

## DE BRADSKY AIRSHIP DISASTER.

BY THE PARIS CORRESPONDENT OF THE SCIENTIFIC AMERICAN.

Baron de Bradsky, accompanied by M. Morin, made a trial of his airship on the 13th of October. When above the suburbs of Paris and at a height of 300 feet, the car became detached from the balloon and fell to the ground. The aeronauts were instantly killed and the car was, of course, wrecked. The start took place early in the morning from the Lachambre establishment in the southwestern part of the city. The aeronauts mounted the car, and while the assistants held the ropes, the balloon rose under the force of the ascensional screw. The propelling screw was then tried, and all seemed to work well. After bringing the airship to the ground, the aeronauts started for the final launch, and when at a certain height the signal was given and the balloon let go. It rose slowly at first, then rapidly. At 150 feet the propelling screw was put in movement and the airship seemed to be directed with ease. It was intended to take the balloon above the Issy maneuvering grounds to the south, but soon it was seen to take a northerly direction and come over the city. A strong wind was blowing in that direction, and no doubt the aeronauts could not make headway against it. They made a number of evolutions in large circles above the Champ-de-Mars and the Invalides. The wind proved too strong, and the airship was forced to take a northerly course over the city. It passed above the Opera, and was observed with great interest. Above the northern part of the city a rather heavy fog concealed it from view. At 9 o'clock in the morning the airship passed over a wide plain outside the city, and the aeronauts had succeeded in lowering it to 300 feet height and sailed along at that distance. They hailed one of the passers-by and inquired for a good landing place. Shortly after this, the airship was seen to take an inclined position, then the car became detached from the balloon, first in front, then in the rear, and fell with frightful rapidity. The balloon which was still swelled out, rose rapidly. The car, which was quite heavy, as it was built of steel tubes, fell violently on the ground, inclined at an angle of 45 degrees and sunk partly into the soil. The unfortunate aeronauts were found dead; like Severo, they fell in an upright position. The leg bones were terribly broken and mangled. M. de Bradsky had a large gash in the head, due to a fall.

It is to be remarked that this accident, so like that of Severo and his companion Saché, was due to an entirely different cause. In the former case the balloon caught fire from the motor and exploded, while in the latter the car became detached from the balloon. Steel piano-wires about 0.06 inch in diameter were used to attach the car and these were fastened to a wood support running along the balloon and provided with eyelet holes. The wire was passed through the eyelets, then wrapped around itself, forming a loop. An examination which was made by experts seems to prove that the wires were not broken, but simply became unwrapped, due to the weight of the car. This took place first in front

and the rest followed rapidly. According to several witnesses the airship took an inclined position, and this would be likely to produce such an effect. The main balloon was not provided with an interior air-bag such as Santos-Dumont and Severo used to keep it swelled out in shape as it lost gas, and consequently was less likely to keep a straight position in the air.

Baron de Bradsky was a native of Saxony, 36 years of age, and had studied the question of dirigible balloons for five or six years, devoting his large fortune to this pursuit. Last year he had already built an airship, but on account of defective construction could not carry out his experiments until this year. M. Paul Morin, who was attached to the Lachambre establishment, was a distinguished engineer and aeronaut and one of the best known in Paris, having taken up this line of work as early as 1875.

## The First Transatlantic Wireless Message?

The daily press has published the news that Marconi has succeeded in transmitting wireless messages across the Atlantic from the station at Poldhu, Cornwall. Marconi himself has refused either to affirm or deny the report. Whether any credence is, therefore, to be given to the newspaper accounts is an open question. The New York Sun's correspondent, however, states that he has confirmed the report from other sources. It is said that the officers of the ship have given it out that the first message received was one of congratulation, and that on Monday, November 3, Marquis Solari, who came in from Table Head, received several messages from Poldhu on the "Carlo Alberto" as she lay in the harbor. Marconi has promised to give out a statement.

## The Crawford-Voelker Incandescent Electric Lamp.

The inventor of the Crawford-Voelker lamp claims

thereby obtaining for the first time a true carbide filament. The filaments made under the new process are said to possess a higher specific resistance than carbon filaments; seem to disintegrate much more slowly, and are practically uniform in their resistance. Lamps running to such high voltages as 500 have been successfully made and apparently do not possess the same delicacy as the 200-volt lamp of commerce. The Crawford-Voelker lamp at the start shows an economy of 39.8 per cent; after 500 hours of burning there is 50.4 per cent economy. At the end of 1,000 hours, 41.6 per cent economy is shown. These percentages are based upon tests made by Sir William H. Preece, with lamps of various manufacturers.

