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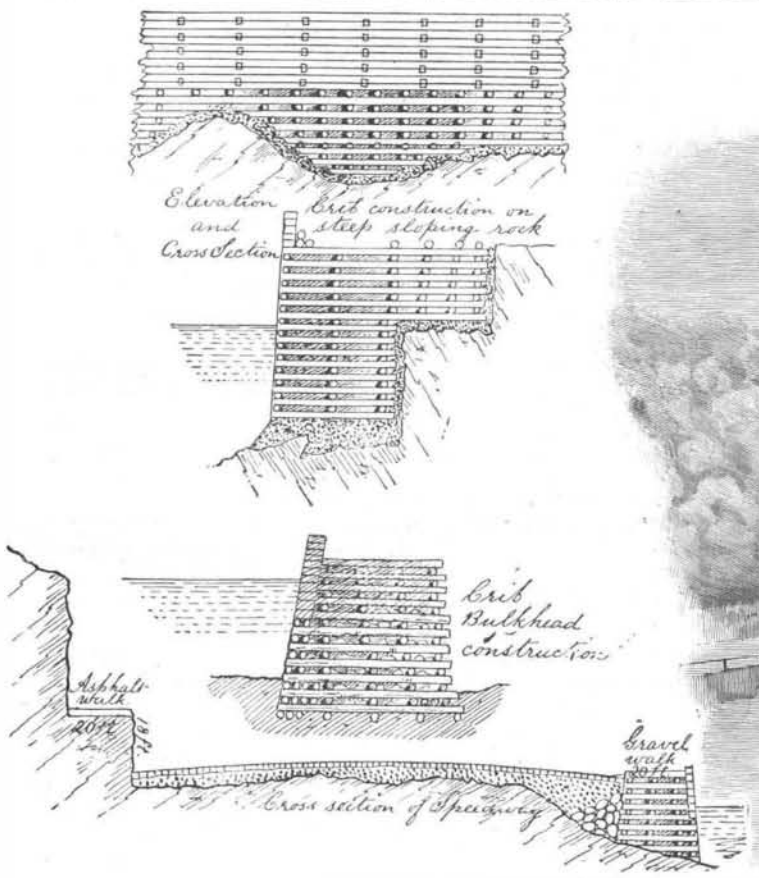
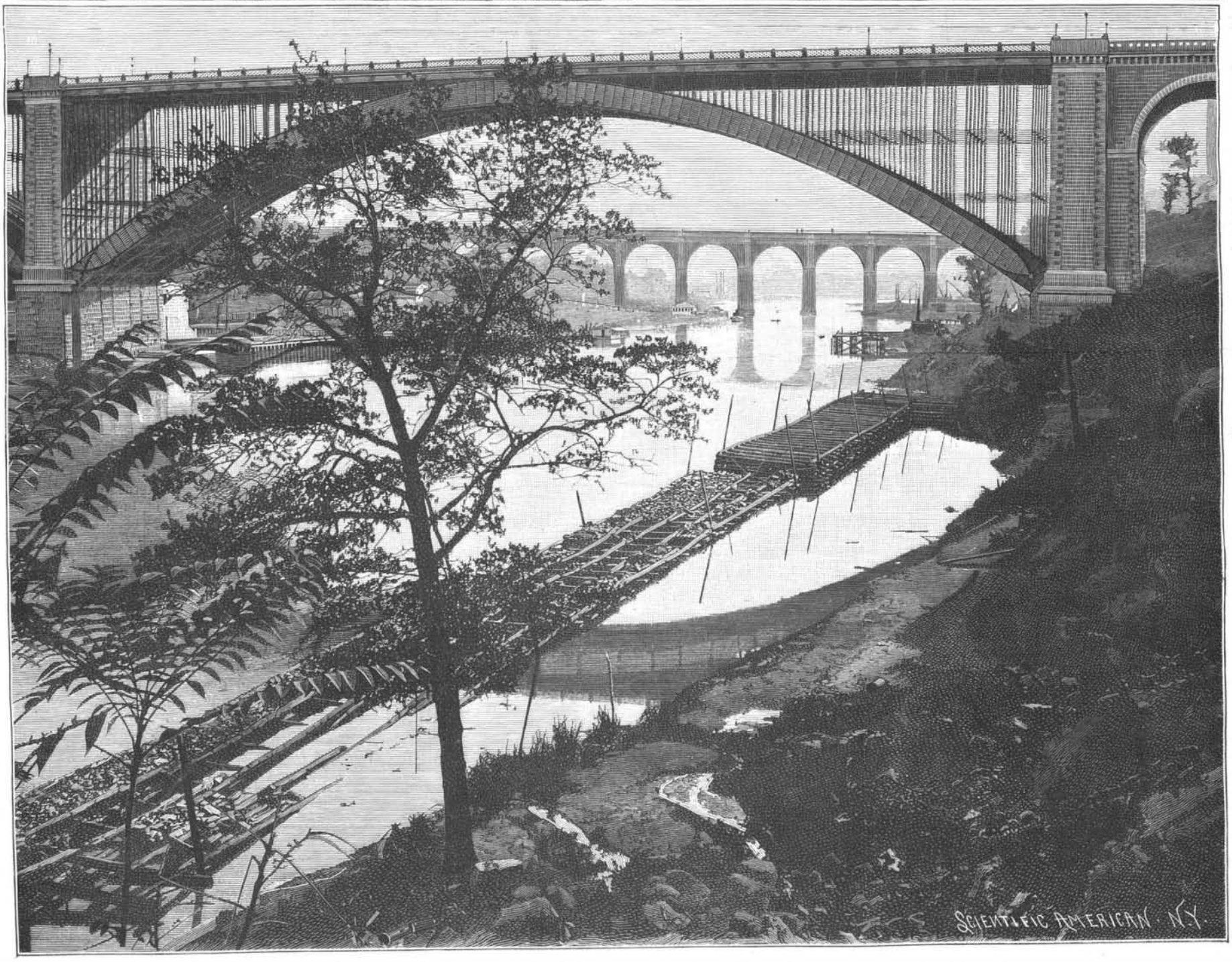


