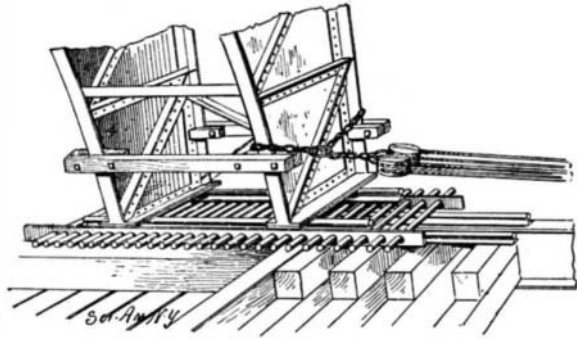


**MOVING A 500-TON TRAIN-SHED ARCH.**

An important enlargement and general improvement of the great terminal station of the Pennsylvania Railroad, Jersey City, has been under way during the past twelve months and is now nearing completion. This work, which had been contemplated for some time by the company, was hastened by a destructive fire which occurred in March, 1898, and destroyed the greater part of the waiting room, the restaurant and the dining room, together with the communications between the ferries and the station. The improvements have been chiefly in the direction of the enlargement of the existing ac-



**DETAILS OF FOOTING OF ARCH AND NEST OF ROLLERS.**

commodations, and one of the most important of these was the lengthening of the main train-shed by 125 feet, making its total length 777 feet. This lengthening involved the addition of two entire panels to the roof structure, and it was decided that the existing end or portal arch should be moved out toward the Hudson River a distance of 125 feet, and an entirely new arch built in its place with a new intermediate arch between the two. The portal arch is unlike the other arches of the roof, in that it is inclosed to form a gable for the end of the structure. All of the arches of the shed except the portal arches are provided with a system of heavy tie rods which extend beneath the railroad tracks and serve to resist the outward thrust of the foot of the arches. The portal arch has no such ties at the footing, but it is tied together by means of a truss which extends from hip to hip at a height of 30 or 40 feet above the tracks. The space above this truss is filled in with paneling of light steel-work which is glazed to keep out the weather. The trussed arch which was moved consists of two distinct trusses placed 14 feet apart and braced together. It is 256 feet in width and 114 feet in height, and its total weight as moved is about 500 tons.

The preparatory work consisted in building four new piers, two on each side of the shed, to carry the additional arches. These piers were built out in the river, upon piling which had been driven to a firm footing. The piling was cut off below water level, and the masonry piers were built upon it. To form a roadway over which to move the heavy structure, a bridge of piling and steel plate girders was built from pier to pier. On this was laid a floor of heavy timbers and two lines of ordinary steel rail. Upon the rails was laid a nest of parallel steel rollers of the kind shown in the accompanying small engravings, the rollers being similar in construction to those

which are placed beneath the free ends of an ordinary railroad or highway bridge. Above the nest of rollers were placed two lengths of railroad iron, and upon these rested the foot of the steel arch. A heavy sling chain was passed around each foot of the arch, and powerful blocks and tackle were led from the structure to two stationary hoisting engines, one being stationed at each end of the arch.

The first operation was to cut loose the connections between the gable arch and the roof of the train-shed. It was then moved far enough to leave its own site clear for the construction of the new arch, to assist in which work the gable arch was utilized. It was then drawn forward until it was just beyond the piers for the intermediate arch, which was erected in a similar manner to the first arch. Finally the portal arch was drawn to its permanent position, 125 feet from the starting point.

