



A.D. 1825 N° 5109.

SPECIFICATION AND AMENDMENT

OF

CORNELIUS WHITEHOUSE.

MANUFACTURE OF TUBES FOR GAS, &c.

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Manufacture of Tubes for Gas, &c.

WHITEHOUSE'S SPECIFICATION AND AMENDMENT.

SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CORNELIUS WHITEHOUSE, of Wednesbury, in the County of Stafford, Whitesmith, send greeting.

WHEREAS His present most Excellent Majesty King George the Fourth, 5 by His Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Twenty-sixth day of February, in the sixth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said Cornelius Whitehouse, His especial licence that I, the said Cornelius Whitehouse, my eñors, adñors, and assigns, or such others as I, the said 10 Cornelius Whitehouse, my eñors, adñors, and assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "CERTAIN IMPROVEMENTS IN MANUFACTURING TUBES FOR GAS AND OTHER 15 PURPOSES;" in which said Letters Patent there is contained a proviso obliging me, the said Cornelius Whitehouse, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled in His Majesty's High Court of Chancery within six 20 calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference being thereunto had, will more fully and at large appear.



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NOW KNOW YE, that in compliance with the said proviso, I, the said Cornelius Whitehouse, do hereby declare that the nature of my said Invention, and the manner in which the same is to be performed, are particularly described and ascertained in and by the Drawing hereunto annexed, and the following description thereof (that is to say) :—

5

My improvements in manufacturing tubes for gas and other purposes consist in heating the iron of which such tubes are to be made in a blast furnace, and immediately after withdrawing them from the furnace, passing them through swages or other such like instruments in manner following:—I prepare a piece of flat iron, commonly called plough plate iron, of a suitable 10 substance and width, according to the intended calibra of the tube. This piece of flat iron plate is prepared for welding by being bent up on the sides, or, as it is commonly called, turned over, the edges meeting or nearly so, and the piece assuming the form of a long cylindrical tube; this tube is then put into a hollow fire heated by a blast, and when the iron is upon the point of fusion, 15 it is to be drawn out of the furnace by means of a chain attached to a draw-bench, and passed through a pair of dies of the size required, by which means the edges of the iron will become welded together. The apparatus which I employ for this purpose is shewn in the Drawing at Fig. 1, which is a side view of the furnace *a*, and of the drawbench *b*, with its spur wheel *c*, which 20 may be put in operation by a hand winch, or by attaching its axle to the moving part of a steam engine. *d* is a screw press, in which the dies are placed for swaging and uniting the edges of the iron tube *e* as it passes through. A front view of this screw press with its dies is shewn at Fig. 2, and one of the dies removed from the press is shewn at Fig. 3. The iron tube *e*, having 25 been heated to the point of fusion in the blast furnace *a*, is drawn out by the chain of the drawbench; and the screw of the press *d* being turned so as to bring the dies to their proper point of bearing, the two edges of the iron become pressed together, and a perfect welding of the tube is effected. The screw clamp or other fastening *f*, by which the end of the tube is held and 30 attached to the chain, is now opened and the tube removed; the reverse end of the tube is then grasped by it, and that part which has not been welded is introduced into the furnace, and after being heated is drawn through the dies, and welded in the manner above described. The process of welding these tubes may be performed without the screw press and dies above described. 35 A pair of pincers, as shewn at Fig. 4, may be employed instead, having a hole for the tube to pass through similar to the dies. One arm and chap of these pincers is shewn at Fig. 5 for the purpose of exhibiting the conical

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figure of the hole which the tube is to pass through as the tube *e* is drawing out of the furnace by the chain of the drawbench. A workman brings the pincers, and takes hold of the tube, resting the pincers against the standard *d* as a steadying place, and as the tube passes through the hole of the pincers
5 the welding of the edges of the iron is effected.

I have thus described the modes which I have employed, and found fully to answer the purpose, in welding tubes of iron; but I do not confine myself to the employment of this precise construction of apparatus, as several variations may be made without deviating from the principles of my Invention, which is,
10 to heat the previously proposed tubes of iron to a welding heat, that is, nearly to the point of fusion, and then, after withdrawing them from the ^fwire, to pass them between dies or through holes, by which the edges of the heated iron may be pressed together, and the joint firmly welded. The advantage of this tube compared with those made in the ordinary way are these:—The iron is
15 considerably improved by the operation of the hollow fire, the heat being generally diffused. The length of the pieces of tube thus made is likewise a great advantage, as by these means they may be made from two to eight feet long in one piece, whereas by the old modes the lengths of tubes cannot exceed four feet without considerable difficulty, and consequently an increased
20 expence. These tubes are likewise capable of resisting greater pressure from the uniformity of the heat throughout at which they have been welded. And, lastly, both their internal and external surfaces are rendered smooth, and greatly resembling drawn lead pipes.