THE NEW HARLEM RIVER SPEEDWAY, NEW YORK.

We have already described the new speedway which is in process of construction on the banks of the Harlem River in

New York City. The portion of the river flowing between the eastern shore and Manhattan Island is most picturesque. From the river the banks for most of the

(Continued on page 263.)



THE HARLEM RIVER SPEEDWAY IN NEW YORK CITY—VIEW UNDER WASHINGTON BRIDGE, LOOKING SOUTH.

THE NEW HARLEM RIVER SPEEDWAY, NEW YORK.

(Continued from first page.)

length of the speedway rise abruptly above the river to a considerable height. The general course of the river is north and south, and the speedway follows along its edge. As, owing to the very rocky ground, any extension to the west was unduly restricted, a special grant from the Federal government was received, in virtue of which it was allowed to encroach beyond the bulkhead line of the Harlem River, between One Hundred and Seventy-eighth and One Hundred and Eighty-fifth Streets, to a maximum of 21 feet at a point just north of Washington Bridge. We have already described pretty fully the general features of the work;* it will be enough to say that it is to represent the best possible quality of what horsemen call a "dirt road."

On the south it starts at One Hundred and Fifty fifth Street almost at the western end of the One Hundred and Fifty-fifth Street viaduct, where it is about 100 feet above high water mark. From this point it gradually descends at the rate of about 4 feet in 100 until at One Hundred and Sixty-sixth Street it reaches its lowest grade, 6 feet above high water. It now assumes an undulating grade until One Hundred and Seventy-second Street is reached, when it begins to rise, and at High Bridge is 17 feet above high water. It then continues north, and with further undulations until it reaches the 6 foot grade at its northern end, where it joins Dyckman Street, which leads into Broadway, the old Kingsbridge Road. Its total length is 43 blocks, the northern end being very nearly at One Hundred and Ninety-eighth Street. Its width varies. The roadway proper at One Hundred and Fifty-fifth Street is 70 feet wide, increasing to 100 feet by the time One Hundred and Sixty-fifth Street is reached. At High Bridge it has to contract to 63½ feet in order to get through one of the arches.

