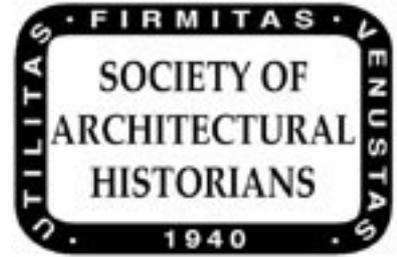




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# Taller than Eiffel's Tower: The London and Chicago Tower Projects, 1889–1894

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*During the later 19th century the rapid spread of iron and steel building technology created an engineers' architecture in which technical problems frequently took priority over traditional concerns of architectural style. Perhaps no other structure represents a more dramatic statement of this new spirit in architecture than the Eiffel Tower. Yet while the controversy surrounding the building of the Eiffel Tower is well known, the almost immediate attempts on the part of American and British engineers and architects to build a taller tower are not. This article concentrates particularly on two ambitious but ultimately unsuccessful attempts to outdistance the Eiffel Tower: Sir Edward Watkin's Wembley Park Tower in London and a monumental tower for the Columbian Exposition in Chicago in 1893. These efforts were well documented in any number of architectural and engineering journals of the period. They were also frequently reported and debated in popular magazines and newspapers, reflecting the strong general interest and national pride involved in the prospect of claiming the tallest structure in the world. This article is based primarily on such period sources, not only because of the liveliness of the reportage, but because, in some cases, they provide the only accessible information on some of the proposed tower projects. The most striking fact about the ultimately futile efforts of British and American builders to construct a taller tower is that, while they certainly had the technical expertise to do so, economic considerations overcame them. Doubts as to the profitability of another tall tower as a public attraction on either a temporary or permanent basis doomed both the London and Chicago tower projects to failure.*

THE IDEA OF BUILDING monumental towers to commemorate important cultural or political events persisted throughout most of the 19th century. The first major attempt of this sort was that of the British engineer Richard Trevithick, who proposed a 1,000-foot columnar tower of gilded cast iron to commemorate the passage of the Reform Act in 1832 (Fig. 1). Trevithick died in 1833, and although the project was briefly revived in 1862 as a possible monument to Prince Albert, it met with little enthusiasm.<sup>1</sup> It was especially on the occasion of international expositions that 19th-century architects and engineers came forward with monumental tower proposals. *JSAH XLVI:145–156. JUNE 1987*

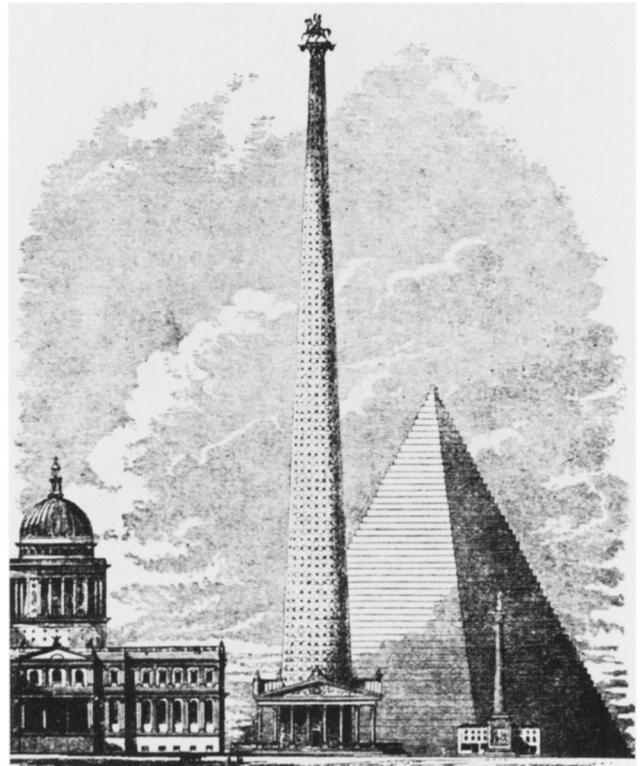


Fig. 1. Richard Trevithick, Project for the Monument to the Reform Act, 1832.

Following the London Exhibition of 1851, one architect suggested using the glass and iron from the Crystal Palace to construct a tower 1,000 feet high.<sup>2</sup> The first serious proposal for a monumental tower at an international exposition came in the 1870s, when the civil engineering team of Clark and Reeves, proprietors of a bridge works in Phoenixville, Pennsylvania, concocted a plan for a tower to be erected adjacent to the Centennial Exposition in Philadelphia in 1876 (Fig. 2). This “Centennial Tower” was also intended to be 1,000 feet high, constructed of iron, and, like Trevithick’s earlier pro-

1. F. L. Jenkins, “Harbingers of Eiffel’s Tower,” *JSAH*, 16 (1957), 22–23.

2. Jenkins, “Harbingers,” 25.

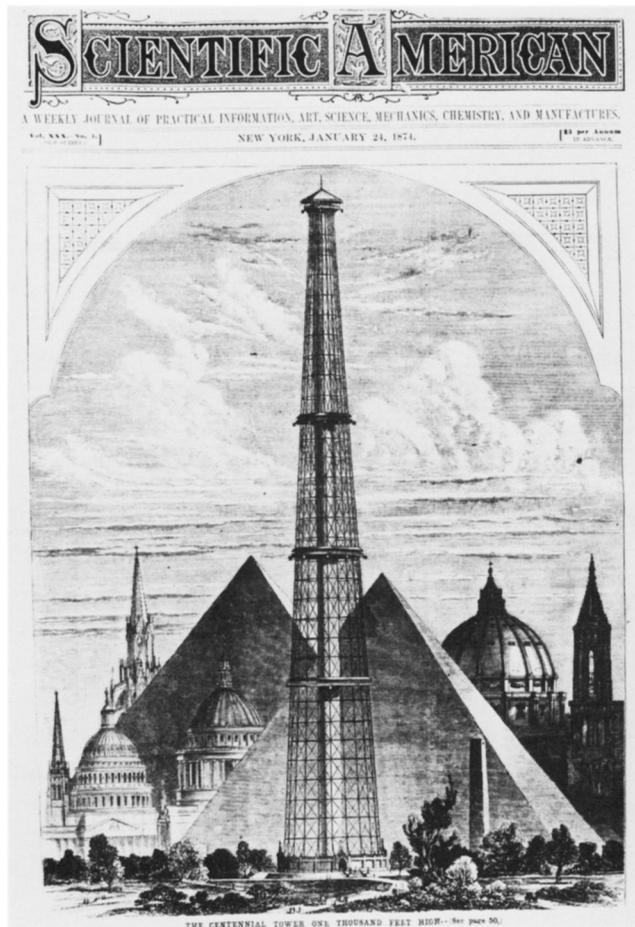


Fig. 2. Clark, Reeves and Company, Project for the Centennial Tower, 1874 (*Scientific American*, January 1874).

posal, was to be columnar in shape. The core of the tower would have contained a tube 30 feet in diameter housing its four elevators. Although the technical difficulties of building such a monument in the space of two years were clearly understood, there was considerable support for the Centennial Tower at the time. As one article in *Scientific American* put it, "Not only shall we commemorate our birthday by the loftiest structure ever built by man, but by an edifice designed by American engineers, reared by American mechanics, and constructed of material purely the produce of American soil."<sup>3</sup> Ultimately, the plan for the Centennial Tower went the way of earlier unrealized projects. However, as the enthusiastic language of *Scientific American* indicates, many saw the realization of a 1,000-foot tower not only as a spectacular commemorative monument, but, perhaps even more important, as dramatic proof of the technological supremacy of the country which could produce it.

3. "The Centennial Tower One Thousand Feet High," *Scientific American*, Ser. 2, 30 (1874), 50.

4. *Commonweal*, 5 (1889), 361.

5. *La Semaine des Constructeurs*, Ser. 2, 1 (1887), 471.