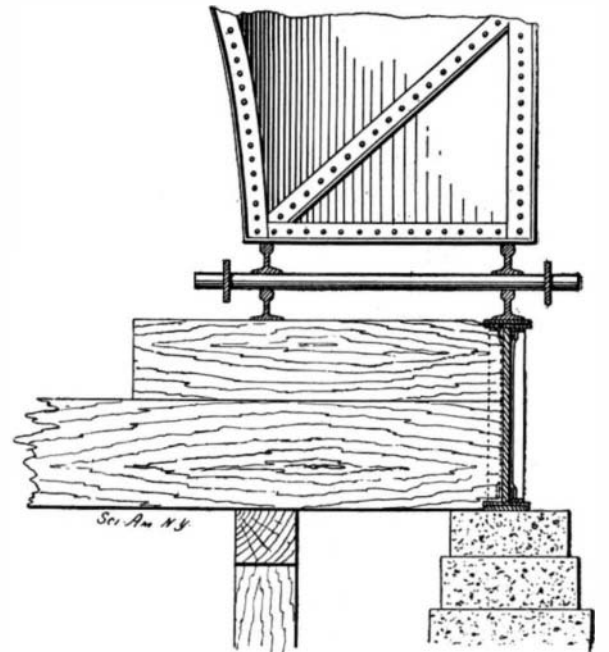
As the great structure is 114 feet in height and presents a large area of wind, it is evident that a base of 14 feet does not present any large margin of stability against overturning by wind pressure. To guard against such a mishap, a couple of inclined legs or towers composed of heavy timbers were suspended from the girder and reached to within a few inches of the floor of the station. As it was clear of the ground, it offered no resistance to the movement of the arch, and at the same time fully precluded the possibility of an upset.

The whole work of the actual moving and construction of the new trusses has occupied about four weeks, and it has been carried through without any mishap. The plans for this work were drawn up by Assistant Chief Engineer Lewis H. Barker, who, together with the superintendent and contractors, is to be congratulated for the success with which they were carried through.

**Death in Headache Powders.**

The daily papers have of late contained reports of death in various cities attributed to self-administration of unknown remedies. The other day a woman in Pittsburg died twenty minutes after swallowing a powder for the relief of headache. This is said to have been the fifth death, in that city alone, recently set down to the same cause. Such instances teach the nostrum-loving American people but slowly. The report of the physicians who have recently made an

autopsy in the case of a lady of Detroit is said to show, says The Medical Record, that death was hastened by the use of secret headache powders. It would seem but right that the ingredients of all nostrums sold in the drug store should appear upon the package. This would protect in a measure both the druggist and the purchaser. When both are ignorant of what is being



