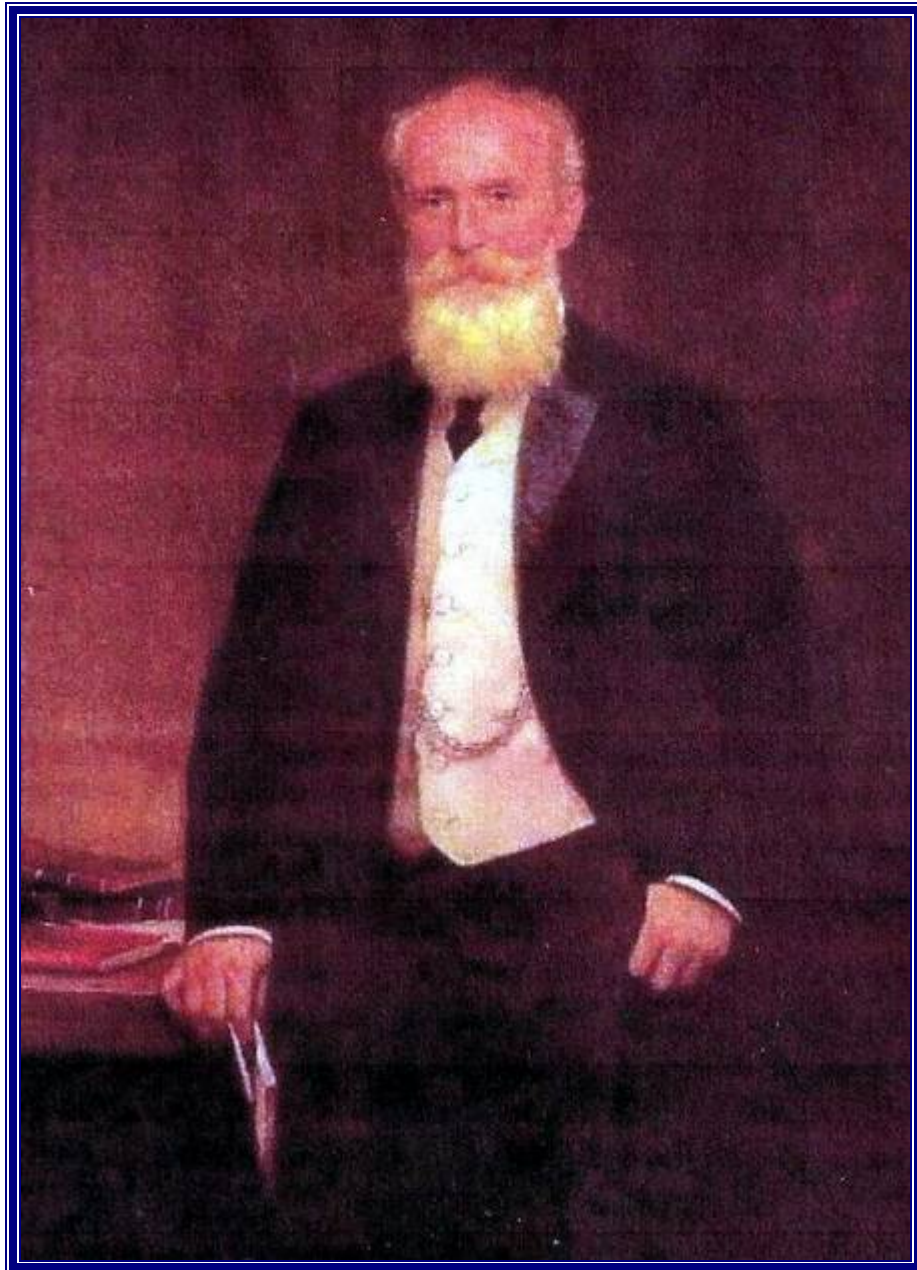


HERMANN RIETSCHEL

By EurIng Brian Roberts, CIBSE Heritage Group



Hermann Rietschel 1847-1914

Hermann Rietschel was born on 19 April 1847 in Dresden, Germany. His father, Ernst, was a sculptor but Hermann chose to study science leading to a lifetime's involvement in heating and ventilating engineering.

Rietschel first studied machine design at the Dresden Polytechnic while working in industry. In 1867, he joined the Royal Academy in Berlin attending lectures by eminent men of the time and gained an appreciation of art and the humanities.