The first successful execution of a 1,000-foot tower at an international exposition was of course the Eiffel Tower of 1889. The petition of protest by artists and various others against Gustave Eiffel's tower is well known. Yet what is most striking about the many criticisms aimed at the Eiffel Tower is that the most abusive of them came from foreign rather than French sources. More than anywhere else, Eiffel's accomplishment aroused the national jealousies of the British, who spoke ill of the tower almost from the time that it was first conceived. Not unexpectedly, some of the sharpest rebuke of the Eiffel Tower came from William Morris, who saw it while attending a socialist congress in Paris in the summer of 1889. Responding to a rumor late in 1889 that one or more such towers might be built in London, Morris indignantly dismissed the Eiffel Tower as "a hellish piece of ugliness," and, as a concession at the exposition, "a piece of brigandage on the public."<sup>4</sup> By the time the Exposition of 1889 closed, however, there was one point which none could dispute: the Eiffel Tower had been an enormous financial success. Even though the cost of tickets was relatively expensive, the trip up the elevators of the tower had been so popular that there was often a wait of several hours at the ticket booths. Constructed with a government subsidy of one-and-a-half million francs, the Eiffel Tower easily paid for itself in admission revenues even before the Exposition closed; Eiffel himself would enjoy a concession on the tower profits over the next 20 years at the ridiculous fee of 100 francs a year paid to the city of Paris. It is little wonder that by November of 1889 the shares of the Eiffel Tower Company stood at fully twice their original value. Likewise, it is scarcely surprising that planners of expositions elsewhere would begin to consider taller or more novel towers which would presumably provide the same lucrative centerpiece that the Eiffel Tower had been at the Paris Exposition. As early as 1886, the Belgian architects F. Hennebique and E. Nève proposed to preempt Eiffel's project by constructing a wooden tower 300 meters high for the exposition to be held in Brussels in 1888. The design of this quasi-Gothic fantasy (Fig. 3) is not without a certain charm, although, as was pointed out at the time, its construction costs would have been enormous and its stability would have been doubtful, to say the least.<sup>5</sup>

The first serious attempt to build a tower taller than Eiffel's originated with the financier Sir Edward Watkin and Benjamin Baker, constructor of the Firth of Forth bridge. These men proposed a tower for London which, even though it would not be associated with an international exposition or major political anniversary, was nevertheless expected to be an immensely profitable venture. In October of 1889, Watkin extended invitations for a competition, and 68 proposals for the London Tower had been received by the beginning of 1890. By its own account, the jury was generally disappointed with the results of this competition and could not recommend

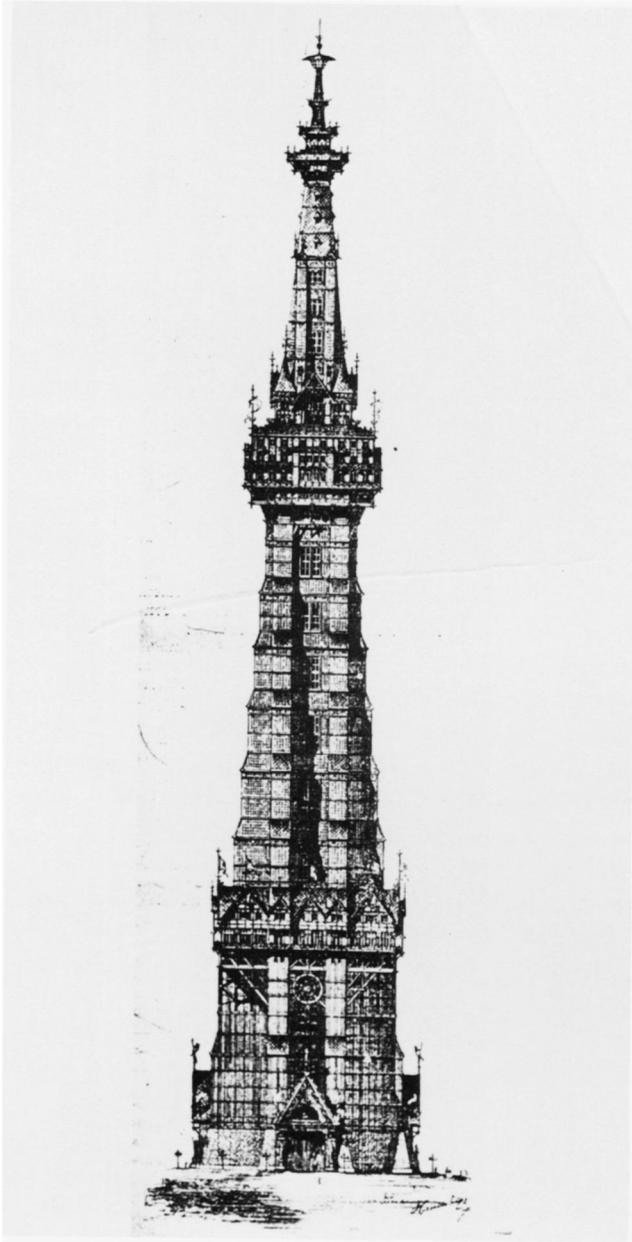


Fig. 3. F. Hennebique and E. Nève, Project for a monumental tower at the Brussels International Exposition of 1888 (*La Semaine des Constructeurs*, April 1887).

any of the entries enthusiastically. In justice to the contestants, however, the jury pointed out that the problem of originality had been a difficult one “because in the Eiffel Tower the most natural and obvious way of combining economic construction and suitable architectural effect had already been appropriated.”<sup>6</sup> The heights proposed for Watkin’s tower ranged from 1,197 to 2,007 feet, and the proposed designs varied from the most absurdly eclectic to the most radically functional (Fig. 4).

Most of the designs submitted were for towers of iron or steel, although there were a few projects in concrete and stone as well.<sup>7</sup> The winning design, submitted by A. D. Stewart, J. W. Maclaren, and W. Dunn, was for a relatively plain steel tower which would have had an eight-legged base 300 feet in diameter and would have risen to 1,200 feet. Recognizing the need for ample concession space within the tower, the designers provided for four gallery platforms at regular intervals along the length of the tower. The plan for the Wembley Park Tower, named for its site on the Metropolitan Railway, was greatly simplified after the site was selected. For the sake of economy, the number of legs was reduced from eight to four, and the platforms from four to three. In its revised form (Fig. 5), the Wembley Tower resembled the Eiffel Tower even more closely than it had originally, although its height, 150 feet greater than the Eiffel Tower, would be all the more accentuated by its more narrow base. The foundations for the legs were laid in 1892, and by September of 1893 the superstructure had risen to 62 feet (Fig. 6). Although progress had been slow to that point, the contractors optimistically predicted that the tower would be completed within a year.<sup>8</sup>

Even before the Paris Exposition of 1889 closed, several engineers in America had already proposed ideas for a monumental tower at the Columbian Exposition, scheduled at that time to open in 1892. A host city for the Columbian Exposition had not yet been chosen; New York, St. Louis, and Chicago were the three most frequently mentioned candidates. Late in 1889, W. L. Judson came forward with a proposal for a free-standing tower 1,600 feet high (Fig. 7). This design, which harkened back to the columnar projects from earlier in the century, was intended to highlight Judson’s system of pneumatic car propulsion by including two separate roadways to spiral along the inner face of the tower from base to summit and back on a gradient of eight in 100 feet. One path was to be used by ordinary street vehicles, the other served by tramcars propelled by Judson’s pneumatic system. This gargantuan structure was planned to have a daily capacity of 94,000 people. The same Phoenix Bridge Company which had proposed the Centennial Tower for 1876 offered to build the Judson Tower at an estimated cost of \$2,500,000.<sup>9</sup>

On 23 February 1890, the U.S. House of Representatives finally voted in favor of Chicago as the site for the Columbian Exposition. Three days later, the *Chicago Tribune* published a crude pastiche of Millet’s *Angelus*, in which the personifications of New York and St. Louis glare dejectedly groundward while, in the background, a vaguely Eiffelesque tower shines radiantly over the World’s Fair in Chicago (Fig. 8). Speaking for the city of New York, *Life* magazine would later offer its own sarcastic suggestion for a Chicago tower, scarcely concealing its disappointment over the selection of such a boorish city for the Columbian Exposition (Fig. 9).