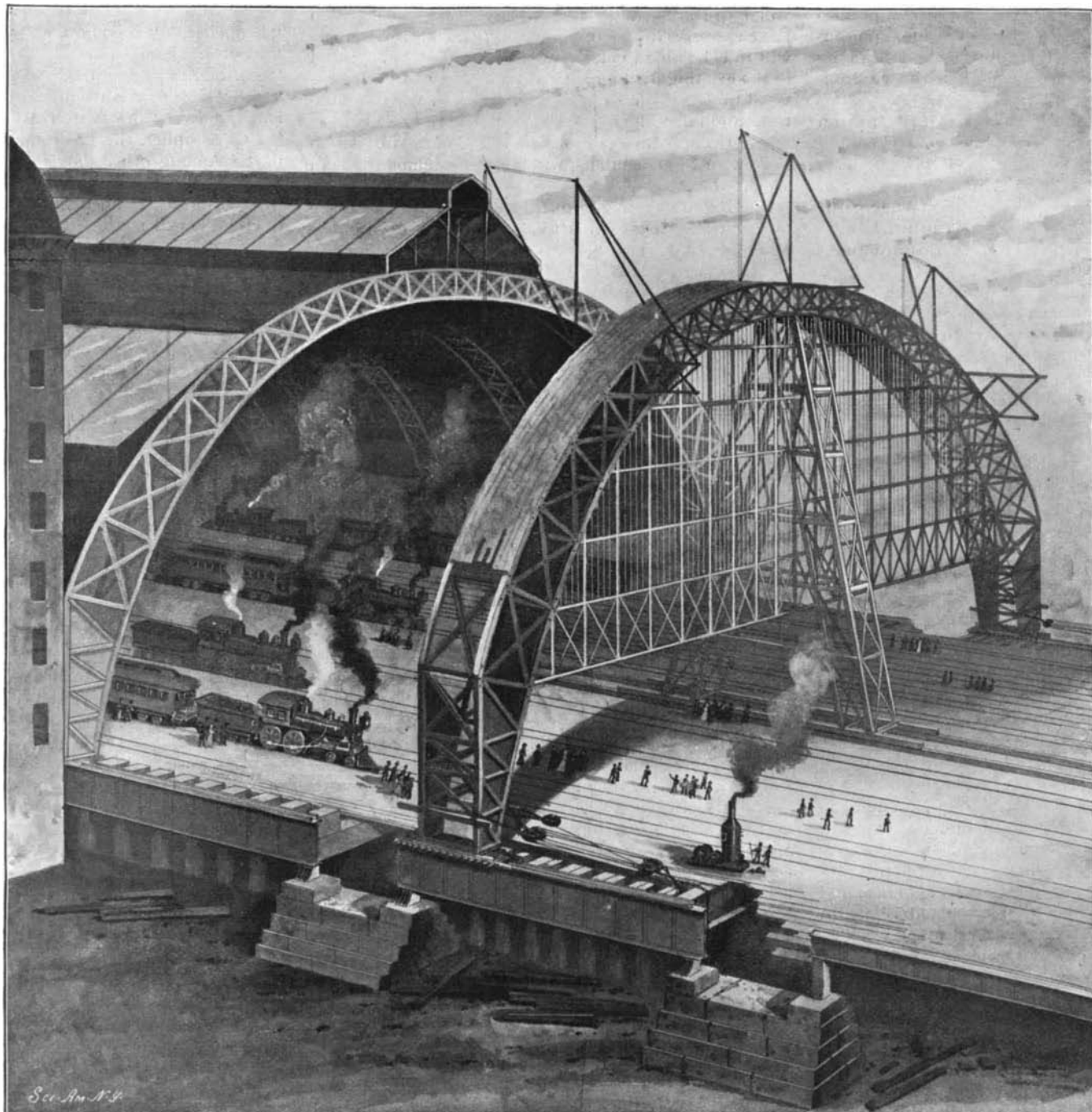
**SECTIONAL VIEW OF FALSE WORK OVER WHICH ARCH WAS MOVED.**

administered, great damage may often result. Surely some legislation is called for.

**Change in Russian Calendar.**

Consul-General Holloway sends the following to the Department of State from St. Petersburg: The Russian government has, after many years' discussion, determined to abandon the old-style or Julian-Greek calendar, which is twelve days behind the now universal system of the Gregorian cycle, and which has been a source of annoyance to Russians doing business with other countries, who were compelled to use both dates, as well as to foreigners trading with Russia. The St. Petersburg Astronomical Society has taken the matter in hand, and with the cooperation of the ministers will appoint a commission, to be composed of sixteen persons, nine of whom are to be members of the Astronomical Society, who will arrange all the details. It is expected the new-style calendar will go into effect in 1901.

A \$25,000 fountain is to be erected in San Francisco to commemorate Peter Donahue, the first foundryman, ship and railroad builder on the Pacific coast. There will be five bronze figures, each 8 feet high, and a punching machine 21 feet high, the whole group being emblematic of the early days of California mechanical industry. It remains to be seen whether or not the punching machine will be a discordant note in the group.



**MOVING THE 500-TON GABLE ARCH OF THE PENNSYLVANIA DEPOT, JERSEY CITY.**

### The "Kissing Bug" Scare.

BY DR. EUGENE MURRAY-AARON.