In witness whereof, I, the said Cornelius Whitehouse, have hereunto
25 set my hand and seal, this Twenty-fourth day of August, in the year of our Lord One thousand eight hundred and twenty-five.

CORNELIUS (L.S.) WHITEHOUSE.

AND BE IT REMEMBERED, that on the Twenty-fourth day of August,
in the year of our Lord 1825, the aforesaid Cornelius Whitehouse, came
30 before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

Inrolled the Twenty-fifth day of August, in the year of our Lord One
35 thousand eight hundred and twenty-five.

JOHN LEACH, Sup.

CROWTHER, Extra.

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AMENDMENT.

Wednesday the Thirteenth day of January, in the tenth year of the reign of His Majesty King George the Fourth, One thousand eight hundred and thirty.

In the matter of Cornelius Whitehouse's Patent.

Upon consideration this day had, by the Right Hon^{ble}. the Master of the 5
Rolls, of the humble Petition of James Russell, of Wednesbury, in the County
of Stafford, Gas Tube Manufacturer, setting forth, that His Majesty, by His
Letters Patent under the Great Seal of Great Britain, bearing date at West-
minster, the Twenty-sixth day of Febr^y, One thous^d eight hundred & twenty-
five, after reciting that Cornelius Whitehouse, of Wednesbury, in the County 10
of Stafford, Whitesmith, had, by his Petition, humbly represented that he had
invented Certain Improvements in the Manufactory of Tubes for Gas and
other Purposes, did, for Himself, His heirs & successors, give & grant unto
the s^d Cornelius Whitehouse, his e^xors, ad^mors, & ass^s, His especial licence,
full power, sole privilege & authority, that he, the s^d Cornelius Whitehouse, 15
his e^xors, ad^mors, & ass^s, and every of them, by himself & themselves, or
by his or their deputy or deputies, serv^{ts} or agents, or such others as he, the
said Cornelius Whitehouse, his e^xors, ad^mors, or assigns, should at any time
agree with, and no others, from time to time and at all times thereafter, during
the term of years therein expressed, should and lawfully might make, use, exer- 20
cise, and vend the said Invention within that part of the United Kingdom called
England, the Dominion of Wales, and Town of Berwick-upon-Tweed, in
such manner as to him, the said Cornelius Whitehouse, his e^xors, ad^mors,
and assigns, or any of them, should in his or their discretion seem meet, and
that he, the said Cornelius Whitehouse, his e^xors, ad^mors, & assigns, should 25
& lawfully might have and enjoy the whole profits, benefit, commodity, and
advantage, from time to time coming, growing, accruing, and arising by reason
of the s^d Invention for and during the term of years therein mentioned; to
have, hold, exercise, and enjoy the s^d licence, powers, privileges, & advan-
tages therein-before granted or ment^d so to be unto the said Cornel^s White- 30
house, his e^xors, ad^mors, & assigns, for and during and unto the full end &
term of fourteen years from the date of the said Letters Patent next ensuing,
and fully to be complete and ended, according to the Statute in that case made
and provided; and in the s^d L^{tes} Patent was cont^d a proviso that if the said
Cornel^s Whitehouse sho^d not pa^rlarly describe & ascertⁿ the nature of 35
the said Invention, & in what manner the same was to be performed,
by an instrument in writing under his hand and seal, and cause the