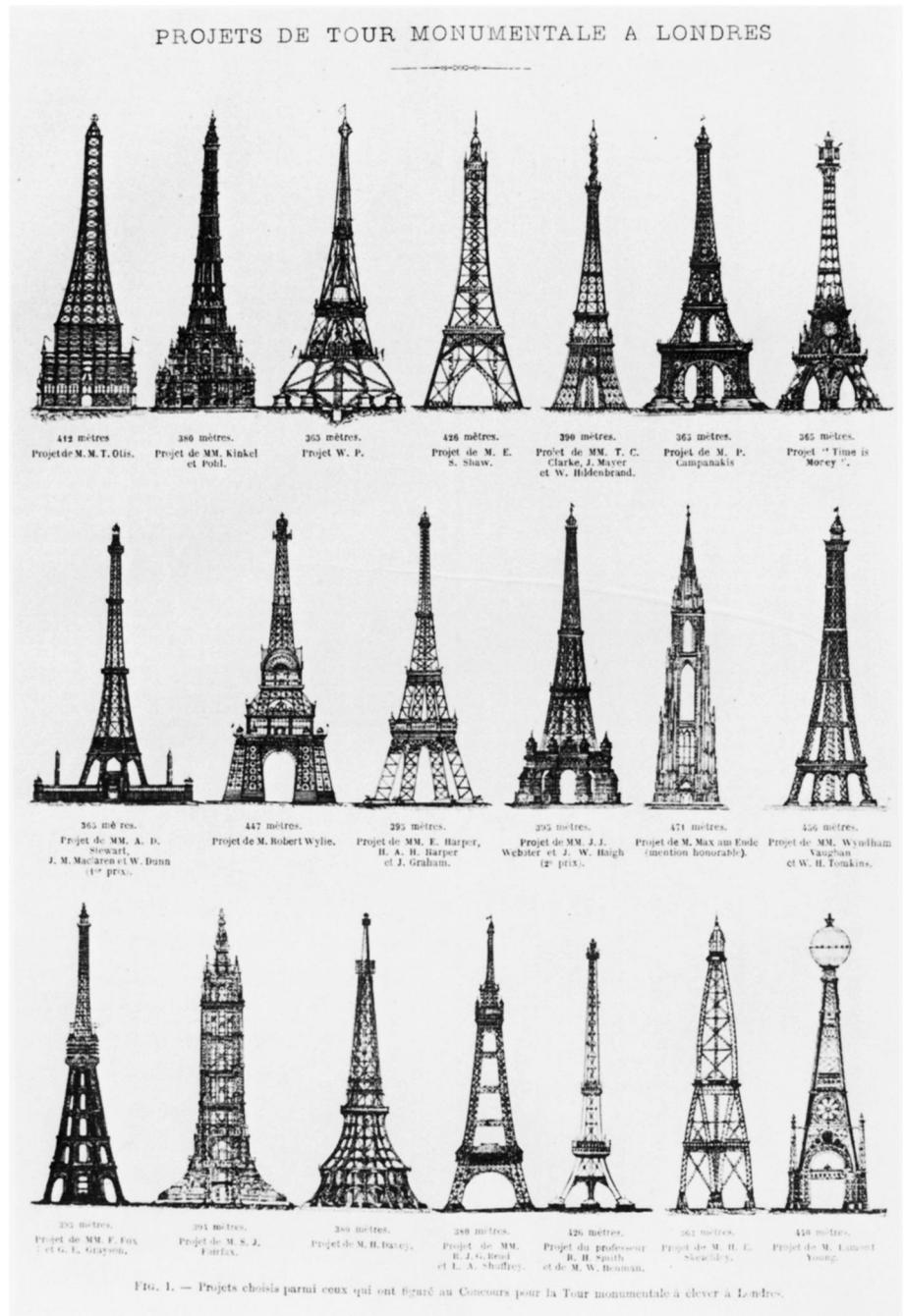


Fig. 4. Projects submitted to the London Tower Competition, 1890 (*Le Génie Civil*, July 1890).

The site of the Exposition having been decided, the *Chicago Tribune* had designated itself as the unofficial forum for proposals to build a Columbian Exposition tower. An especially innovative idea which was announced in the *Tribune* of March 9, 1890, was a plan by E. S. Jenison and Company to enclose the entire exposition in a vast circular iron and glass tent covering some 193 acres. A central steel tower, capable of holding eight elevators and supporting the entire roof, would have risen to 1,100 feet. Ideas for the Columbian Exposition tower flooded the offices of the *Tribune* throughout the early months

of 1890, and in June the newspaper published an article describing how the Exposition commissioners were already tiring of what they considered to be the frequently ridiculous

6. "The Watkin Tower Competition," *Engineering*, 49 (1890), 736.
7. A review of many of the projects submitted in the competition was published in "The Great Tower in London," *Engineering*, 49 (1890), 542-544.
8. "Wembley Park Tower," *The Engineer*, 76 (1893), 239.
9. *Chicago Tribune*, 24 October 1889.

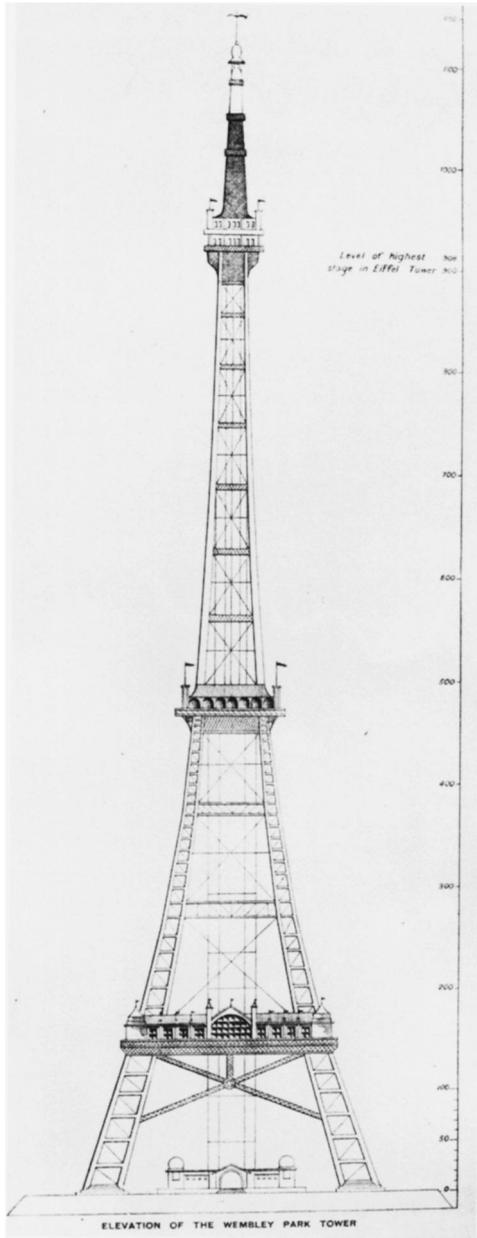


Fig. 5. A. D. Stewart, J. W. Maclaren, and W. Dunn, Revised elevation, Wembley Park Tower, London, 1891 (*The Engineer*, September 1893).

proposals being submitted to them.<sup>10</sup> There was one proposal, however, which undoubtedly gave the commissioners pause to consider. In April, Gustave Eiffel himself made an offer to build a tower for the Columbian Exposition that would be fully 500 feet taller than his famous structure in Paris.<sup>11</sup>

10. "The Columbian Exposition Cranks," *Chicago Tribune*, 15 June 1890.