The North Atlantic seaboard has recently had a visitation of insect poisoning, reaching from Richmond, Virginia, to Augusta, Maine, which has been treated to the usual newspaper exploitation and sensation mongering and has been dignified by the daily press with the sobriquet of "The Kissing Bug Plague." In the parlance of yellow journalism, the "kissing bug," which they would lead their readers to believe is an entirely new creature, presumably discovered by some enterprising reporter, is none other than the well known *Melanolestes picipes*, of the sub-family Piratina. Perhaps an occasional reader of these sensational accounts of serious illness and even of death from the "bite" of this insect has stopped to wonder how it has come that this species, with its death-dealing powers, has suddenly sprung into notoriety. If the mere puncture from its powerful proboscis is capable of such results, and the fondness for puncturing the human lips, from which it derives its newspaper name, is one of its principal characteristics, how does it come that, although known to science for nearly a century, its terrors have been left for this last year of the nineteenth century to disclose?

The "kissing bug" is no commoner this year than usual; of the genus *Melanolestes*, the two not uncommon species, *M. picipes*, with black, piceous legs, and *M. abdominalis*, with the sides and sometimes the whole upper surface of the abdomen red, are to be observed by the entomologist around electric lights in our parks, or in decayed matter, or under stones in our woods, with about the same frequency as always before. "They are active, blood-thirsty insects, and inflict a severe wound upon the hand of the incautious collector,"\* has been said of them; although to describe them as "blood-thirsty" gives a false idea of a creature which, probably, never uses its proboscis on man for any purpose other than self-defense. There is no proof whatever that they are blood-thirsty, in the sense that that term may be applied to the mosquito. I have handled scores of both species, and have been bitten but once; and then only because I carelessly pinched picipes too tightly between thumb and finger, in lifting it from the ground to my killing jar. The wound made in my thumb was excessively painful, because my powerful little antagonist had no difficulty in piercing to the bone; but there was no more poison about it than about the puncture of a clean knife blade. For *Melanolestes* is not possessed of any virus or poison-secreting apparatus whatever; the occasional poisonous effects observed as following a wound from its proboscis are entirely due to the food or the environment it is lately from.

Its present reputation depends on the fact that an attaché of our Agricultural Department in Washington, and a gentleman in Wilmington, Delaware, both captured specimens of *M. picipes* in the very act of biting, and, in one of these cases, a slight degree of poisoning followed. The specimens captured were identified by U. S. Entomologist L. O. Howard and—the newspapers did the rest!

Since this took place in early June, the leading papers have reported about forty cases, so far as I have been able to find by recourse to a careful clipping service. In only three of these cases has *Melanolestes* been an undoubted offender; and in every one of these the pain of [the puncture and a slight amount of poisoning] in two cases is all there was of it. In five cases mosquitoes seem to have been suspected, and in four "an ordinary fly" was claimed to be at the bottom of the trouble. It is worth remarking, in passing, as a sample of newspaper disregard for anything approaching accuracy, that in several cases where the text refers only to a fly or a mosquito, the editorial headlines, or "scare heads," as they are technically called with unconscious humor, allude to the work of the "kissing bug," the "dread *Melanolestes*," etc., although there is no warrant whatever for such a charge.

There are certain facts mentioned in many other of the news items that clearly indicate to the pathologist the work of "a common fly." It is well known, of course, to all students of insects, that our common house fly, *Musca domestica*, is incapable of puncturing the human skin, and that its proboscis, a flabby, weak structure, is only adapted to sucking up juices, the human perspiration being, unfortunately for our comfort, a choice tidbit in the muscine menu.

There is, however, a second cousin of *Musca*, who is very differently armed, and whose well developed proboscis is both a sharp and quickly wielded lance and a powerful pumping tube, whereby blood is drawn up. This species, the "stable fly," *Stomoxys calcitrans*, while remarkably like the house fly, at first sight, may be distinguished from it by the manner of holding the wings rather more spread apart, when at rest, and by the more slender, straight and rigid proboscis. On close examination, also, the color pattern of the thorax will be seen to be quite different from any species of *Musca*. *Stomoxys* is a famous tormenter of cattle, well knowing the thinner