In 1871, he formed his own company to specialise in the design and installation of heating and ventilating systems and water and gas services. With rapidly increasing business activity in Berlin, the firm grew quickly under Rietschel's expert guidance. In 1872, his colleague Rudolf Henneberg joined him as a partner. Contracts were secured all over Germany and in neighbouring European countries. Offices were set up in Dresden and Vienna. "The success of the firm was due primarily to Rietschel's systematic application of general physical and engineering principles to the design."

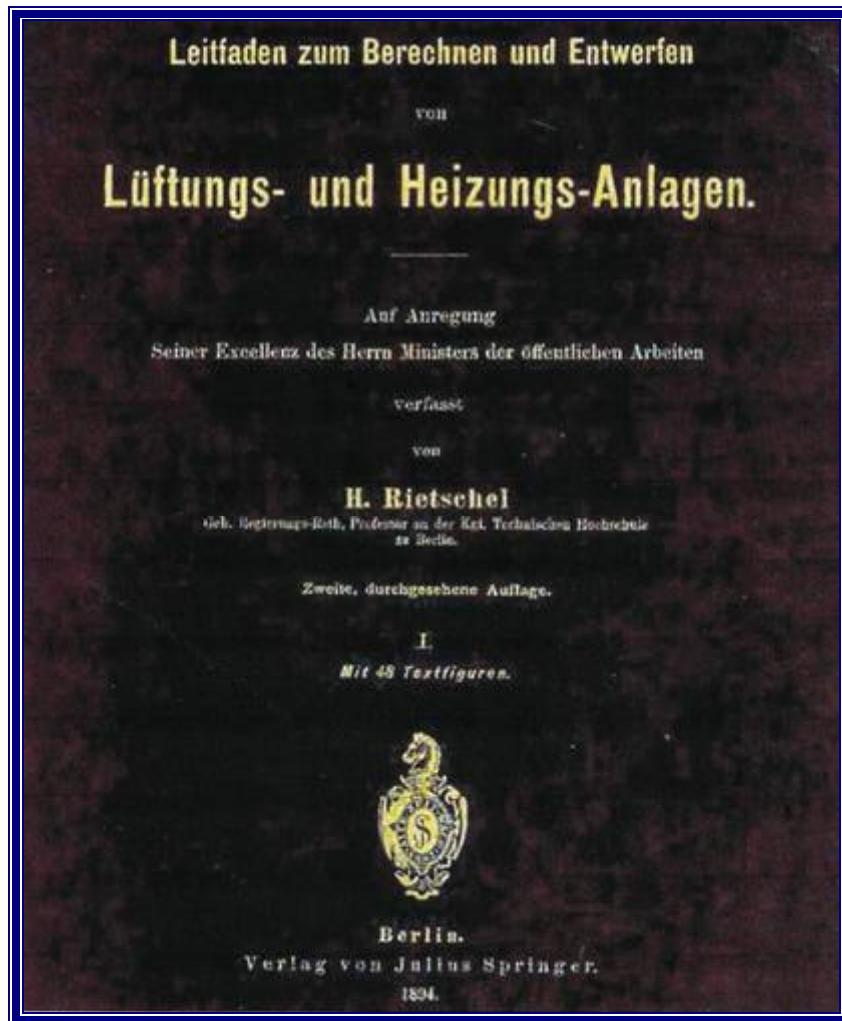
In 1880, Rietschel undertook the revisions of the heating and ventilating sections of the *German Building Handbook*. That same year, he formed the German Engineer's Association (VDI) for heating and plumbing. Wishing to put heating and ventilating design on a more scientific basis, he gave up his installation activities and set up as a consulting engineer in Berlin. In the following years, Rietschel was responsible for the design of heating and ventilating for the Reichstag building and for the German Exhibitions of 1882 and 1883.

However, the most important turning point in his life was when, in 1885, he was offered and accepted the newly founded Chair of Heating & Ventilating at the Berlin Technical University. At this time, engineers relied on traditional empirical data and rule of thumb methods, while Rietschel believed that "scientific method alone gave results which could be used with confidence."

From 1885 onwards, Rietschel published a number of important technical papers and reports. His most significant work, first published in 1893, was *The Calculation of Ventilation & Heating Systems*. Up to his death the book went into five editions, and was published in many countries besides Germany.



