under this head our London contemporary, the *Engineer*, gives illustrations, which we reproduce, of some new machines, lately made in England for the Carnegie works, and remarks upon the same as follows: "Our friends in the United States cannot as yet wholly dispense with English assistance, and find it to their advantage to apply to the English tool makers when they want thorough excellence. We illustrate a planing machine and a slotting machine, supplied this year to Messrs. Carnegie, Phipps & Co., of Pittsburg, by Messrs. Smith, Beacock & Tannett, Victoria Foundry, Leeds. The former is to plane armor plates to 30 feet long by 10 feet by 5 feet, and to plane both ways, and is fitted with a cross breast slide, also to plane both ways. The table is actuated by two strong steel screws with long gun metal nuts, ample thrust bearings, and intermediate supports. The driving is done by bevel wheels of cast steel, and wrought iron pulleys for the forward and backward motions, and self-acting belt guides. There are four strong stand-





IMPROVED ARMOR PLATE PLANING AND SLOTTING MACHINES.

ards securely fixed to the bed and to each other, and placed face to face. The two cross slides, also placed face to face, are raised and lowered by power for adjustment, and each is fitted with two independent self-acting adjustable tool boxes for all angles. The weight of this machine is over 120 tons.

"Last year Messrs. Smith, Beacock & Tannett made for Messrs. Carnegie, along with other machine tools for cutting armor plates, the double-headed armor plate slotting machine which we illustrate, with a bed 35 feet long. There are two strong cross slides, each with standards cast thereto, admitting in width 6 feet 6 inches and 20 inches thickness of armor plate. The machine has strong carriages and slotting rams, with adjustable strokes up to 20 inches, with quick return double-purchase driving gear, and balance weights slightly in excess of that of the rams. There are self-acting motions for feeding longitudinally on the bed by racks and pinions and worms and wheels, and transversely on the cross slides by screws. There is a quick motion for running the slotting heads to and fro on the bed to position required."

American Earthquakes.

RALPH S. TARR.

The Japanese count upon an average of one violent earthquake shock in twenty years, although prior to that of October 28, 1891, there had been no alarming shock for about thirty-two years. Scarcely a day passes without a tremor in some part of the kingdom, and every year records more than one shock which in our country would be the cause of alarm. The people of Japan have become accustomed to quakings of the earth, and it requires some very violent shaking up accompanied by the destruction of much life and property to attract universal attention. Since 1633 there have been twelve such shocks, including that of last year, which destroyed in the neighborhood of 8,000 lives, wounded 10,000 more and wrecked not far from 90,000 houses.

In certain parts of Italy, as well as in Japan, the constant trembling and quaking of the earth has taught the inhabitants, through centuries of experience, that an effort to counteract the effects of earth quakings is well worth undertaking. By far the greater loss of life in an earthquake shock comes directly or indirectly from the falling of buildings; and we find accordingly an effort in regions subject to this evil to construct buildings which are calculated to withstand all but the most violent shocks. In our own country no thought is given to this matter, and our buildings, instead of being calculated to withstand earthquakes, are peculiarly well fitted to become death-dealing instruments in the hands of instable nature.

It is this thought which has induced me to write this article, in which it is proposed to review the points which bear upon the possibility of earthquake shocks in our densely populated Eastern States and to call attention to the widespread disaster which would result if our land should be visited by a violent earthquake, or even by one of slight violence.

In considering the possibility of an earthquake shock in any given region there are two sources to which one may go for facts. These are the historical record and the study of geological conditions. Both of these promise us comparative immunity from earthquakes, yet both point out clearly that we are liable at any moment to find ourselves violently shaken, though when this may come, or where, no one can tell. I wish to enter into these two inquiries somewhat more in detail and to place before the readers of this journal the facts as we know them, and to do this it seems well to inquire a little into the cause of earthquake shocks.

The proximate cause of an earthquake is the arrival upon the earth's surface of a series of waves resulting from a jar. An explosion of dynamite will serve as well as any other cause to start these waves in motion, and this is what actually did happen when Hell Gate was blown up a few years ago. The waves start out in all directions, tending to move as successive spheres, but of course being distorted as they pass through rocks of different densities. They reach the surface in a more or less circular form, and places approximately at the same distance on either side of the epicentrum or point directly above the center or focus feel the shock at about the same instant. The shock is most violent directly above the focus and diminishes as you recede from this point. At the epicentrum the motion is vertical, and tends to cause the roof of a house to fall to the cellar and leave the walls standing; but away from the epicentrum the waves emerge at an angle, and the effect is to overthrow houses, chimneys and monuments in the direction from where the waves proceed.