Referring to our large cut, the more distant of the two bridges is High Bridge, and it will be seen how the narrow arches limit the possible width.

In the foreground of the same cut is seen one of the large arches of Washington Bridge, beneath which the road goes. This would seem to offer indefinite room, but here the river prevents it, and in spite of the grant from the government, the roadway has a width here of but 49 feet 6 inches. This is its narrowest place. Between the two bridges it varies from 61 to 80 feet, and north of Washington Bridge it is 100 feet wide.

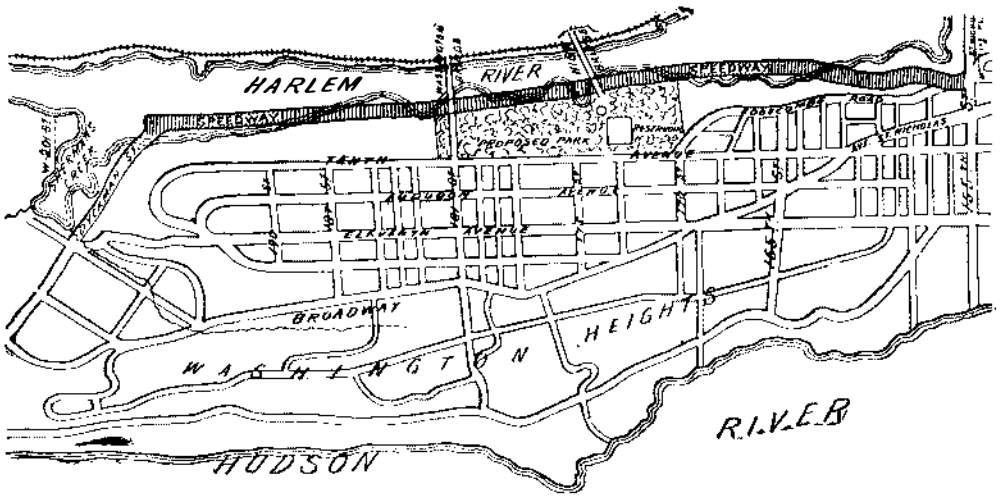
Footpaths are to be constructed on each side of it. The outer or eastern pathway is of nearly the grade of the road, and varies from 10 to 20 feet in width. At High Bridge, where an entire archway is occupied by the road, this path is to be carried by an iron structure around the outside of the pier. The inner or western pathway, varying from 20 to 30 feet in width, departs in places from the grade of the road, and will, in one place, be 28 feet above it. At High Bridge and at Washington Bridge it passes through archways to the west of those occupied by the roadway.

Three subways beneath the road are to be provided; they will be 12 feet wide and 8 feet high to the crown of the arch. One of these will be at 163d Street, one at High Bridge and one at Washington Bridge.

Not the least interesting features of the speedway will be due to the public works and buildings along the river shore. The High Bridge is a representative of what was best in the civil engineering of the past generation. Its beautiful stone arches form an appropriate background in our large cut, appearing through the steel arch of the Washington Bridge, which structure is one of the great bridges of the world. At High Bridge and along the river's edge, to the south, is to be a public park, which will add to the prospect. At High Bridge proper there is a pumping station and reservoir, with buildings, all which will form impressive features of the scene; on the opposite bank of the Harlem is the Ship Builders' Home, while on the New York side University Heights, with the new buildings of the University of the City of New York, may be ranked among some of the more striking elements of the scene.

Various features of the construction are shown in our cuts, and a great deal of the work here illustrated is now nearly completed. Cribwork is a necessity of the case, as stonework would be of prohibitive expense. In the cut showing the completed speedway and walks the elevation of the inner sidewalk is shown, and the impressiveness of the work is well brought out.

Reference should also be made to the little map, which shows clearly the course taken by the speedway. With Riverside Drive and the Boulevard on the west, overlooking the Hudson River, and the speedway on the Harlem, the drivers and riders of New York will have unrivaled roads on which to prosecute their calling.



