

A
CATECHISM
OF THE
STEAM ENGINE,

ILLUSTRATIVE OF

THE SCIENTIFIC PRINCIPLES UPON WHICH ITS OPERATION DEPENDS,
AND THE PRACTICAL DETAILS OF ITS STRUCTURE, IN ITS
APPLICATIONS, TO MINES, MILLS, STEAM
NAVIGATION AND RAILWAYS,

WITH

Various suggestions of Improvement.

~~~~~  
BY JOHN BOURNE, C.E.  
~~~~~

LONDON:
JOHN WILLIAMS AND CO., 141, STRAND.
1847.

LONDON:
 DEURY, PRINTER, XXXI, BARTLETT'S BUILDINGS.

TO
JAMES MEADOWS RENDEL, ESQ.,
CIVIL ENGINEER,
TO MARK THE HIGH ESTIMATION DUE
TO HIS
ENGINEERING TALENTS,
AND IN ACKNOWLEDGMENT OF VARIOUS ACTS OF KINDNESS,
The Present Work
IS RESPECTFULLY INSCRIBED BY
THE AUTHOR.

P R E F A C E.

THE present work is not intended as a substitute for the quarto Treatise on the Steam Engine, which I lately published, but is rather to be regarded as an introduction and in some measure also as a supplement to that work. The mode of publication of the quarto treatise rendered faults of arrangement inevitable, which need not exist in the present undertaking, and it appeared to me that a work upon the steam engine, which in a moderate compass should give an outline of the whole subject in its practical aspect, would still be of much utility. There are no doubt many compendiums already existing which profess to accomplish this object, but I have not met with any which were calculated to satisfy even the most moderate expectations. Most of them have been compiled from Tredgold's Treatise on the Steam Engine, and abound with scientific errors, whilst indicating the absence of any practical acquaintance with the subject; so that they possess but slender claims upon the attention of