11. *Chicago Tribune*, 23 April 1890.

12. *American Architect and Building News*, 28 (1890), 126.

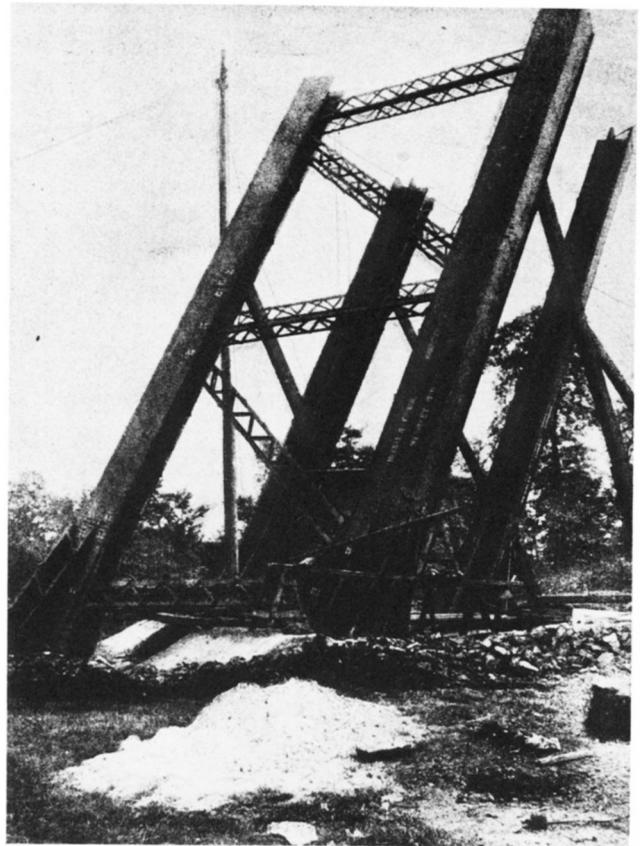


Fig. 6. The Wembley Park Tower under construction, 1893 (*The Engineer*, September 1893).

For the sake of bragging rights, the Columbian Exposition tower would assuredly need to be at least slightly taller than the tower in Paris. However, it was also widely felt that, unlike the tower planned for London, it should also provide a clear aesthetic alternative to the design of the Eiffel Tower. Several designs submitted during 1890 certainly presented such an alternative, perhaps the most ambitious of which was one by the Washington, D.C., architects Charles Kinkel and G. R. Pohl. This firm, which had previously submitted a similar design in the London tower competition, proposed an immense structure 1,500 feet high and 480 feet in diameter at its base (Fig. 10). The tower itself would have been composed of 16 hyperbolically curved legs with numerous horizontal and diagonal braces. Directly beneath the tower would have been a domed auditorium rising to 230 feet, which, along with its adjacent lobbies and galleries, would have accommodated an estimated 30,000 people. Beyond this, the structure was intended to include the largest hotel in the world (approximately 4,000 rooms), together with additional space that would have been offered to the Chicago Public Library. The lower floors would have communicated with the tower through a system of eight elevators. As the *Chicago Tribune* of 24 May pointed out, this proposed structure was different

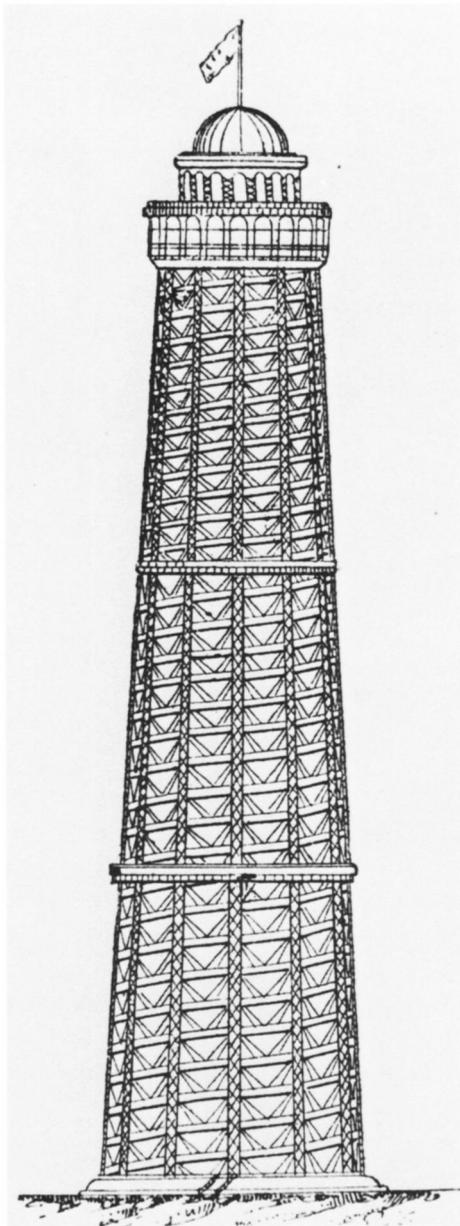


Fig. 7. W. L. Judson, Project for a monumental tower at the Columbian Exposition, 1889 (*Le Génie Civil*, November 1889).

from the London tower not only because its proportions were mightier, but also because its ornamentation was much more elaborate. This was precisely the point which a critic for *American Architect and Building News* felt recommended this design over the plainer and more utilitarian Eiffel Tower.<sup>12</sup>

Construction of the Columbian Exposition began in January of 1891, and it was obvious that, despite the postponement of the opening date until 1893, for there to be a monumental tower at the exposition a decision would have to be reached soon. Until now, the Exposition commissioners had remained generally aloof from the tower debate, neither rejecting the idea outright nor supporting any particular proposal. How-

ever, by the spring of 1891, the project by David Proctor and the Columbian Tower Company (Fig. 11) had emerged as a clear if unofficial favorite. Citing a report by Chief of Construction D. H. Burnham as its source of information, the *Tribune* confidently announced on 5 March that the "Proctor Tower," 1,050 feet high, would be built at the head of the midway. This optimism was undoubtedly inspired in part by the importance of Proctor's collaborators. The well-known Chicago firm of George A. Fuller was prepared to contract for the construction of the tower; the steel would be furnished by Carnegie's works in Pittsburgh and shipped by barge to Chicago, ready for assembly. The cost of the tower was estimated at \$2,000,000, and a stock corporation had been formed, with the parties in the construction having agreed to take half of their fees in stock. However, there was still the fundamental question of whether the Exposition commissioners would allow the tower to remain after the conclusion of the Columbian Exposition. A spokesman for the Columbian Tower Company made it clear that if the tower could not remain on the site they would not build it. Projections of its enormous earnings notwithstanding, both the commissioners and the members of the company were clearly unsure that the tower could pay for itself during the course of the Exposition. Still, supporters of the Proctor Tower remained optimistic; on 12 May 1891, the *Tribune* reported that a force of workmen had already begun making soundings for foundations on the Mid-



Fig. 8. Cartoon from the *Chicago Tribune*, 27 February 1890.