Whatever the cause of the earth jar, these are the universal effects. It is much less easy to state the cause of the jar. Probably, however, nine-tenths of the earthquake shocks are directly or indirectly connected with volcanic action or at least with the passage of molten rocks through the more solid strata of the earth's crust. It is as nearly certain as a thing can well be without actual ocular demonstration that this is the cause of very nearly all the earthquakes of volcanic regions, and these constitute the vast majority of earthquakes. Many such shocks can be connected with eruptions, and some, such as that of Krakatoa, in 1882, are the direct result of the blowing up of a crater by the pent-up lava. In other cases these earth jars are less easily assigned to volcanic activity, even though they occur in volcanic regions. Still it is a fair inference that this is their cause, for there must be a frequent passage of the liquid lava at great depths in the vicinity of volcanoes, even though no eruption results therefrom. Every time this molten rock, in struggling to reach the surface, forces a passage upward, even for but a small distance, its success in rending the rocks is telegraphed to the surface as a wave of motion and is recorded there as a trembling of the earth.

From this cause we in eastern America are happily free, and it is for this reason, in part, that we have more confidence in the stability of the earth than dwellers in lands of volcanic activity. There is good evidence, however, that the subterranean activity of molten rock is not confined exclusively to volcanic regions. Where one volcano is established there are probably many unsuccessful attempts to establish a vent or safety valve to the surface. Dikes of eruptive rocks intruded into the rocks in Central New York, for instance, where, since those rocks were formed, no volcano has existed, are proof of this. The intrusion of such dikes causes the rocks to be rent asunder, and each one must have caused at least one jar of greater or less violence upon the surface of the earth. How many of the earthquakes which have occurred far away from any volcano can be attributed to this cause cannot, of course, be said, but it is a possible cause and probably an actual cause of many. There is some reason to suppose that this may have been the cause of the shock at Charleston, S. C., in 1886.

In mountainous regions, where the rocks are bent and folded, the strain under which they are placed is liable at any moment to be relieved by breaking and the slipping of the rocks past one another in the plane of fracture, or the fault plane. In this event a single shock or many successive shocks of greater or less violence will result. The violent earthquake shock in New Zealand, in 1855, was due to this cause, as we know by the fact that the plane of fracture was visible upon the surface.

Such shocks have undoubtedly occurred in many parts of the Cordilleras, notably in the vicinity of Salt Lake City, where the fault scarps are still visible; and there is every reason to prophesy that they will occur again.

Nor are these faults confined to mountain regions. It is now known to geologists that there is such a fracture plane extending from near New York to the Carolinas, and marked where it crosses the larger rivers by waterfalls or rapids just above tidewater. If the slipping is still in progress along this plane there may at any time be an earth jar sent out from some point in the fault. Still, although there is danger from this cause, it is much less menacing east of the Rockies than in the Cordilleras. The reason for this is that our Eastern mountains are old and no longer growing, but, on the contrary, being worn away, while the Rockies and Sierras are still growing. In South America this growth of mountains is so rapid that it has been recorded within the last century by a considerable change in the relation of land to sea. The Cordilleras do not seem to be growing so rapidly, although it must be borne in mind that we have not in this case the datum plane of sea level at hand for comparison, as in the case of the Chilean Andes.

Another possible cause of earthquake shocks is the collapse of caverns, and to this cause it is probable that many shocks of minor importance in limestone regions may be referred. It is hardly probable that any violent earthquakes can be referred to this cause. It is not at all unlikely, also, that imprisoned gases attempting to escape may serve to jar the surface, perhaps even violently. How far this is a *vera causa* I cannot say, but it may perhaps have been the origin of some of the earthquakes in delta regions, and there are some facts connected with the earthquake of 1812 in the Mississippi valley which point to this conclusion.