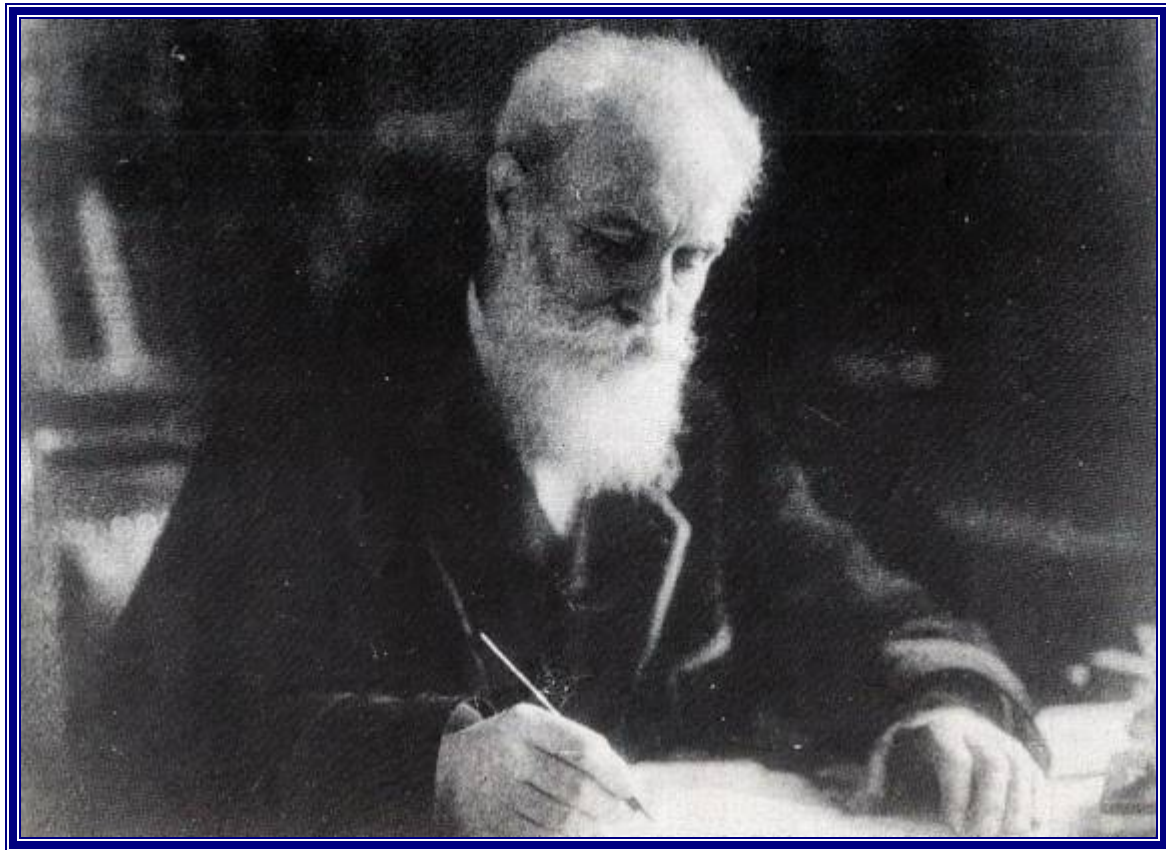
The University in Berlin-Charlottenburg in 1895



Rietschel's classic German textbook, 1894 edition



The Reichstag Building in Berlin c.1914



Hermann Rietschel

Rietschel and his co-workers at the University carried out a wide variety of research projects and established important data relating to heat transfer coefficients for water-air and steam-air heat exchangers, friction coefficients for steam and water flow in pipes and for air flowing in ducts. They also looked into the economy of insulation and the resistance of air filters.

The first professional conference of heating and ventilating engineers took place in Berlin in 1896 with Rietschel as Chairman, when “he brought to the conferences all that was best in heating and ventilating engineering development.”

In 1893, Rietschel became a confidential adviser to the German Government and was showered with honours from Dresden, Munich, Austria, Sweden and London (the Royal Sanitary Institute).

In 1895, he was involved in the design of the thermal power station in Dresden, going on in 1902 to produce an analysis of calculations for district heating. At the 1901 Munich Congress, he pointed out in his opening address “that engineers were not making enough use of known calculation techniques in their design work and were tending to avoid mathematics.”

Rietschel studied the performance of heating in churches, notably in Ulm and Strasbourg, and published his work on *Church Heating*. In 1902, he published his theoretical investigation on the performance of controls in low pressure steam systems. About this time, Rietschel looked into air change rates in buildings such as theatres, concert halls and schools with a view to limiting increases in relative humidity.

In 1910, Rietschel relinquished his position as Professor. He died on 18 February, 1914, after a severe illness. He was buried in the cemetery of Berlin-Grünwald.