points where their hides may be pierced, and it has for them, what it retains when attacking man, a fondness for easily reached surfaces of the mucous membrane. The inner curve of the lips being the most accessible point of that sort, it is well entitled by its fondness for biting in that locality to the name of the kissing fly. The larvæ of *Stomoxys* live in fresh horse manure, and the adult insect spends much of its time, according to its sex, in either sipping the moisture from that substance or in laying eggs therein. It thus comes that its habits hardly fit it for human and especially not for auscultory companionship. Fortunately, *Stomoxys* is not a very common visitant to our homes, although it is a species that is excessively common and multiplies by thousands. It prefers stables and cow yards, and only before heavy storms and late in the fall, when seeking shelter from cold nights, is it usually to be observed in dwellings. There is a great diversity of opinion among those who have rather hastily studied its habits, as to the danger of its bite, as there is of that of its near relative, *Glossina morsitans*, the celebrated and dreaded "Tsetse" fly of Africa, which is charged with frequently killing cattle. This difference of opinion is doubtless due to the fact that here, again, we have to do with a creature devoid of any poison of its own, but dependent on outside agencies for the troubles it occasionally causes. Hence it comes that one specimen, fresh from some germ-laden repast, carries disease, perhaps death, within its proboscis, while another, innocent of such infection, causes nothing worse than a temporarily painful puncture of the flesh.

### Some Features of the Paris Exposition of 1900.

Capt. A. H. Mattox, of the Bureau of Publicity to the United States Commission, Paris Exposition, speaking recently of the International Congresses to be held in Paris in 1900, said:

From June to September of the Paris Exposition of 1900 a series of International Congresses is to be held under the patronage of the French government. For their sessions a special Palais des Congresses is being erected. It will contain one great hall for the public sessions and more frequented congresses. The foundations of this palace are being laid on the Quai de la Conference. The building will be erected two-thirds on land and one-third on water. The design is now well advanced, special care being taken with the vast gallery, over one hundred yards long and over twelve yards wide, on the Seine. The ceiling of this gallery will be in stained glass. All the chambers in which the congresses are held lead into the gallery. Members will thus be able to meet one another at all times; and in the evening distinguished visitors to Paris will be invited to witness from this immense hall the illuminations and fairy-like night scenes on the river Seine.

The twenty-three sections of the Congress of Medicine, with 7,000 members, will have accommodations in the city of Paris.

The French organizers of the different congresses are taking the greatest pains to add to the interest of the sessions. The membership card of the Charities Congress will admit to visits of the principal public and private charitable institutions of Paris, and the Congress of Medicine secures like advantages to its members. Personally, and in this case scientifically, conducted excursions of great interest and variety will be made by the Geologists' Congress. On the whole, the International Congresses are a special work of the Exposition; and every effort is being made to bring together in Paris for the occasion the leading representatives from every country of the contemporary movement in sciences, arts and letters, in education and philanthropy, and in commerce and industry.

The Paris Society of Musical Composers has organized a competition this year, for French musicians only, the subject being the composition for a full orchestra of an overture to be performed at the Exposition of 1900.

More varied and recreative, perhaps, will be the various elements provided in the Palace of Instruction and Education. Printing machines at work will relate the history of books and newspapers. The Mint will exhibit coining presses, and will coin in view of the public a souvenir medal of 1900, which visitors will be able to take away with them.

The Decorative Art Exhibits will be a great feature of the Paris Exposition. The exhibits of decorative art and all that pertains to furniture and domestic comfort will be displayed in the immense palace which is now being erected on the Esplanade des Invalides.

In the Palace of Chemical Products there will be a colossal paper manufactory, and in the Palace of Thread, Yards, and Clothing a collective exhibit of modern fashions, in which will be included a wedding procession, a Parisian soirée, and a fashionable luncheon. In the same group an exhibition of old French costumes will be displayed, in which will be shown a collection of ancient silks from Lyons which promises to be one of the art curiosities of 1900.

In the Palace of Civil Engineering, automobiles and cycles will occupy a surface of more than 77,000 square feet. Aerostatics will also be represented in this build-

ing. In the centennial museum of the transportation group, there will be a highly interesting display of all transportation methods employed during the past century.