Studied from the standpoint of cause and effect, we of the Eastern States are justified in feeling a certain degree of confidence in the stability of the earth, but there are possibilities which tend to disturb this feeling of security. That the rocks in many parts, as, for instance, in New England, are in a state of strain is undoubted. In the granite quarries of Cape Ann, in Massachusetts, blocks which are blasted out expand so that they cannot be placed back again, and there have been cases where the granite has bulged up and snapped, sending a miniature earthquake shock through the quarry. Moreover, in our confidence, we should not forget that regions which have for years been free from earthquake shocks are liable to be visited at any time. The frightful earthquake at Lisbon in 1755 is to the point. Without the slightest warning and without the least reason to expect danger, this city was visited by one of the most terrible earthquakes on record—a shock which was felt in Scandinavia, in Algiers and on the shores of our great lakes, and which in Lisbon alone killed not far from 60,000 people.

It has been urged that our Eastern States have been for many centuries, perhaps for thousands of years, practically free from earthquake shocks of any considerable magnitude. The basis for this argument is that there are in many places perched bowlders, and rocking stones and instable columns of rocks which could not have withstood any very severe earth jar. Even if we should grant this deduction it would not of course promise us immunity from such shocks in the future. These facts certainly do not prove that there have been no shocks of sufficient magnitude to cause great destruction to our poorly constructed buildings; for, although the perched stones have the appearance of instability, they are often much more stable than even a well constructed building of five or six or more stories. While this argument certainly has much force, it is of less value than might at first sight appear; for earthquakes are peculiar in their action, and often produce much destruction in one place and leave a neighboring spot comparatively undisturbed, since the character of the rock has much to do with the violence of the shock.* Besides this, there are in the Rocky Mountains many instances of poised bowlders, rock pillars, etc., in regions where it seems almost certain that there have been earthquake shocks of considerable violence in recent times.

While the evidence from geology leads us to believe that our Eastern States and, in a much greater degree, our Western States are at any time liable to be severely shaken, though without stating definitely whether they have been or not, the record of history in the two hundred and fifty years more or less of occupancy by Europeans gives us a much more hopeful view of the case. Even history, however, does not leave us entirely free from fear, and, if it did, it could not in this instance be thoroughly trustworthy, for the reason that two centuries and a half is but a short time upon which to base an opinion upon the behavior of nature.

Leaving out of consideration the Mexican and West Indian earthquake shocks, there have been in the region east of the Rockies only three really notable earthquakes in the last two hundred and fifty years,† and neither of these, unless it be that of New Madrid, was a really violent shock, although either would to-day produce much destruction if it were to occur in the neighborhood of our large cities.

The first of these shocks was the Newburg earthquake, which shook up the region about Boston in the early part of the 18th century, but apparently caused more alarm because of the remarkable bellowing noise which accompanied it than by reason of its destructiveness. While very little damage was done to life and property, it nevertheless served to convince the good Puritans of the instability of the earth and to give to the devout ministers of the Gospel very telling texts, which, however, were not very scientific, since the devil himself was supposed to be the cause of all the uproar and disturbance; and upon this premise the arguments for reform were based. It is probable that a repetition of this earthquake to-day would be very destructive, for the one or two story wooden and log houses of our forefathers are now replaced by high edifices of brick and very weak mortar.

In 1812 there occurred at New Madrid, in the Mississippi valley, an earthquake the effects of which are still to be seen in a large area of country which became transformed into a shallow lake and which is called in consequence the "Sunk County." Only a few frontiersmen occupied the region at the time, so that we have very little record of the actual condition of affairs; but enough was learned from these and by subsequent studies to show that the region was very badly shaken. The inhabitants state that the earth rose and fell in great waves, the trees rocked to and fro, and were entangled and broken, the earth opened and closed, and it is stated that the inhabitants were forced to fell trees and stand upon them to avoid being swallowed in the crevices. There was an incessant quaking of the ground for several successive months, and in this respect the earthquake is remarkable as an instance of this phenomenon which is common in volcanic regions, but rare far away from volcanoes.

The third earthquake, that of Charleston, in 1886, is too recent to call for any description. It is to be noted, however, that there have been other shocks in this region, notably in 1812; but neither of these is to be considered as a violent earthquake, although the character of the buildings in Charleston was such as to give to the last shock trail which tended to make the effect disastrous. The shock was sufficiently violent

* It is usually the case that the greatest destruction occurs on alluvial ground, probably chiefly because of its porosity and its ability to be fractured and compacted.

† The earthquakes of the Cordilleras and of California will not be considered, and it is of course understood that for a portion of the two centuries and a half we have had no record of events in the Mississippi valley.

to throw an engine from the track, and to throw down many buildings and destroy some lives; but every year records more violent shocks than this one, in some parts of the earth.