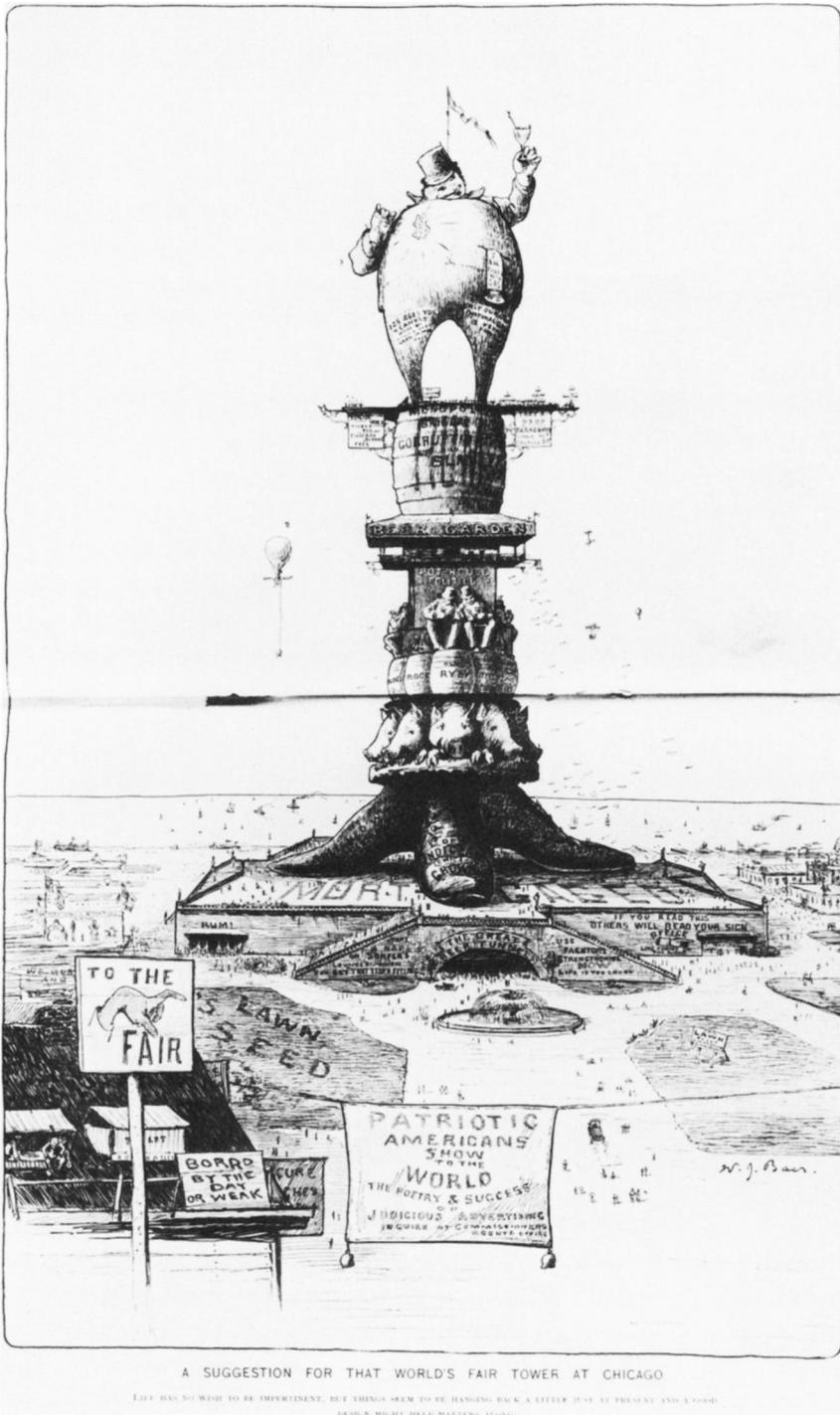


Fig. 9. Cartoon from *Life*, 20 August 1891.

way. Three days later, it announced that Proctor's Columbian Tower project was still definitely on. It would now cost \$3,000,000 and would stand 100 feet taller than the Eiffel Tower.

Aside from the fact that it called for six legs instead of four, the overall configuration of Proctor's design was quite similar to that of the Eiffel Tower. As with several earlier proposals, however, Proctor's design reflected the desire to greatly en-

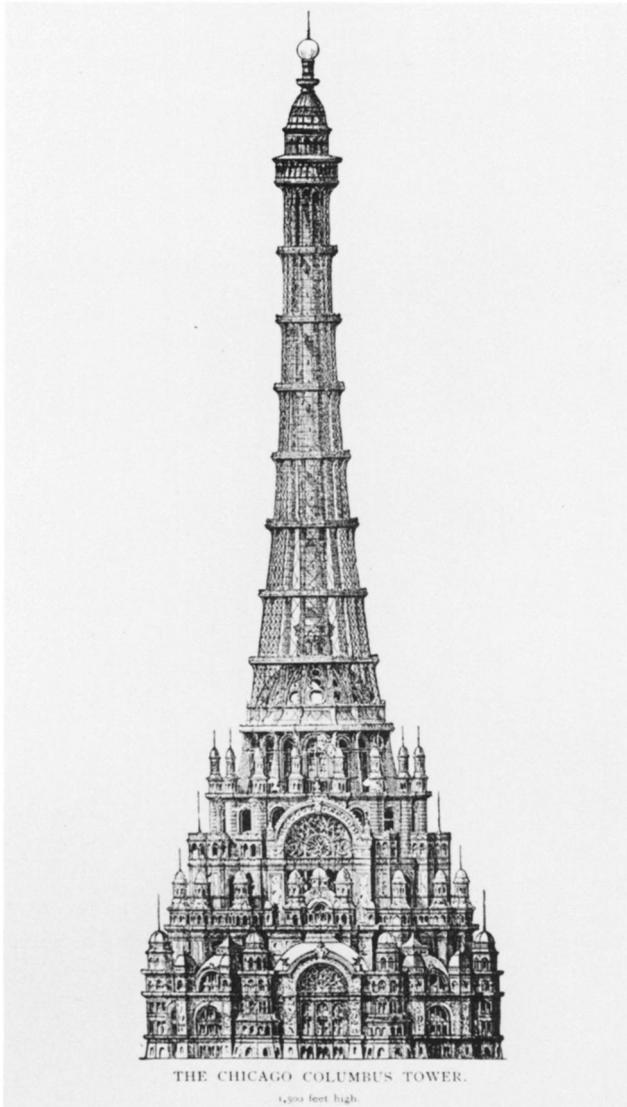


Fig. 10. Charles Kinkel and G. R. Pohl, Design for the Chicago Columbus Tower, 1890 (H. G. Cutler, *The World's Fair*, p. 524).

large visitor capacity, and presumably the profitability, of its predecessor in Paris. Thus, while the observation platform at its summit would have been essentially an amplified variation on Eiffel's design, much more substantial architectural structures on the tower's two lower platforms were planned. The elevators would have ascended directly through the central shaft of the tower instead of along curved legs. With the prodigious carrying capacity of 8,000 people per hour, this system would have eliminated the crowding which had plagued the smaller and more delicate lifts on the Eiffel Tower. It was estimated that, altogether, the tower could hold 50,000 people at any given time. Stylistically speaking, the structures on the platforms and the decorative detail of the tower generally showed a much greater elaboration than either the Eiffel

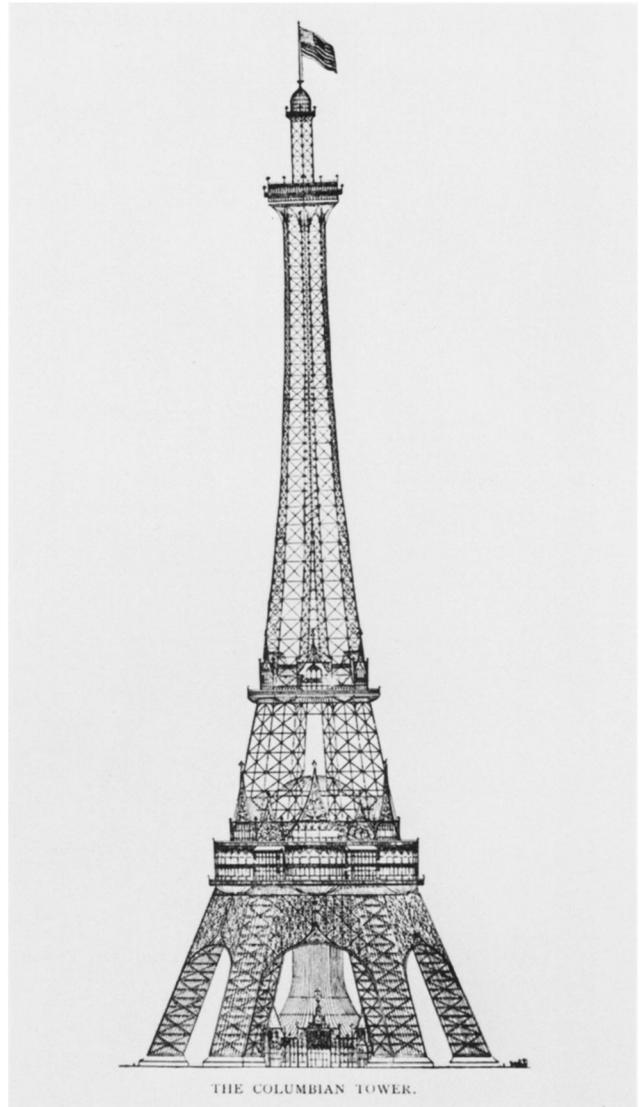


Fig. 11. David Proctor, Design for the Columbian Tower, 1890 (Cutler, p. 618).