TRAITÉ
THÉORIQUE ET PRATIQUE
DE CHAUFFAGE
ET
DE VENTILATION

Guide pour le calcul et l'établissement des projets et installations
de Chauffage et de Ventilation
A L'USAGE DES INGÉNIEURS, CONSTRUCTEURS, ARCHITECTES
ENTREPRENEURS, ETC.

PAR
LE D^e H. RIETSCHEL
Ingénieur,
Conseiller intime du gouvernement,
Professeur à l'École des Hautes Études techniques de Berlin.

TRADUIT DE L'ALLEMAND SUR LA 4^e ÉDITION

PAR
LÉON LASSON

DEUXIÈME-PARTIE
TABLES ET PLANCHES

PARIS ET LIÈGE
LIBRAIRIE POLYTECHNIQUE CH. BÉRANGER, ÉDITEUR
SUCCESSEUR DE BAUDRY ET C^{ie}
PARIS, 15, RUE DES SAINTS-PÈRES, 15
MAISON A LIÈGE, 21, RUE DE LA RÉGENCE

1911
Tous droits réservés.

Title page of the 1911 French edition of his textbook
The book has nearly 200 pages of data tables and 35 diagrams, similar to the samples which follow,
on a wide range of heating and ventilating equipment

Fig. 1.

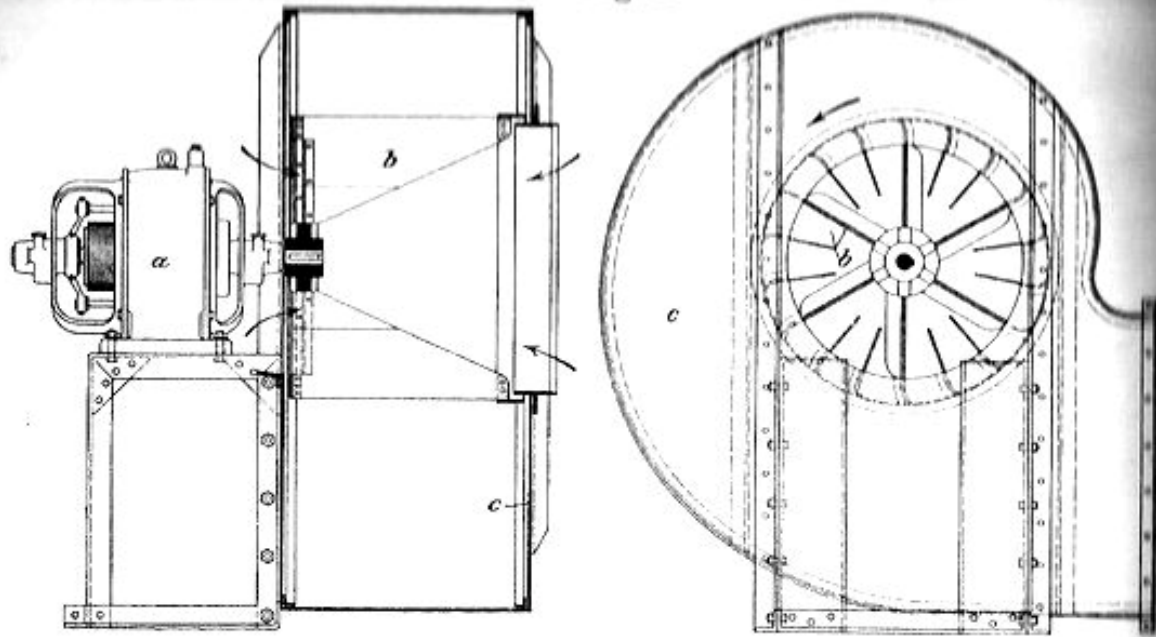
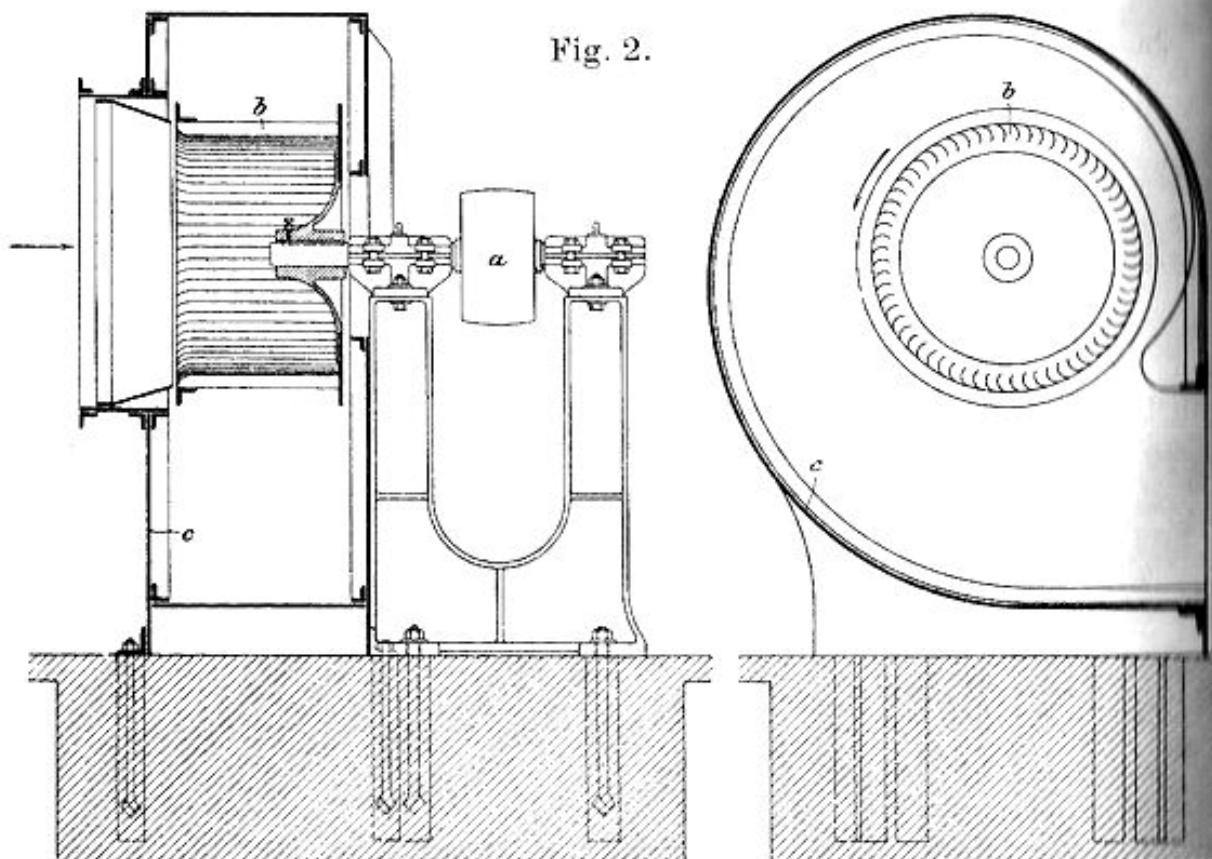