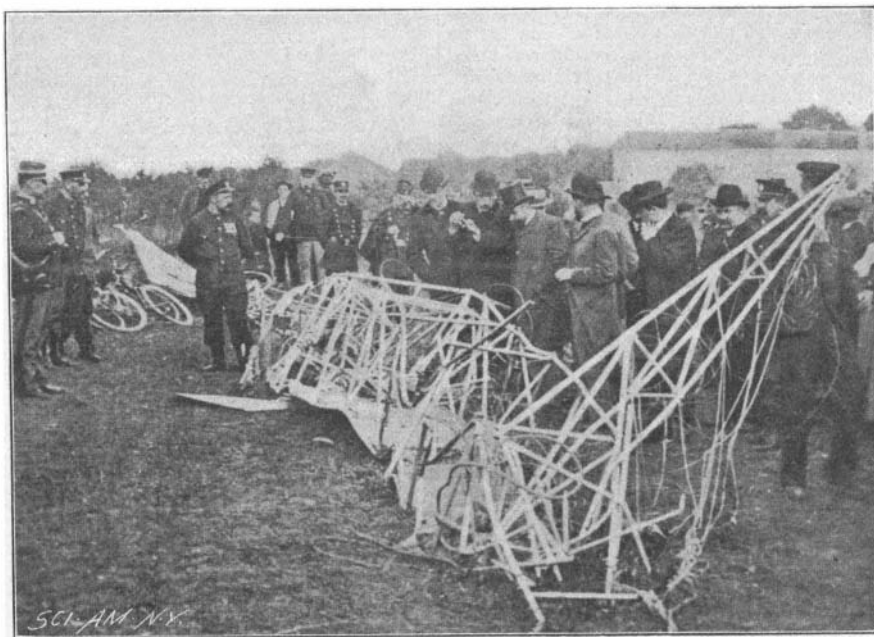
## A Chance for Inventors.

The Johannesburg Chamber of Mines is desirous of taking steps to obviate or minimize the occurrence of miners' phthisis, and invites practical suggestions and plans for combating the causes leading to the same. No definite information is before the Chamber as to the causes of the disease, but the general assumption is that it is chiefly due to the inhalation of fine dust given off during the machine drilling operations. The Chamber offers the following awards for the three best practical suggestions and devices on this subject, viz., First prize, \$2,500 and a gold medal; second prize, \$1,250; third prize, \$500.

In suggesting devices for attaining the object desired, the following points are to be specially taken into consideration: (1) The applicability of the device or the apparatus to the existing system of machine drilling; (2) The practical demonstration of the device or apparatus.

The judges, before making the final award of the prizes, will be entitled to require tests, and if they are not satisfied with any proposed device they will be at liberty to reopen the competition, or award a part only of the prizes. The papers in connection with this subject must be accompanied by the plans, models, or apparatus of the devices suggested, and will be receivable: A. At the offices of the Chamber of Mines, post-box 809, Johannesburg, up to the 15th of February, 1903. B. At the London agents of the Chamber, Messrs. Barsdorf & Co., Wool Exchange, Coleman Street, E. C., up to the 15th of January, 1903. C. At the Paris agents of the Chamber, the Compagnie Française des Mines d'Or et de l'Afrique du Sud, 20, Rue Taitbout, up to the 15th of January, 1903.

The judges for the award of the prizes will consist of two members of the Transvaal Medical Society, two members of the Mine Managers' Association of the Witwatersrand, and two members of the Mechanical Engineers' Association of the Witwatersrand, together with three consulting mining engineers to be selected by the Transvaal Chamber of Mines, and two practical rock drill miners to be selected by the Mine Managers' Association. The decision of the majority to be final.



THE WRECK OF DE BRADSKY'S AIRSHIP.

to have discovered a method of effecting a chemical union of several rare metals or earths with carbon,

RECENTLY PATENTED INVENTIONS.  
Engineering Improvements.

**CONTROLLING DEVICE.**—T. P. FORD, Hackensack, N. J. The object of this invention is to provide an improved controlling device designed for automatically controlling elevator-tank pressures and the like by opening and closing the admission-valve of a steam pump or a series of pumps discharging into the same tank, either gradually or quickly, according to the work required by the pump.