MAP OF THE HARLEM RIVER SPEEDWAY.

* See SCIENTIFIC AMERICAN, March 31, 1894.

Effect of a Receipt in Full.

It was a rule of the common law that an express promise of a creditor, if a release was not given, or the evidence of the debt was not surrendered, to accept in payment a less sum than was really owing him would not operate as a payment or as an accord and satisfaction. But the Code declares that "all receipts, releases and discharges in writing, whether of a debt of record or a contract under seal, or otherwise, must have effect according to the intention of the parties thereto." The uniform construction of this statute has been that, though the sum paid may be much less than the debt really due, if a receipt in writing is given, intended as a full discharge of the debt, in the absence of evidence of a mistake of material facts, or of concealment of such facts, or of misrepresentation, the receipt must have operation according to the intention of the parties. Eufaula Nat. Bank vs. Passmore. Supreme Court of Alabama. 14 So. Rep., 683.

Brain Gymnastics.

Modern studies of the brain, says Modern Medicine, have placed in a very clear light the fact that in gymnastics, piano playing, and skilled movements of all sorts, the training consists not simply in a discipline of the muscles involved, but is especially a training of the cells at the surface of the brain—the so-called cortical portion of the brain.

In many cases of paralysis, the failure of the patient to recover the use of the affected muscles is the result of neglect properly to train or educate the muscles. The patient is not always able to do this himself, for the reason that after the injury involving the cerebral region has been repaired, the muscles are often left in a state of such complete disability that the patient is not able to command them by his will; that is, although the connection between the will and the muscles is restored, the muscle is too weak to respond—not that the muscle is unable to contract, but it is unable to contract and at the same time do the work required of it in moving the parts to which it is attached. In these cases, passive movements are of the greatest assistance. The masseur should say to the patient (in a case involving the lower extremities, for example), "Draw up your foot," and at the instant when the patient makes the effort to draw up his foot, the masseur should raise the foot for him, or give such assistance as is necessary to raise the foot, perhaps leaving the patient to suppose that he has executed the movement himself, thus giving him encouragement and restoring his confidence. After this procedure has been executed for a few days, it will be noticed in many cases that there is a decided increase in the voluntary control of the patient over the affected part; and after a prolonged course of treatment, reaching, if necessary, over weeks or even months, the patient may be able to control the paralyzed parts in a very satisfactory manner. In like manner, the patient may even recover the power of speech after having once lost it. If the patient is able to understand the words spoken to him, although unable to utter them himself, in some cases it is possible to restore the ability to speak by calling his attention to the form assumed by the muscles of the lips and other muscles involved in articulation, and directing him each day in executing these movements, just as a deaf person is taught. In a case recently reported by Kuchler, a patient by this means acquired the use of more than a hundred words by only six weeks' practice, after having been speechless, or nearly so, for nine years, as the result of a stroke of apoplexy.

EVERY workman in Japan wears on his cap and on his back an inscription giving his business and his employer's name.

Wild Flowers of Autumn.

Composite plants, which include such beautiful ones as asters and goldenrods among others, do very much toward making pleasurable a visit to the fields and woods at this season. Toward the close of September and lasting through October, there are dozens of each genus in flower here. I am glad to see these lovely flowers cultivated more than they were. Our fields are rich in goldenrods. One of the earliest to flower is the one known as Solidago odora. The foliage is pleasantly scented besides. Two tall-growing, showy ones are S. altissima and S. canadensis. Lanciolata has flattish heads of flowers, and the leaves are lightly scented. Another one, nemoralis, bears a large head of flowers. A really beautiful species is cæsia. It is of comparatively slender growth, does not branch much, and bears golden yellow flowers close to the shoots; so that some of them which are not branched at all look like strings of yellow flowers.