What would happen in New York City if one of these shocks, or, perchance, a more severe one, should be repeated there? It is enough to fill one with alarm to think of the possibilities. Huge, top-heavy church steeples, mammoth buildings with projecting cornices, tumble-down structures, which even now, without the aid of an earth jarring, collapse and destroy human life—all of these stand ready to be used as death-dealing instruments whenever capricious nature causes a slight movement of the rock in that neighborhood. The occurrence of an earthquake in New York like that which occurred in the prefecture of Gifu, in Japan, a little over a year ago, or like that of Lisbon, in 1755, would remove the city from the face of the earth. This may never come—but, again, it may. Are we doing right in defying nature? We take our chances, and the chances are, it may be said, against any such dire calamity; but, if it should come, and it may, what then?

If one will examine photographs of the Charleston earthquake, he will notice that the effects of the shock were very different upon adjoining buildings. Some buildings were completely wrecked, while their neighbors were scarcely strained; and, if one will examine the reasons for this, he will find that in most cases it was a question of mortar. Moreover, the buildings which were oldest were apt to be least disturbed—our predecessors used better mortar than we do. The same thing is noticed in the recent earthquake in Japan. The modern pottery and tile buildings were badly wrecked and destroyed, but the old temple of Nagoya stood, and was only slightly damaged.

Our engineering schools instruct their students in the difference between good and bad mortar, and our architects and builders know full well which is good and which is bad; but the all-powerful dollar is the thing striven for, and immediate utility is sought after at the expense of strength and permanency. State and national laws are enacted and private rights set aside to prevent the landing of a cholera germ, which might be the means of killing a few thousand people—mostly undesirable citizens; but there is practically no protection from falling buildings. A building is condemned, it is repaired, perhaps by painting and the placing of a few timbers; it collapses, an investigation follows, some one is to blame, but no one is found guilty, and so we are any of us liable to walk into a death trap. The man who first built the building is to blame; those who allow it to remain standing are almost as much to blame; but they reap the reward; some innocent persons suffer loss of life or limb. An earthquake shock would effectually raze these to the ground, and with an effect, reckoned in loss of life, compared with which a plague of cholera would be but nothing. I sincerely trust that we shall not have the lesson of proper and sensible methods of construction forced upon us in this disastrous manner; but we may.

The Schuylkill Valley.

At the recent meeting of the American Institute of Mining Engineers, at Reading, Pa., the president, Mr. John Birkinbine, took for his subject "The Industrial Progress of the Schuylkill Valley Region." Iron was first made in Pennsylvania in 1692, and the first successful iron enterprises were the Bloomery forge, 1716, and the Coalbrookdale blast furnace, 1720. In 1731 pig iron was sold at the latter furnace for £5 10s. per ton. From 1720 to 1740 a number of furnaces and forges were established in this district. The Warwick furnace was built in 1738, and remained active for 130 years. It was 32 ft. high, with a bosh 7½ ft. to 9 ft. diameter, blown with wooden bellows, and producing twenty-five to thirty or even forty tons of iron per week.

The present Warwick furnace—referred to later on—is 70 ft. high, 16 ft. diameter at the bosh, and averages 750 tons—maximum, 875 tons—of pig iron per week. With the remodeled furnace, powerful blowing engines, and new hot blast stoves, still better results are anticipated. None of the present industries are over fifty years old. The Pottstown Iron Co.'s works have grown from a small plant, employing 200 men, to one which now requires 2,000 men to operate its blast furnaces, steel works, rolling mills, etc., and turns out about 1,000 tons of product daily. These works were pioneers in commercially manufacturing fertilizers from slag. At Birdsboro a forge was established in 1740, and one of the first rolling mills in the country, and a nail factory, were in operation before the revolutionary war. In this neighborhood is the Cornwall charcoal furnace, 150 years old, the oldest now standing in the country, and near it is the Cornwall bed of soft, magnetic iron ore, from which 12,000,000 tons have been taken out. Near Pottsville was the furnace which first introduced the hot blast, and first successfully produced anthracite pig iron, and also the first American blast furnace in continual operation on anthracite fuel alone for three months.