**STEAM-BOILER.**—W. HOPKINS, Dubuque, Iowa. This patent relates to improvements in steam-boilers embodied in that type generally known as marine-boilers; but the improvements can also be used in many other kinds of boilers. In the perfection of this apparatus the aim of the inventor has been to combine water-circulating devices with a tubular boiler in such a manner as to attain rapid circulation of the water through practically all parts of the structure, an almost perfect combustion of the fuel and the resulting gaseous products of combustion, and rapid generation of steam.

**RETAINING VALVE.**—W. G. LAMB, Mexico City, Mexico. This invention relates to fluid-pressure brakes of the Westinghouse type, and more particularly to retaining valves. The object of the inventor is to provide a new and improved retaining-valve arranged to automatically hold the full pressure on the brakes while recharging the auxiliary reservoir and to insure a proper release of the brakes whenever the train-pipe is recharged, the valve being exceedingly sensitive in operation. The device is intended to be thoroughly serviceable on long steep grades.

**ROTARY ENGINE.**—M. W. WALLACE, Eveleth, Minn. Mr. Wallace is the inventor of an

improved rotary engine which is simple and durable in construction and very effective in operation. The arrangement of the parts is such that the steam acts both on the central and outer sections of a wheel and works expansively thereon, so that the motive agent is utilized to the fullest advantage.

## Heating, Ventilating and Plumbing.

**HOT-AIR HEATER.**—W. P. HARTFORD, Cassville, Wis. This invention relates to that class of hot-air heaters or furnaces more particularly adapted for burning wood and in which the draft means is especially arranged to provide for automatically maintaining a substantially uniform draft through the combustion chamber irrespective of varying drafts in the chimney. The invention specifically provides important improvements on a furnace previously invented by Mr. Hartford.

**SINK AND CONNECTION THEREFOR.**—E. A. FOUNTAIN and S. MYERS, Oxnard, Cal. These inventors aim to provide a simple connection which can be made with readiness from above, and which will be easy of access when cleaning is necessary. The construction is simple, durable and economic and the connection is thoroughly water-tight.

## Mechanical Devices.

**TABULATOR.**—F. RABINOVITZ, Fort Totten, N. D. The tabulator is an improved device to be attached to type-writing machines, linotype machines, and others similarly operated, for convenience in tabulating. The object is to provide a device of this character that shall be simple in construction, having no parts liable to get out of order, and that may be quickly operated to indicate the proper

places at which to stop the machine-carriage when writing figures or other tabulated matter, or to point out particular places wanted for operation or omission in the work.

**CARTRIDGE AND SHELL LOADER.**—P. KLINGER, Mansfield, Ill. Mr. Klinger is the inventor of an improved machine which may be used for loading rifles and revolver cartridges and may also be adjusted for loading shotgun shells. The invention includes many important features by which the operations may be very readily and effectively accomplished.

**GLASS-BLOWING MACHINE.**—W. H. TERLINDE, Coudersport, Pa. This machine comprises a table having an orifice therein, a sectional mold mounted on the table over this orifice to temporarily close it, and means for operating the mold sections and ejector in unison. Means movable up through the orifice on the table are also provided for delivering the molten glass, and the blow devices employed are movable down to the mold which is fitted with suitable connecting devices.

## Miscellaneous Inventions.

**PROCESS FOR WELDING ALUMINIUM.**—MARY W. EXME, New York, N. Y. The inventor has discovered that by heating two contacting ends of aluminium under suitable conditions approximately to or above the temperature of 600 degrees centigrade, welding can be effected. To carry out the process successfully the parts or ends to be united must be scrupulously cleansed before heating them to the welding point. The mass or piece thus welded together possesses throughout the same physical qualities as though the parts had never been separated.

**FISH-TRAP.**—P. M. BENNETT, Fairhaven, Wash. This fish-trap is adapted to be floated in the water and to be held by tugs or otherwise against the tidal currents so as to entrap the fish moving with the current. The invention is designed especially for salmon fishing, but will be found useful in other connections as well.

**ARTIFICIAL DENTURE.**—W. P. LACY, South Boston, Va. It is the object of this invention to provide an improvement in that class of artificial dentures which are supported in the mouth without the aid of a suction plate, usually employed for the purpose. The artificial teeth in the present invention are secured by attachment to natural tooth roots.

**AWNING.**—C. S. HAMILTON, Salem, Ore. Mr. Hamilton is the inventor of an improved awning which is simple and durable in construction and arranged to permit of conveniently and quickly extending the canvas or moving it into an inactive position by the operator simply turning a crank.