Another one, and the only goldenrod which is not golden, flowers in much the same way. This is the bicolor, and it has white flowers. Any one desiring a display of golden flowers in his garden in the fall should get a collection of these goldenrods now while they are in bloom. Not in the least behind the goldenrods in merit are the asters. This locality is rich in the great variety of them it possesses. The best of all is certainly Novæ angliæ, the New England aster. This has large purple flowers, abundantly produced on strong, leafy shoots and it grows to a height of six to seven feet. Like most other asters, it is easily raised from seeds. Next to this one, I think patens makes the most display. While quite firm and erect, the plant has a slender look. It bears large blue flowers in great profusion. This one grows to bud two to three feet in height. There are dry hillsides here which are a blaze of blue toward the close of September when this aster is in its prime. Near watercourses a light blue, large flowered and large growing aster is to be found, often bending over with the weight of its flowers. This is puniceus. It has a reddish stem and large rough leaves. Corymbosus, macrophyllus and a host of common roadside asters are found on every hand. On dryish banks the Gerardias are making a fine display now. There are two species, G. flava, with large yellow flowers, looking for all the world like a foxglove, and G. purpurea, purple and smaller flowers. In swampy places the lovely cardinal flower, Lobelia cardinalis, is almost out of bloom. I mention it now in order that I may call attention to its adaptability for setting in partly swampy places, where many another plant would not grow. There is no like plant of tropical nature that could take the place of this beautiful native.

Passing through the woods a few days ago, I noticed many beautiful berry plants. Many of these plants had borne pretty blossoms in the spring, and now were as pretty in their display of fruit. There was the Smilacina racemosa, bearing panicles of scarlet fruit where its yellowish white flowers had been in May. The preacher-in-the-pulpit, Arum tryphyllum, had close heads of scarlet berries, which were prettier than its bronze specter in the spring. The Medeola virginica was there likewise, its erect leafy stem crowned with three or four bright black berries. Actea alba displayed a small cluster of white berries, and the creeping evergreen, Mitchella repens, the partridge berry, lovely scarlet ones.

Among shrubs and trees there are many now which are bright with fruit. There are two roses, Rosa carolina and R. lucida, both bearing deep red berries. The former grows in swamps, the latter in dry ground. The Taxus canadensis bears orange red berries. I had often heard that these seeds should not be eaten, but children eat them from our bushes, and seem to thrive on them. There are three species of native thorns displaying their scarlet fruit, Cratægus coccinea, C. cordata and C. crus-galli. Of these, coccinea has the largest fruit, appearing almost like small crab apples. Cordata has small berries, not unlike the European one, oxycantha; crus-galli, the cockspur hawthorn, has rather large fruit, but it does not become as bright in coloras the others do. The large-flowered dogwood, Cornus florida, the deciduous holly, Prinus verticillatus, and the spice bush, Laurus benzoin, are clustered with bright scarlet berries.—Joseph Meehan, in the Country Gentleman.

IT is stated that the Havock and Hornet class of destroyers are unable to use their bow torpedo tubes, as when going at full speed they are liable to overtake the torpedo. It is true that the latter, once fairly on its way, has a speed of 32 knots, but it requires some few seconds to get up speed, and it is this delay which enables the boat to overrun it. The consequences might be serious when firing charged torpedoes.

The Destruction of Derelicts.