French Agriculture will occupy the wing of the old Machinery Palace. In the four corners of the agricultural exhibition will be installed: a model flour mill, a model brewery, a model sugar refinery, and a model preparation room for Champagne wine. In the center of the square thus formed the centennial agricultural museum, including types of old French farms, will be located. Near the monumental staircase, adjoining the new Festival Hall, there will be a model dairy, a cider factory, and a distillery.

### Automobile News.

Buffalo, N. Y., is now trying an automobile wagon for the collection of mail. The mail from forty boxes, covering a territory of six miles in length, was collected in less than half the time necessary to cover the same route with a horse and wagon. The experiment will be continued, and if it continues to work satisfactorily it is believed that a number of automobiles will be placed in regular commission in connection with the postal service in that and other cities.

By a series of drastic bylaws adopted at a town meeting on June 30, the automobile has been virtually prohibited from Bar Harbor. It is unfortunate that towns and cities should feel disposed to pass regulations of this nature before the new vehicles have done any damage or are even in use.

The automobile is gaining some victories even in large cities. In New York city they are allowed in all parks with the exception of Central Park; thus owners of these vehicles can now drive through the beautiful parks of Bronx and Prospect Park. The President of the commission has signified his willingness to ride through Central Park in an automobile and determine whether or not the vehicle would scare the horses. In both London and Paris there is no restriction, and automobiles circulate freely everywhere.

The question of a name for the automobile vehicles is still agitating many worthy persons who wish to air their latinity, and the result has been a collection of weird and impossible names which are amusing to say the least. Among them are "Carleck," "Careleck," "Electro-mobile," "Auto-carriage," "Autocab," "Autovic," "Autolau," "Autobus," "Autocam," "Autogen," "Propeller," "Locomotive," "Cabine," "Victorine," "Electric Landauines," "Ipsomotor," "Sineque," "Self-motor," "Mobiles," "Auto," "Autogo," "Molecros," "Molecs," "Autophier." The name last mentioned is really a very pretty derivation, being obtained from St. Christopher, the good saint's name being used in part. Among other particularly atrocious names are "Kinetic," "Autokinet," and "Autokin." It is to be hoped that if a short and really satisfactory name is devised, it will not be ugly, and will be, in a measure, descriptive.

### The Peary Relief Expedition.

Prof. William Libbey, of Princeton University, has been appointed chief of the Peary Relief Expedition, to be sent out by the Peary Club, of New York, for the relief of Lieut. Peary in the Arctic regions. The steam bark "Diana" will be used for the trip and is now being fitted out at North Sydney, Cape Breton Island. The party will be made up of Prof. W. F. McClure, head of the Department of Biology; Arnold E. Ortman, Ph.D., Curator of Invertebrate Palæontology; and Charles F. Silvester, Preparator in Anatomy. With Prof. Libbey there are two representatives of the United States Coast Survey. The start will be made about July 17. The first object of the expedition is, of course, to take provisions and other supplies to Lieut. Peary. After the stores have been unloaded from the "Diana," the return trip will be turned into a tour for scientific explorations. Chiefly deep sea investigations will be carried on, and specially prepared dredging apparatus have been prepared. It is expected that the party will return about October 1.

### The Transcontinental Automobile Trip.

Mr. and Mrs. John D. Davis started on their automobile trip across the continent on July 13. The start was made from the Herald Square, New York, and the first stop was at Tarrytown, where the occupants passed the night before proceeding on their journey. The carriage was escorted through the city by a number of automobile vehicles, and attracted much attention.

### Work at the Watertown Arsenal.

Orders which have been received at the Watertown Arsenal will insure work for the entire fiscal year. The orders include twenty-one 6-inch gun carriages, twenty-three 7-inch siege mortar carriages, one 12-inch barbettes carriage, two 10-inch barbettes carriages, one 8-inch barbettes carriage, three 8-inch disappearing carriages, besides a large amount of shot and shell of various calibers.

\* The Riverside Natural History, vol. 2, p. 281.