Fig. 2.



Ch. Beranger, édit.

Diagram of centrifugal fans from Rietschel's 1911 textbook

Fig. 3.

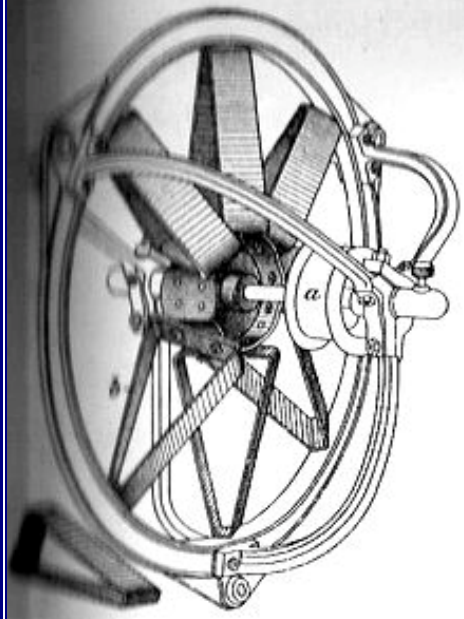


Fig. 5.

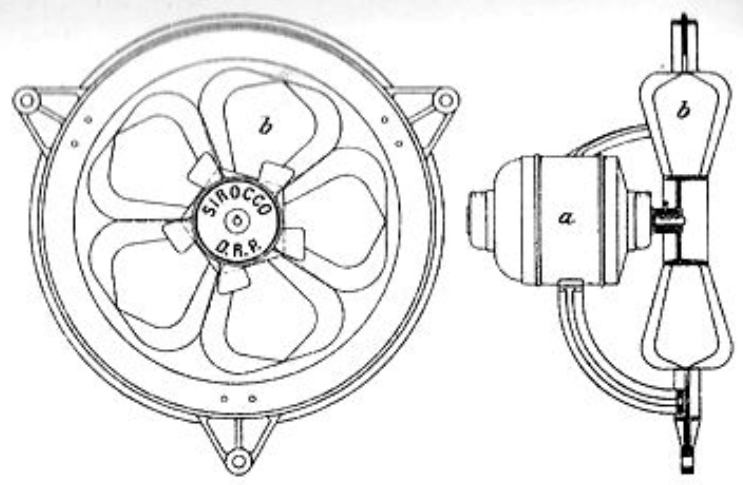


Fig. 4.