Tower or the tower under construction in London. The extent of this decoration is evident in the half section diagram (Fig. 12), where the rich Gothic tracery, as well as the dome and the protruding bays of the first landing, can be clearly seen. For many, it was once again the greater ornamentation of the Proctor design which made it aesthetically preferable to its French predecessor. For one French critic, however, its flamboyant Gothic decoration represented a distinct step backward from the more original approach to ornamentation in ironwork found on the Eiffel Tower.<sup>13</sup> The Proctor design was certainly less ponderous in its eclecticism than the one submitted by Kinkel and Pohl, although the latter might have been even more in tune with the general appearance of the White City of the Exposition as it emerged in 1893.

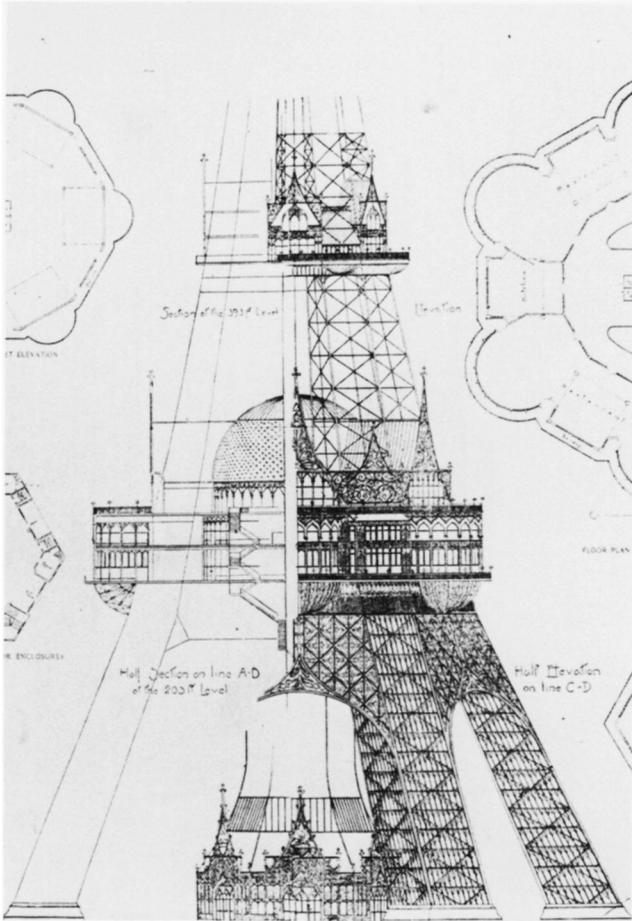


Fig. 12. David Proctor, Half section diagram, Columbian Tower, 1890 (*Scientific American Supplement*, April 1891).

It is curious to note that, while the construction of the Proctor Tower was by no means certain at this point, one publisher who wanted to get a jump on the competition produced a guidebook in 1891 which provided, along with coverage of all the other attractions of the Exposition, an illustration and extensive description of this Columbian Tower, including various crowd reactions to it:

Embarking on one of the many elevators we speedily reach the first landing, which comprises three balconies, twenty-five feet apart, all covered by a beautiful dome of glass 100 feet high from the floor. Here we find a surging mass keenly bent on enjoying themselves, now that they have left earthly things behind. Their unwonted upwardness

13. "La Tour de l'Exposition de Chicago," *Le Génie Civil*, 19 (1891), 76. "Les seules modifications présentées par l'auteur du projet consistent dans la disposition hexagonale de la base, et l'ornementation générale, qui, au lieu d'être, comme au monument au Champ de Mars, d'un caractère entièrement nouveau, paraît être empruntée au style flamboyant."

14. H. G. Cutler, *The World's Fair*, Chicago, 1891, 619.

has given many of them an appetite and so the many places devoted to various refreshments are liberally patronized. Others, especially the fair sex, crowd the photograph gallery, and the young men are equally partial to the billiard halls.<sup>14</sup>

This might have been a fairly accurate description had the structure ever been built, but after all of the publicity surrounding the project, and just over a month after it had claimed that work on the tower had begun, the *Tribune* suddenly reported on 20 June that the Proctor Tower was not to be. The Ways and Means Committee of the Exposition had come to the conclusion that the Columbian Tower Company had not made satisfactory progress with its plans, and the committee announced that it was ready to negotiate with any other responsible parties who might wish to build a tower. However, for any such party, there remained two serious obstacles. First, it was by this point certain that whatever tower might be constructed for the Exposition would have to be temporary. Second, unlike the generous subsidy the French government had provided for the Eiffel Tower, the commissioners made it clear that any such structure in Chicago would have to be totally supported by private funds. By the middle of 1891 there was the additional problem of time. Even the Eiffel Tower, which was constructed without any major delays, had required two years to complete.

In response to the renewed appeal for a viable tower project, on 4 August Gustave Eiffel cabled William T. Baker, president of the Board of Directors of the Exposition, offering for a second time to build a tower taller than the one in Paris. Baker quickly replied that the board would be glad to consider his ideas.<sup>15</sup> When news of this exchange got out, it brought a sharp reaction from members of the Western Society of Civil Engineers. In a petition published in the *Tribune* on 16 August, this group maintained that to allow Eiffel to erect a tower in Chicago would be "equivalent to a statement that the great body of civil engineers in this country, whose noble works attest their skill abroad as well as throughout the length and breadth of the land, lack this ability to cope with such a problem, and such action would have a tendency to rob them of their just claim to professional excellence." A *Tribune* editorialist had little sympathy for this appeal, responding that American engineers had already been given ample opportunities to begin constructing a tower, but none had done so. Eiffel's proposition became a moot point when it was learned that he only proposed to build the tower and expected American investors to pay for it. On that basis, the Ways and Means Committee of the Exposition rejected Eiffel's proposal, even though at around \$1,225,000 its cost would have been well below that of Proctor's earlier proposal. At the same time, the committee also made it clear that it would consider no more

15. *Chicago Tribune*, 8 August 1891.

projects for a tower on the Exposition grounds unless the parties involved could guarantee they had the financial means to build it.<sup>16</sup>

Although several more or less dubious proposals continued to come in during the later months of 1891, the chances of a monumental tower being built in time for the Exposition seemed by this point to be very slim. On 12 September the *Tribune*, which had been such a steadfast supporter of a tower for the Exposition over the past two years, tried to put the best face on the situation by bravely announcing that "Chicago will not endeavor to imitate Paris by constructing a sky-scraping tower." However, in October George S. Morison came forward with plans for a 1,120-foot tower which he claimed could be built within a year, easily in time for the opening of the Exposition. Morison's qualifications for the job were well established; like Eiffel, he had made his reputation as a prolific bridge builder, working primarily in the midwest. Morison was supported by a substantial consortium of backers, including Carnegie's Keystone Bridge Company in Pittsburgh, the company which would provide the standard and recyclable steel components for the tower. The promoters were convinced that the tower could be built for \$1,500,000, which was roughly \$200,000 less than the Eiffel Tower had cost.