**COOKING UTENSIL.**—J. F. FERRY, Leadville, Colo. This invention relates to improvements in casings for holding cooking utensils, such as kettles, frying-pans and the like, the object being to provide a simple means for conducting the odors of the cooking food into the stove.

**HOSE-SUPPORTER.**—KORA M. JOHNSON, New York, N. Y. An improved hose-supporter is here provided which is plain and durable in construction, and so arranged as to readily engage and securely hold the hose material without danger of unduly straining or tearing it. In disengaging the supporter from the hose, the clamping member must be pushed upward in the guideways and out of the same into an

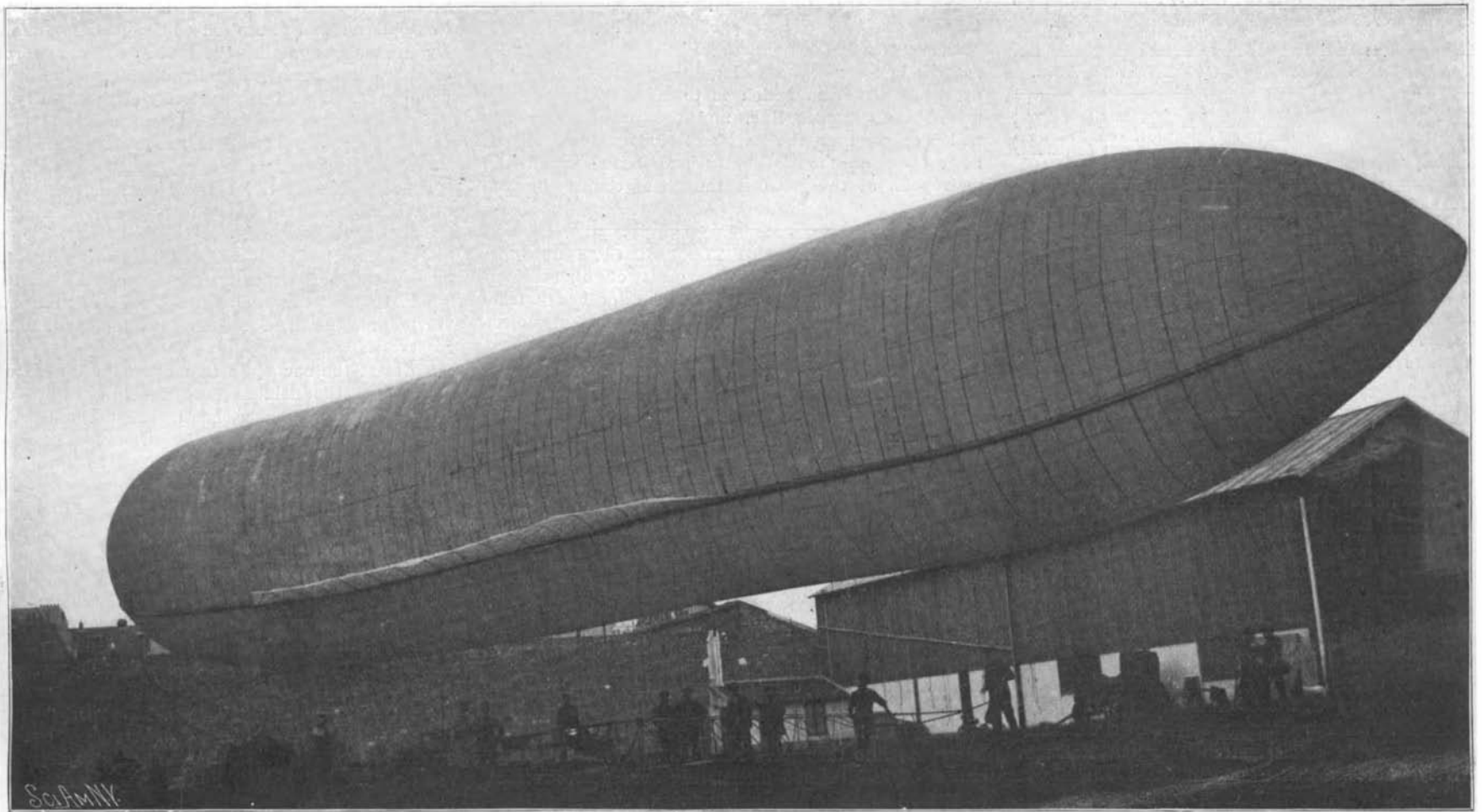
# SCIENTIFIC AMERICAN

[Entered at the Post Office of New York, N. Y., as Second Class Matter. Copyright, 1902, by Munn & Co.]