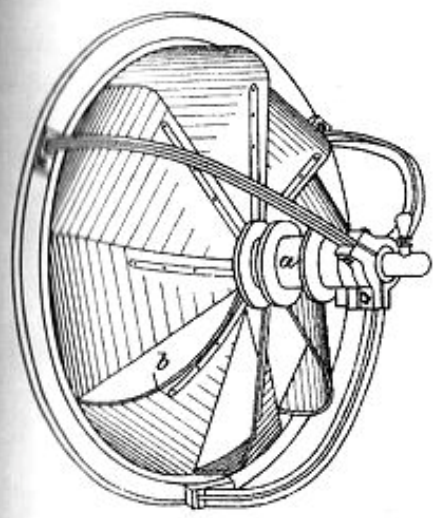


Fig. 6.

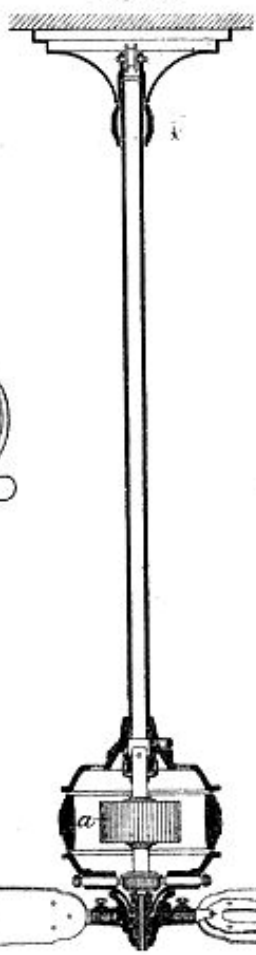
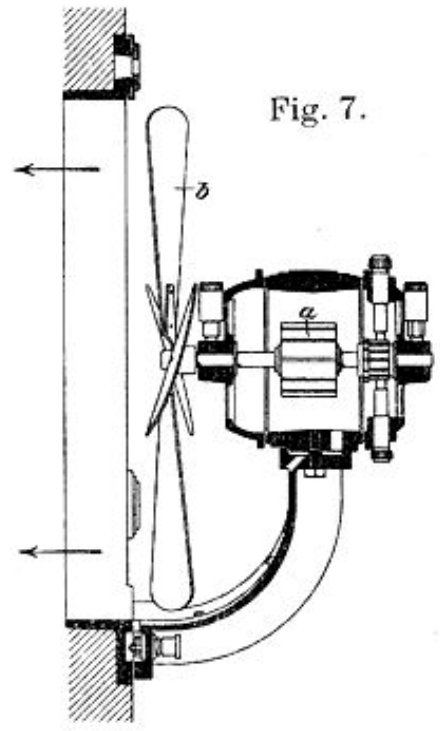


Fig. 7.



Imp. Léon Monroeq, Paris

Diagram of propeller fans from Rietschel's 1911 textbook

Fig. 1.