The practicability of the use of anthracite coal in place of charcoal was proved in 1840 by Mr. David Thomas, the first president of the Institute, and the use of bituminous coal naturally followed. Anthracite coal was not shipped in any quantity until 1820, but the output of the Pennsylvania anthracite fields has now grown to exceed 40,000,000 gross tons per annum, for the mining of which $40,000,000 per year are paid in wages. The Pottsville shaft is 1,586 ft. deep, but this is kept in reserve, and no mining is done. The collieries now at work go as deep as 900 ft., and some produce 375,000 to 450,000 tons of coal per annum, having coal breakers which cost $75,000 each, and can handle 2,000 tons of coal. There are nine veins of coal, six of which are persistent, and have a thickness of 6 ft. to 33 ft., while the Mammoth vein occasionally exceeds 100 ft. in thickness. The resources of the Schuylkill Valley appear to be far from exhaustion. The annual production approximates 15,000,000 tons of anthracite coal, 600,000 tons of pig metal, and an equal amount of rolled iron and steel, much of which is converted into bridges, roofs, machinery, stoves, hardware, etc., and to these must be added the glass, paper, textile, and other industries, which render this one of the most important mining, manufacturing and industrial districts of the United States.

Statistics of the Running of a Watch.

Watches were formerly highly esteemed, and the greatest care was taken of them, but since they have become cheap, they are ruthlessly submitted to all causes of destruction (falls, dust, sudden changes of temperature, magnetism, etc.), and the owners are sometimes astonished at their refusal to run. Yet, as compared with any sort of a machine, an ordinary watch is a marvel. A few figures will make this understood. The spring actuates the barrel, the motion of which is transmitted through three wheels to the escapement, whose wheel strikes the anchor or the cylinder of the balance wheel at an average rate of 8,000 blows per hour (with differences of from 3,000 to 4,000, according to the system). Another gearing retards the motion transmitted to the hour hand in the ratio of 12 to 1. All the motions of the watch are discontinuous, and are effected in little equal jumps, the number of which exceeds two hundred million a year in certain watches. Those who are careful about preserving their watches have them cleaned every two years, that is to say, after 300 or 400 million impacts. At the end of twenty years a well made watch, and one that has not been destroyed prematurely, must undergo a change of a few pinions, but it is after several thousand million of the little jumps that we have spoken of, and after the escapement wheel has made tens of millions of revolutions. If to this we add complications such as the chronograph and watches giving the date and repeating the minutes, we remain astounded at their possibility. As for the distance traveled by the exterior of the balance, that is so unexpected that all our readers, we think, will admit the result only after having verified the calculation.

The balance of a 19 line watch measures on an average 0·66 of an inch in diameter upon the regulating screws. It makes 5 oscillations of one revolution and a half per second, say a travel of 15·5 inches per second, 20 miles per day and 7,500 miles per year in round numbers. Now watches that give the perpetual date are provided with a wheel that makes one revolution in four years. During this time the balance will have made the tour of the world. The small amount of power utilized for the running of a watch is no less extraordinary. According to the *Journal Suisse d'Horlogerie*, a watch spring weighing 30 grains is capable of running a watch forty hours. At the rate of 72·5 foot pounds available per pound of steel we shall have 0·29 foot pound for forty hours, or 0·00725 foot pound per hour. One horse power develops in one hour 543·75×3,600=1,957,500 f. p. A watch requires then,

$$\frac{0{\cdot}00725}{1{,}957{,}500} = \frac{7{\cdot}25}{1{,}957{,}500{,}000} \text{ f. p.}$$

in other words, a one horse power would suffice to run 270 million watches, or probably all the watches that exist on the globe. And, again, it is the escapement that consumes the greater part of such power. In fact, the escapement wheel sets itself rapidly in motion and undergoes an abrupt stoppage, which, according to the principle enunciated by Lazare Carnot, always occasions a loss of live power, or, as we would say to-day, a waste of energy. The resistance of the air to the motion of the balance and the coiling and uncoiling of the hair spring also occasion losses. What remains for the gearing and the arbors? Not much, assuredly. And all this mechanism, placed under various conditions of position, temperature and air pressure, manages to run at less than a second variation, about, per day.—*La Nature.*

IN August last the planet Venus was visible in the day time at San Diego, Cal. A California correspondent writes that he was one of many who witnessed the phenomenon, and says it was especially noticeable, as the planet could be seen with the sun almost shining in one's eyes.

Correspondence.

Another Brooks Comet.

To the Editor of the Scientific American:

On the morning of November 19 I discovered a new comet, in the constellation Virgo. The discovery position was right ascension, 12 hours 56 minutes 40 seconds; declination, north, 12° 59'. Motion, slowly northeast. The comet can be seen in telescopes of moderate size. WILLIAM R. BROOKS.