Morison's plan was a radically simple approach to the problem of tall tower construction. The spare and utilitarian nature of his design (Fig. 13) would have been a distinctly American alternative to the more elegant and fragile appearance of the Eiffel Tower. It was undoubtedly the most plausible and carefully conceived of any Columbian Exposition tower plan submitted to that point. Morison's design reflected not only the need for economy and rapid construction, but also the specific conditions of the site on which it was to be built. The soft, sandy soil of the area could take heavy loads well enough if evenly distributed, but it could not handle lateral thrusts well. Thus the kind of inclined supports used in the Eiffel Tower were out of the question. The plan from above (Fig. 14) shows the configuration of the eight outlying piers which would have supported the exterior frame of the structure, and the central concrete core to support the shaft of the tower. The eight elevators, each with a capacity of 50 persons, would have run directly from the ground through the central shaft, with two going non-stop to the summit. As indicated in a skeleton elevation (Fig. 15), the outlines of the tower are an essay in geometric simplicity. The Greek Cross form of the base was to be 400 feet wide. The circular first platform, 200 feet above the base, was to rest on another cruciform base 200 feet wide. The second platform, another 200 feet up, would have had a square base 100 feet wide. From there the tower would have

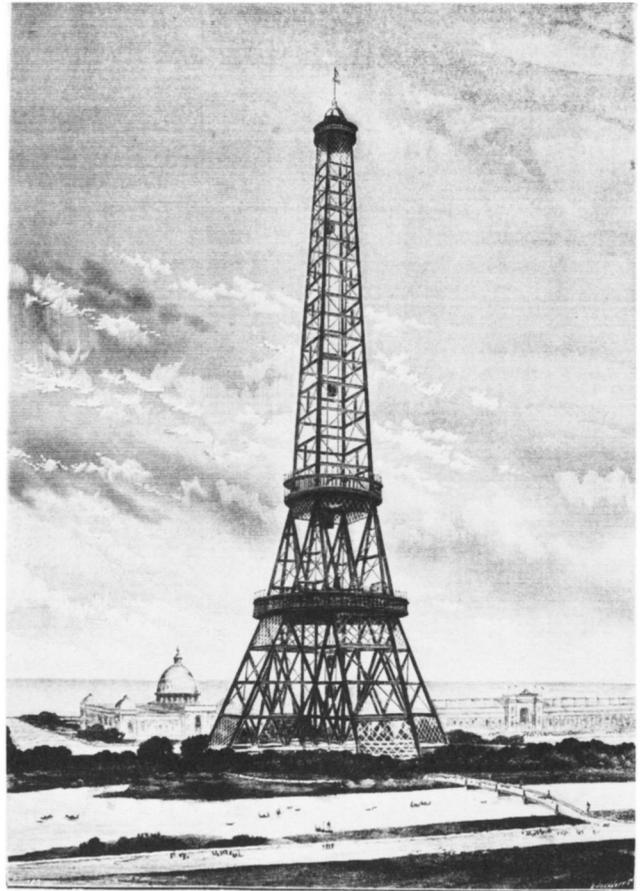


Fig. 13. George S. Morison, Perspective drawing, tower project for the Columbian Exposition, 1891 (*Engineering*, November 1891).

tapered gradually for 500 feet to a width of 40 feet at the lantern. As with the Eiffel Tower, the main concessionary space would have been on the first platform. The plan called for four separate restaurants at this level, each of which would have been three stories high, 45 feet wide by 90 feet long; altogether, they would have been able to accommodate 8,000 people. One restaurant would have faced outward on each side of the tower, with enough space remaining in the center of the platform for several smaller buildings.

It was estimated that Morison's tower could hold 25,000 people at any given time and carry up to 75,000 a day on its eight elevators. (The price would have ranged from 50 cents for the first landing to \$1.50 to ride directly to the top.) According to the figures of Morison's American Tower Company, the tower could easily bring in receipts of \$4,000,000 during the 150 days of the Exposition, a sum four times the earnings of the Eiffel Tower during the Exposition of 1889.<sup>17</sup> Some undoubtedly considered this projection to be extremely optimistic; it would have required more than 5,500,000 paid admissions to the tower during the Exposition. Even during the Paris Exposition, which had the largest attendance of any

16. *Chicago Tribune*, 29 August 1891.

17. *Chicago Tribune*, 17 October 1891.

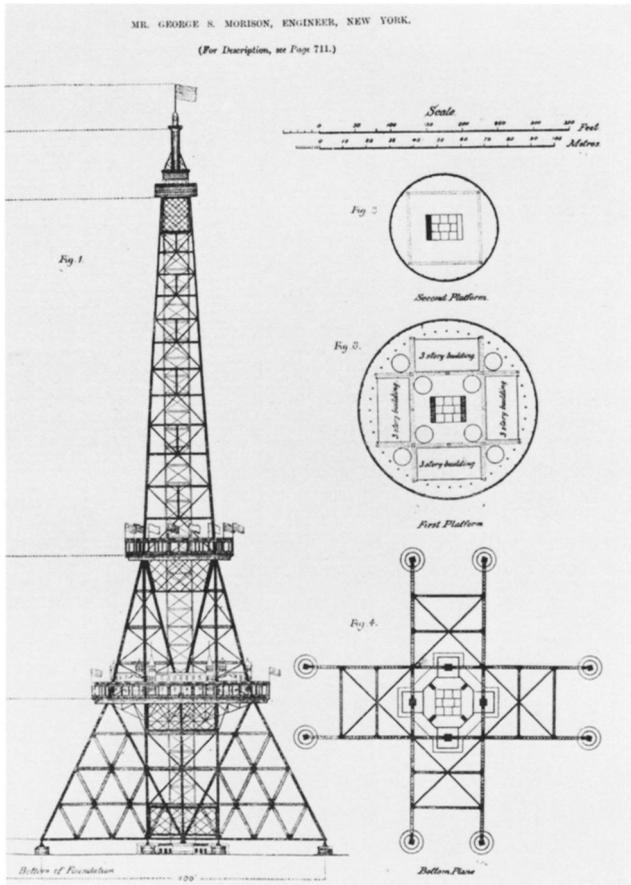


Fig. 14. George S. Morison, Elevation and plans, tower project for the Columbian Exposition, 1891 (*Engineering*, December 1891).

exposition in the 19th century, only 3,500,000 people had paid to ascend the Eiffel Tower. The American Tower Company had no trouble securing options on the grounds where the tower was to be built, and it seems to have made considerable headway in securing pledges for funds by October 1891. However, the fact that no structures would be allowed to remain after the Exposition closed undoubtedly undermined the confidence of some prospective investors in Morison's project, just as it had earlier with Proctor's proposal. On 1 December 1891, spokesmen for the American Tower Company went before the Committee on Grounds and Buildings to appeal for an extension of time to secure additional funding for their tower. The committee acceded for the time being, but by the beginning of the following January the American Tower Company had still not secured sufficient pledges to begin construction and so was given a final deadline of two additional weeks to find the necessary funds. It failed to do so, and thus the last opportunity to outdo the Eiffel Tower at the Columbian Exposition was lost. Ironically, the only tower at the Columbian Exposition which became a money-making