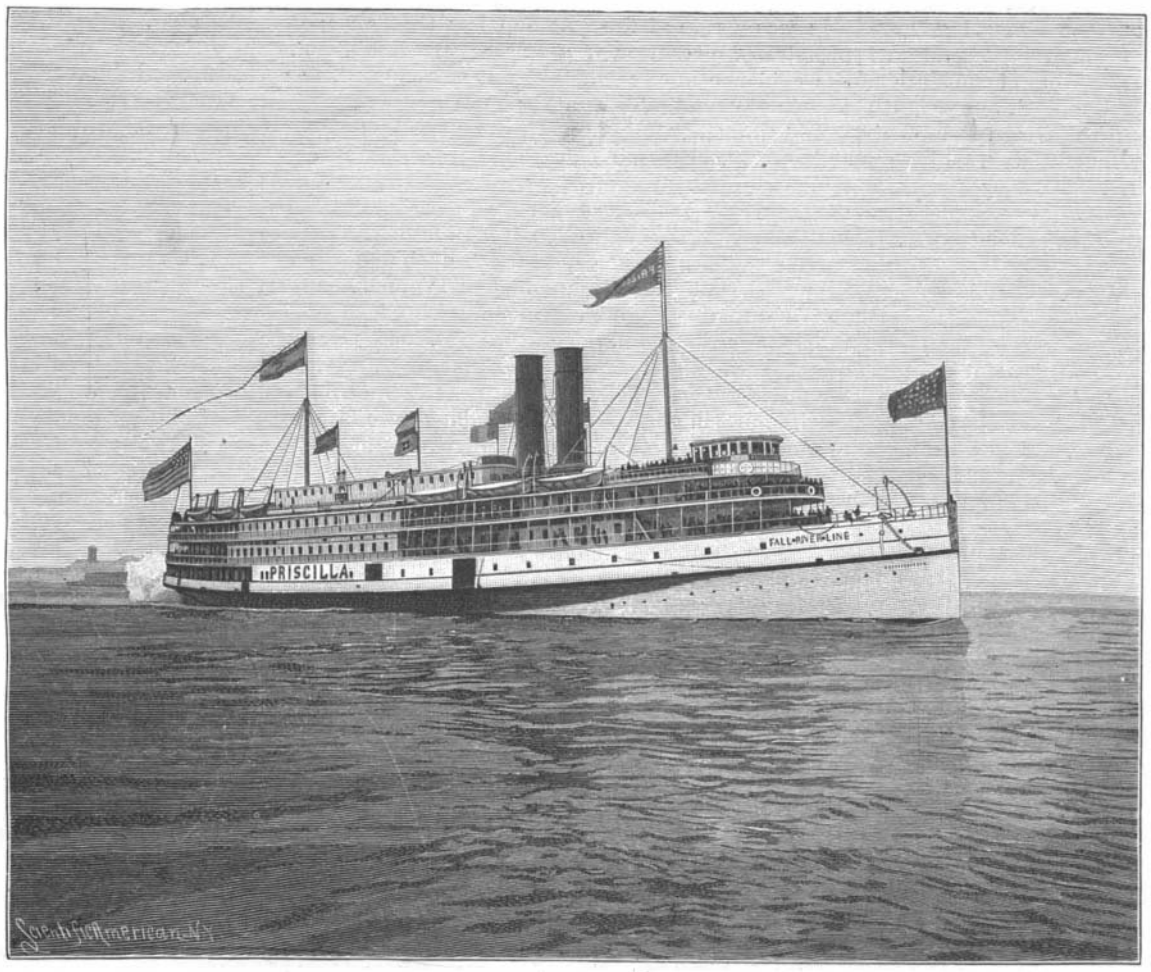
In a recent issue of the monthly Atlantic Pilot Chart, published by the Hydrographic Department, United States navy, it is stated that during the past seven years, 1887 to 1893, the Hydrographic Office received 5,024 reports concerning a total number of 1.628 derelicts, of which number 482 were identified and 1,146 unidentified. The average number of derelicts constantly afloat is estimated to be 232 annually, or about 19 per month. Statistics compiled from the reports received show that the average period a derelict is afloat, after having been abandoned, is about 30 days. The dangerous character of these derelicts is illustrated by the fact that in this period of seven years there have been 45 collisions with them, which caused the total loss of nine vessels and considerably damaged seventeen others. Seventy derelicts have been destroyed, one by torpedoes and the ram of the U. S. S. San Francisco and 69 by fire. Seven other attempts to destroy derelicts by fire are considered to have been unsuccessful, as the derelicts remained afloat for some time after having been set on fire. Five of these seven had cargoes of lumber that had become so waterlogged as not to be inflammable; the other two were in ballast. The efficacy of destroying derelicts by fire is thus illustrated. In the cases of the 59 attempts regarded as successful, the fact that these derelicts were never seen subsequent to the time they were set on fire is regarded as sufficient proof of their destruction.

A Whistling Snake.