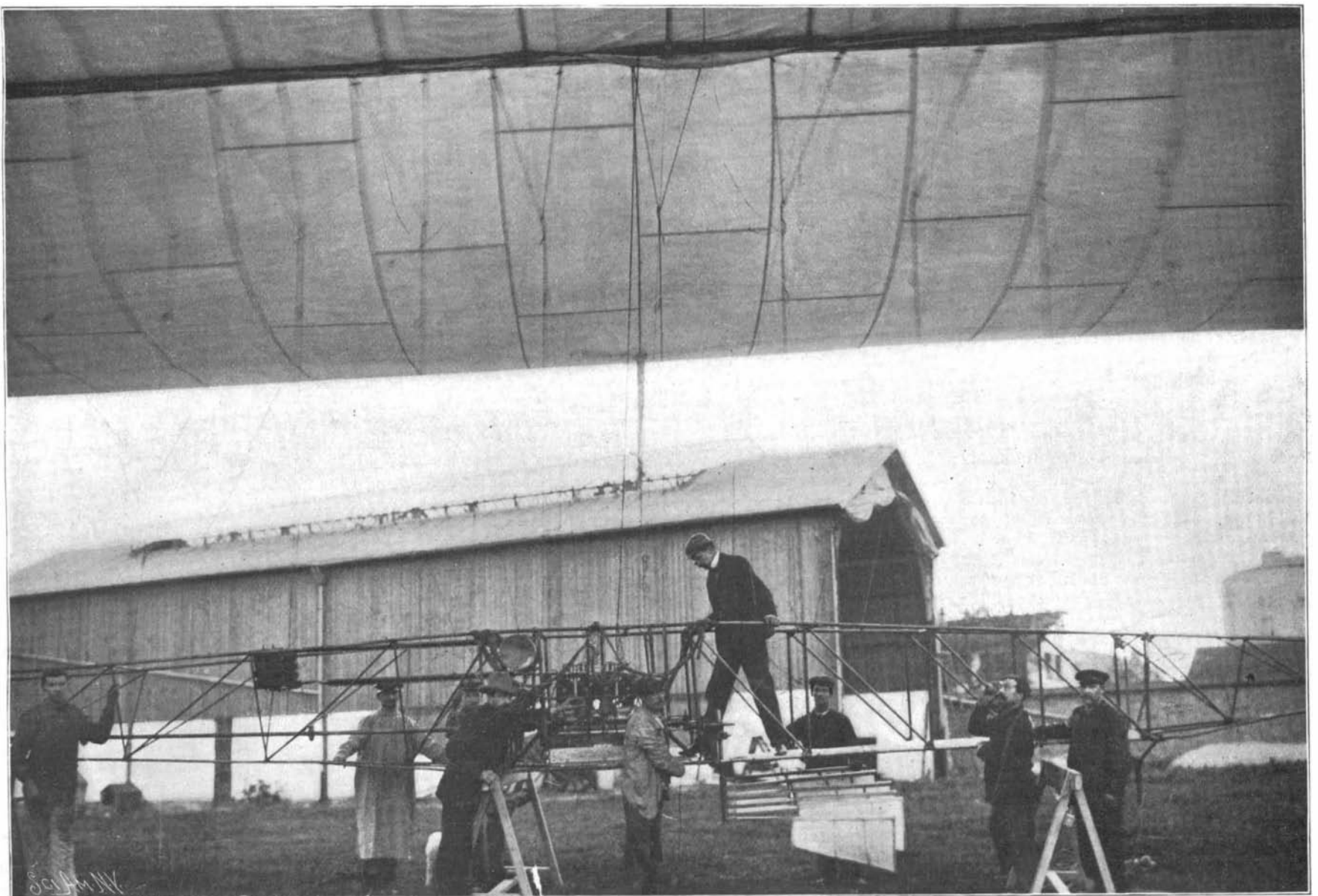
Vol. LXXXVII.—No. 20.  
ESTABLISHED 1845.

NEW YORK, NOVEMBER 15, 1902.

\$3.00 A YEAR.  
8 CENTS A COPY.



A Picture of De Bradsky's Airship Taken Immediately Before Its Last Flight.



De Bradsky Standing in the Frame of His Airship, Two Days Before the Accident.

THE DE BRADSKY AERONAUTICAL DISASTER.—[See page 331.]