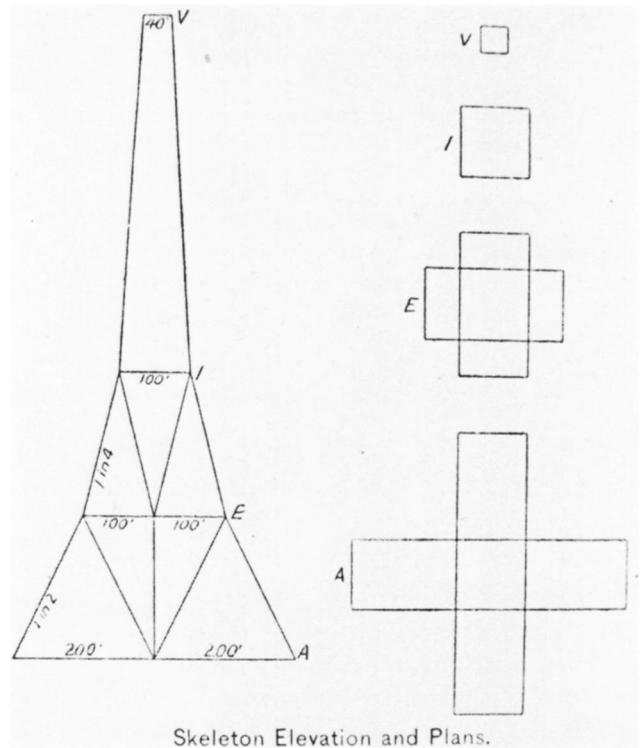


Fig. 15. George S. Morison, Skeleton elevation, tower project for the Columbian Exposition, 1891 (*Engineering News*, December 1891).

enterprise was a model of the Eiffel Tower exhibited by a French concessionaire.<sup>18</sup>

It should be noted that, even after the Columbian Exposition had come and gone, the idea of a permanent memorial tower for Chicago was not completely forsaken. Constant Desiré Despradelle, a French architect who held a chair at the Massachusetts Institute of Technology from 1893 until his death in 1912, was so impressed when he visited the Columbian Exposition that immediately thereafter he formulated a plan for a 1,500-foot "Beacon of Progress" to be built on the site of the Exposition in Jackson Park. The design for this monument (Fig. 16) was awarded the gold medal for architecture by the jury of the Paris Salon of 1900. Writing about the project in that same year, Despradelle described the tower as both a tribute to the splendors of the vanished White City of the Exposition and as a monument "typifying the apotheosis of American civilization." Conceived as a sort of magnified and much more ornate variation on the Washington Monument, the Beacon of Progress would have included ample amounts of allegorical sculpture and a great amphitheatre at its base, which, in Despradelle's words, would be "a sort of sanctuary where orators, philanthropists, and savans may deliver

18. [H. N. Higinbotham], *Report of the President to the Board of Directors of the World's Columbian Exposition, Chicago, 1898*, 485.

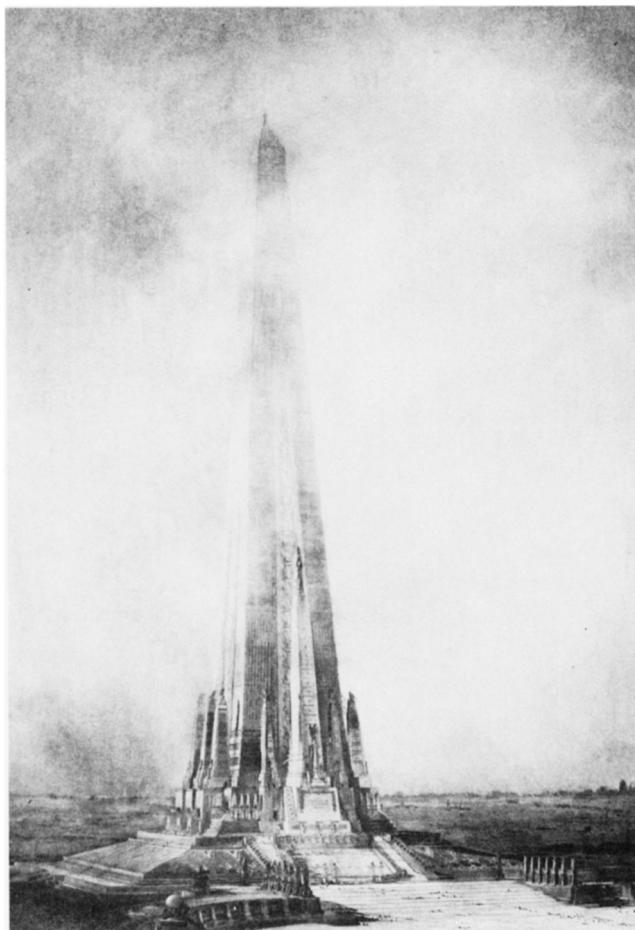


Fig. 16. Constant Desiré Despradelle, Perspective drawing, project for the Beacon of Progress, 1900 (*The Technology Review*, October 1900).

inspiring words before the altar of their country."<sup>19</sup> It might be said that this represents the last and most hopelessly ambitious of the monumental tower proposals which had inspired so many engineers and architects throughout the 19th century.

American architects and engineers clearly saw the Columbian Exposition as an opportunity to demonstrate the same sort of technological ascendancy that the French had exhibited at the Exposition of 1889. The sense of competitiveness with the Paris Exposition is reflected in the fact that, although it was only by an arm's length, the span of the Manufactures and Liberal Arts Building at the Columbian Exposition was deliberately wider than that of the previous record holder, the Palais des Machines at the Exposition of 1889.<sup>20</sup> The *Chicago Tribune* said of this mammoth building: "This is the structure which we expect to make people forget they ever heard of the Eiffel Tower."<sup>21</sup> Still, this was undoubtedly a less obvious feat than a tower taller than the Eiffel Tower would have been,

and, as architecture, the Manufactures and Liberal Arts Building was certainly less stylistically original than the Palais des Machines. The structure which was more universally applauded as the primary engineering achievement of the Columbian Exposition was the giant revolving wheel by George W. Ferris, located directly adjacent to the model of the Eiffel Tower on the Midway Plaisance. Unlike most of the tower projects which had been proposed for Chicago, the Ferris Wheel could be easily disassembled and relocated after the Exposition was over; by the same token, its temporary nature deprived it of the enduring, monumental quality of the Eiffel Tower. It was also much less profitable, although the relatively lower attendance at the Columbian Exposition was undoubtedly a factor. The claim that the Ferris Wheel was actually more innovative than the Eiffel Tower in terms of pure engineering was widely made at the time and has been given further support in subsequent literature.<sup>22</sup> However, to suggest that it had the same impact on the popular imagination or that it provided the same centerpiece for the Columbian Exposition that the Eiffel Tower had been in 1889 is to distinctly overstate the case.

Meanwhile, by February 1894, the Wembley Park Tower had still only reached a height of 150 feet. Despite such meager progress, its promoters predicted that the tower would be done within a year. Six months later, however, it was announced that work had been temporarily halted for want of funds.<sup>23</sup> Construction of Watkin's tower never recommenced. Ultimately, that the Eiffel Tower would remain a unique and unsurpassed tower in the 19th century had more to do with economics than anything else. A taller tower was easily within the technical grasp of English and American builders, and the desire to build one was certainly strong in both countries in the early 1890s. Yet, as the fate of both the London tower and the various projects for the Columbian Exposition shows, private enterprise in England and America could not by itself provide what generous government patronage, combined with the novelty of Eiffel's idea, had achieved in 1889.

19. Constant Desiré Despradelle, "The Beacon of Progress," *The Technology Review*, 2 (1900), 306–307. I am indebted to Alison Sky and Michelle Stone, *Unbuilt America*, New York, 1976, 86–87, as the initial source for this citation.

20. Donald Hoffman, "Clear Span Rivalry: The World's Fairs of 1889–1893," *JSAH*, 29 (1970), 48–50.

21. *Chicago Tribune*, 21 February 1892.

22. See in particular John Kouwenhoven, "The Eiffel Tower and the Ferris Wheel," in his *Half a Truth is Better Than None*, Chicago, 1982, 109–124.

23. *The Engineer*, 78 (1894), 103.