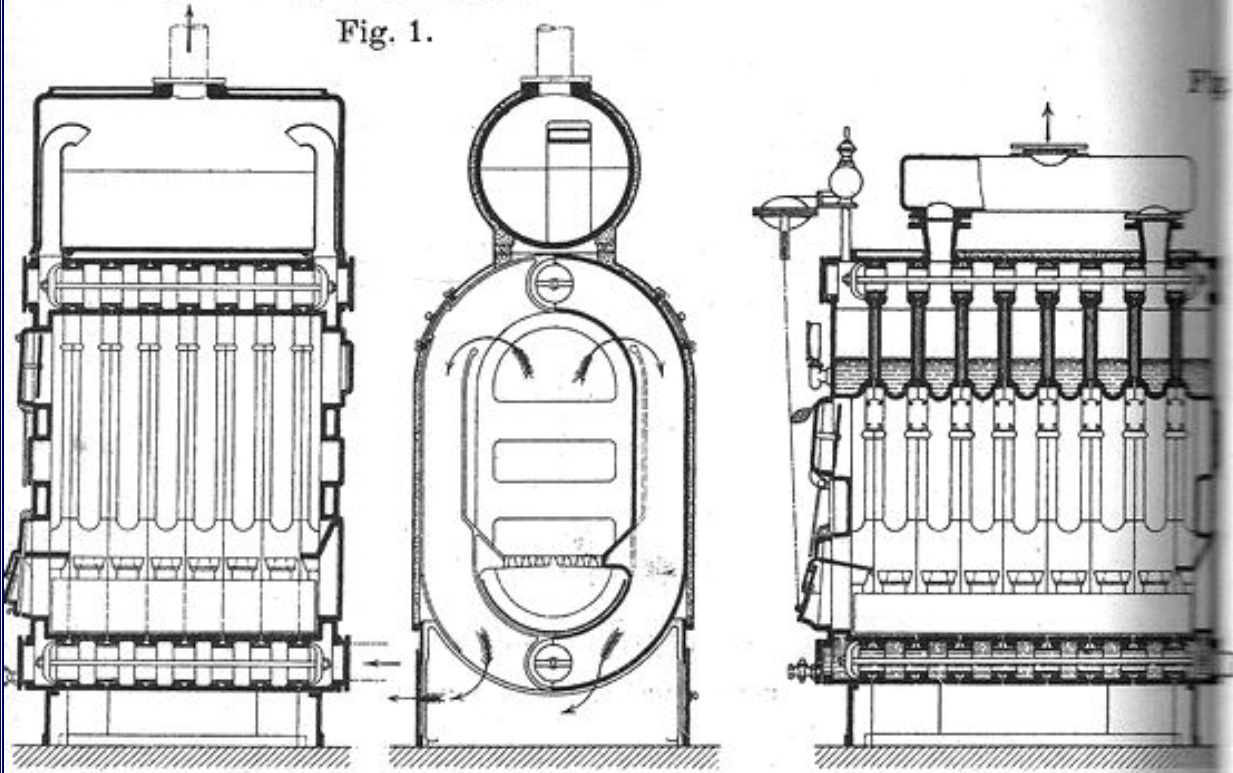
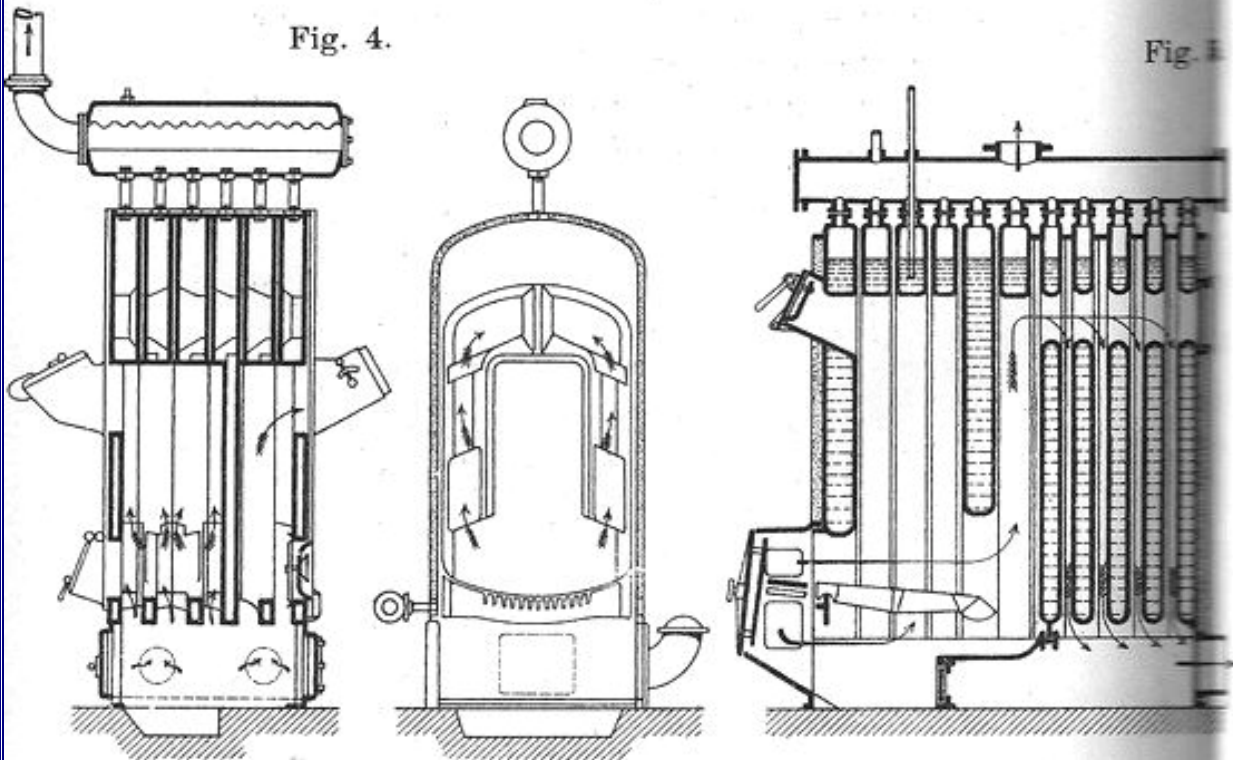