Smith Observatory, Geneva, N. Y., Nov. 25, 1892.

Fog Lighting in London.

A good deal of silly talk has been heard of late from various quarters respecting the imminent decadence of the metropolitan gas industry; and some of the trade union leaders in particular have tried to make out that there is less employment to be had in gasworks than heretofore, on account of the imaginary falling off in the consumption of gas. All this airy nonsense disappears at the first touch of such a reality as that which recent meteorological influences have put in evidence. A downright dingy, dirty, wretched week of weather, such as we seem to get in London more frequently than ever, makes everybody fly to gas for light and comfort. Not only in the streets, but in the railway stations, when it becomes a question of carrying on business under the worst conditions, the "light of luxury" is left alone; and the reliable friend of the townsman is brought forward as though nothing else had ever been heard of. Although the experience is not a very enjoyable one, it is instructive to make a pilgrimage through a mile or two of the most frequented of the London thoroughfares when at midday it is impossible to see across the street. Here and there a huge industrial or commercial establishment—a printing house or factory for the manufacture of fancy goods—looms grandly through the thickened atmosphere, radiating light from roof to basement.

The best effect, however, is produced by the shops wherein high power recuperative lamps are hung over the doors, or along the front, or where clustered Argands or flat-flame burners strongly illuminate the goods exposed in the windows. These places irradiate the neighborhood in a style unapproachable by other means. As for the wider street crossings and the railway yards, one longs, in the absence of a sufficiency of high-power gas lamps, for a few good "flares" of the Lucigen type. The sparse electric arcs are utterly ineffective at such times. They seem lost in the upper air; and a curious effect is produced by the unusual prominence of the glowing carbon spark, which gives the most powerful arc the aspect of a rather poor incandescent lamp. As to the latter, their lower tone helps them to penetrate the air that enwraps them like a dirty blanket; but the pleasant fiction about a nominal 8-candle lamp being to all intents and purposes equal to a flat-flame gas burner is utterly demolished by the inconsiderate atmosphere. All these are old truths; but it is just as well to keep them in the front when occasion serves.—*Jour. of Gas Lighting.*

Railroads of the World.

The Census Office has issued a bulletin giving statistics of the railway mileage of the world in 1890. It shows that out of a total railway mileage for the world of 370,281 miles the United States have no less than 163,597 miles, or 44·18 per cent of the whole, and that the railway mileage of the United States exceeds by 3,493 miles the entire mileage of the Old World, Europe's 136,865 miles, Asia's 18,793 miles, and Africa's 3,992 miles making an aggregate of but 159,655 miles. It is interesting to note the astonishing growth of the railway mileage of the United States from the census year of 1830, when there were less than 40 miles of railways, up to 1890. In 1840 the figures were 2,755 miles; in 1850 they had risen to 8,571 miles; in 1860 the total had swelled to 28,919 miles. The census of 1870 showed the mileage to be 49,168 miles; that of 1880 placed the figues at 87,724 miles; while the eleventh census figures give the astonishing total of 163,597 miles.

The following shows the mileage of the world by countries: Germany, 25,969 miles; Austria and Hungary, including Bosnia, 16,467; Great Britain and Ireland, 19,939; France, 22,586; Russia, including Finland, 18,728; Italy, 8,117; Belgium, 3,218; Netherlands, 1,887; Switzerland, 1,929; Spain, 6,127; Portugal, 1,280; Denmark, 1,223; Norway, 971; Sweden, 4,915; Roumania, 1,580; Servia, 327; Greece, 440; Turkey in Europe, Bulgaria, and Roumelia, 1,097; Malta, Jersey, and Man, 68; United States, 163,597; British America, (Canada), 13,322; Newfoundland, 115; Central America (Guatemala, Salvador, Costa Rica, Nicaragua, and Honduras), 559; Mexico, 5,344; United States of Colombia, 231; Cuba, 1,056; Venezuela, 441; Republic of San Domingo (eastern part of the island of Hayti), 71; Puerto Rico, 11; Brazil, 5,779; Argentine Republic, 5,129; Paraguay, 149; Uruguay, 470; Chile, 1,926; Peru, 994; Bolivia, 106; Ecuador, 167; British Guiana, 22; Asia, 18,798, of which British India supplied 15,837; Japan, 907; China proper, 124; Africa, 3,992; Australia, 11,137.