The discovery by the Horn expedition to the McDonnell Ranges, in Australia, of a remarkable specimen of natural history called a "whistling spider," whose peculiarity consists in producing a whistling noise by the simple operation of drawing its foreleg across its jaw, seems at the moment to be outdone. Sir William Macgregor, the Administrator of British New Guinea, is now in the field with another extraordinary discovery —a whistling snake. In his latest report Sir William says that a large number of deaths occurred early this year in the Rigo district of New Guinea from snake bite. The administrator points out that the island is infested by a small species of black snake, which is very fierce. The natives declare that whenever a man goes near one it rushes at him, uttering sounds which they describe as resembling a whistle. "Shortly before I was at the government station," writes Sir William Macgregor, "one of these reptiles attacked the government agent, but was killed before it did any harm. A little while before a boy of fourteen years was in the bush near the station when one of these snakes made a rush at him with the usual peculiar whistling sound. The boy thought the noise emanated from some cockatoos in a tree, and began to look for them. He did not discover his mistake until he received a bite from the reptile, from which he died.

Bookmaking Exposition.

The International Exposition of the book, paper, and printing trades was opened at the Palais de l'Industrie in Paris on July 23, and will remain open until some time in December. Many of the French societies for the advancement of art, science and trade make important exhibits. Several foreign nations, including the United States, also participate. Probably the most interesting exhibit is that devoted to the production of books for the blind. This display is largely retrospective. Bookbinding is also well represented. France is a country where collecting has been reduced to a fine art, so that some of the exhibits loaned by amateurs are very fine.



THE STEAMER PRISCILLA, OF THE FALL RIVER LINE.

THE GRAND SALOON AND ELECTRIC LIGHTING OF THE STEAMER PRISCILLA, OF THE FALL RIVER LINE.

We illustrate in the present issue the interior of the grand saloon of the steamer Priscilla, of the Fall River line, a vessel which we have already described, and which is one of the most magnificent specimens of naval architecture in existence. The stairway in the grand saloon, of which two views are given, is accepted as one of the most difficult portions for treatment, and the cuts show a most successful design, in whose carrying out the skill of the iron master and of the art modeler were utilized. The columns and paneling, which are seen to be of the most elaborate design, are all made of papier mache, by the firm of H. Sinclair's Sons, of 327 Seventh Avenue, New York, a firm representing the third generation occupied in and conducting the same business —something very unusual in this country. All the paneling, ceilings, and similar work on the boat were the work of this firm. In executing it twelve tons of material were employed, representing eleven months' work of a gang of about sixty men on the boat and twenty-five in the shop. In the grand saloon the decorations are of the purest Italian Renaissance, while in the dining room an equally pure example of East Indian design has been followed. In the painting, gold leaf has been used sparingly, only the high lights receiving it. In lightness and ornateness and in adaptation to every conceivable requirement the papier mache leaves nothing to be desired. It is also fireproof, a matter of great moment in such a vessel as the Priscilla.

The beautiful iron railing, which represents true art work in metal, and which is all hand made, was produced at the works of John Williams, 544-556 West 27th Street, this city. It is not saying too much to assert that the public have been educated to an appreciation of fine art in metal largely by the productions of this firm. In New York and other cities, in the finest hotels, office buildings, and private residences, may be found samples of gates and grilles all hand made, in the most elaborate forging, by this firm.

Their workshop and forge is a most interesting place to visit. It reminds one of the doctrines of Ruskin to see great gates and heavy railings all forged by hand from the bar and plate. A single little leaf in a railing may represent some hours' work of a man. The different members of the design are welded or brazed or otherwise fastened together, even soldering riveting and bolting being required by some of the most intricate designs. The beautiful railing on the Priscilla shows the smaller class of work produced by this firm. In our last issue it will be remembered that we showed the gates and grilles of the Metropolitan Club's palatial home.

In the last cut we show the great dome electrolier, built by the General Fixture Company, of this city. The dome is 7 feet in dia-

VIEW IN THE GRAND SALOON OF THE STEAMER PRISCILLA.