Fig. 4.



RIETSCHEL-BRABBÉE
HEATING
AND
VENTILATION
A HANDBOOK FOR ARCHITECTS
AND ENGINEERS

BY
C. W. BRABBÉE

Translated for American use from the Seventh
German Edition of Rietschel-Brabbée
"Heizungs-und Lüftungstechnik"

FIRST EDITION
SECOND IMPRESSION



McGRAW-HILL BOOK COMPANY, INC.
NEW YORK: 370 SEVENTH AVENUE
LONDON: 6 & 8 BOUVERIE ST., E. C. 4
1927

PREFACE TO THE AMERICAN EDITION

Modern Europe has recognized the fact that the scientific development of heating and ventilation practice was inaugurated by the late Dr. H. Rietschel, Professor of the Technical University of Berlin—Charlottenburg. His life work, which is the basis of this book, was printed in five editions. French translations have been published.

After the death of Dr. Rietschel the work of revision was carried out by the undersigned, who succeeded him in the Chair of Heating and Ventilation at the University of Berlin—Charlottenburg. Much development work was undertaken at this University's Research Laboratory of Heating and Ventilation, of which the writer was director for fifteen years. The results of these studies, together with simplified formulas for the design of heating and ventilating systems, were included by the author in the sixth and seventh German editions which he prepared. The latter have been used extensively in a great many practical installations, both large and small, with uniformly good results.

European engineers are in the habit of approaching the subject of heating and ventilation from both the physical and the physiological viewpoints and use mathematical methods extensively to insure economy in design and in operation.

The industry in America has reached a high standard of perfection in the development of its systems. American literature on the subject shows uninterrupted progress. In order to contribute to this progress by making available for American heating science and practice the European viewpoints, it was thought desirable to have the seventh German edition translated into English.

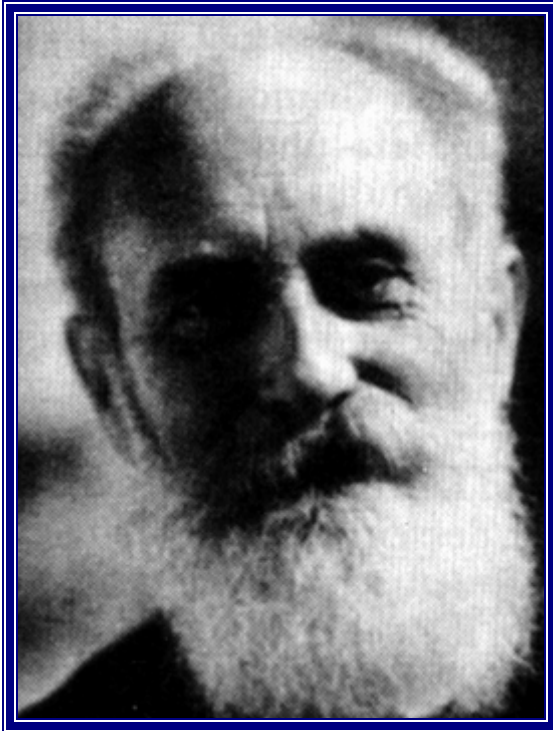
On this occasion the author has taken certain liberties in the revision. Those portions of the German text which do not apply to American practice have been abridged; others adaptable to conditions in the United States have been emphasized for the convenience of American engineers.

The original charts have been improved for rapid computation and the two volumes of the latest German text consolidated into a single book. However, the spirit of the "old standard work" has been retained.

The author desires to thank Mr. Alphonse A. Adler for the valuable assistance and painstaking attention he has given to this American edition.

C. W. BRABBÉE.

NEW YORK, N. Y.
October, 1927



Rietschel and a memorial plaque

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