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same to be inrolled in His Majesty's High Court of Chancery within
 six calendar months next after the date of the said Lres Patent, then
 the s^d Lres Patent, and all liberties and advantages whatsoever t̄by
 granted, sho^d utterly cease, determine, and become void: That previously
 5 to the application for the granting of the said Patent to the s^d Cornl^s
 Whitehouse, the Pet^r entered into an agreement with the said Cornl^s
 Whitehouse for the p̄chase from him of all benefit & advantage of the s^d
 Invention, the Pet^r agreeing and undertaking to pay the whole expence of the
 app̄on for and obtaining the said Letters Patent, and also agreeing to find
 10 work and employment for the said Cornel^s Whitehouse during the term of
 years to be expressed in such L̄res Patent at a certain rate of wages, & like-
 wise to pay unto the said Cornel^s Whitehouse an ann^y of Twenty pounds
 during the like term: That by an Ind̄re of Assignment bearing date the Ninth
 day of April, One thous^d eight hundred & twenty-five, and made betwⁿ the s^d
 15 Cornl^s Whitehouse of the one part & the Pet^r of the other part, after
 reciting the herein-before ment^d or referred to Agreement betⁿ the s^d Cornel^s
 Whitehouse & the Pet^r for the taking out of the said Patent, and for the
 assignment of the said Invention and Letters Patent, & all benefit and
 advantage thereof, by the said Cornel^s Whitehouse to the Pet^r, and also reciting
 20 the said Letters Patent of the Twenty-sixth day of Febr̄y, One thousand eight
 hundred and twenty-five, and further reciting that the s^d parties had entered
 into an Agreement bear^s equal date with the s^d Ind̄re, wh̄by the Pet^r had agreed
 to find work & employment for the s^d Cornelius Whitehouse acc^s to the term of
 their afores^d Agreem^t; and that the Pet^r had laid out and expended the sum of
 25 One hundred and twenty-five pounds in obtain^s the s^d L̄res Patent, & that the
 Pet^r had also agreed to increase the afs^d allow^{ce} to an ann^y of Fifty pounds: It
 is witnessed, that in purs^{ce} of the s^d recited Agreem^t, & in con̄son of the pay-
 ments so as afs^d made by the Pet^r and of the covenants therein-after cont^d on his
 part, and for the nominal con̄son therein expressed, he, the s^d Cornel^s Whitehouse,
 30 did grant, assign, & set over unto the Pet^r, his ēxors and ad̄m̄ors, the s^d Letters
 Patent, & all the right, title, & interest of him, the s^d Cornel^s Whitehouse, of,
 in, & to the s^d Invention so granted unto him by His s^d Majesty as afs^d; to
 have and to hold the s^d Letters Patent & Invention, with all benefit, profit,
 & advantage thereof to the Pet^r, his ēxors & ad̄m̄ors, in as full, ample, and
 35 beneficial manner, to all intents and purposes, as he, the s^d Cornel^s Whitehouse,
 by virtue of the s^d L̄res Patent, might have and hold the same if the s^d
 assignment had not been made, for and during all the rest & residue of the
 said term of fourteen years granted by the s^d Letters Patent as afs^d; and the
 s^d Cornel^s Whitehouse did thereby constitute and appoint the Pet^r his as̄see

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& grantee of & for the s^d Invention & the profits thereof for the rem^r of the said term of fourteen years, and did thereby covenant with the Pet^r, that the Petitioner, his eñors & adñors, should & might, by virtue of the said Indenture, have, reñe, & take all profits & advantages whatsoever that might or should be made for or by reason of such Invention; and the Pet^r thereby also 5 covenanted with the said Cornel^s Whitehouse for payment of the s^d anny of Fifty pounds during the term of the s^d recited Lres Patent by half-yearly paym^{ts}, as therein ment^d; that in compliance with the requisition of the said recited Letters Patent in this behalf, the Pet^r caused the draft of the Specification of the said Invention, & the manner in which the same is to be performed, 10 to be prepared, & sent the same to his agent, Mr. Moses Poole, of Lincoln's Inn, in the County of Middlesex, for the purpose of having the same engrossed upon parchm^t & upon the proper stamp; that on the Twenty-third day of Aug^t, One thousand eight hundred & twenty-five, the s^d Moses Poole transmitted by post the Engrossment of the said Speñon to Wednesbury afs^d with 15 diñons to have the same acknowledged by the s^d Cornel^s Whitehouse before a Master Extraord^r in Chancery, & returned to him, the s^d Moses Poole, for the purpose of being lodged at the Inrollment Office, on or before the Twenty-sixth day of the same month of August, wñch was the last day on which the same could be enrolled, according to the terms of the afs^d proviso in the s^d 20 recited Letters Patent; that the Engrossment of the said Specification was accordingly reñed at Wednesbury on the Twenty-fourth day of the same month of August in the course of post, that is to say, about eleven o'clock in the forenoon; that the Pet^r was absent from Wednesbury on business of import^{ce} at the time of the arrival of the s^d Specificatⁿ, but the Pet^r, expect^s about that 25 time to reñe the same from the s^d Moses Poole, had left word at his manufactory at Wednesbury afs^d with the Pet^r's clerk, Mr. Joseph Hobbins, that if the same sho^d arrive during the Pet^r's absence, that the s^d Cornelius Whitehouse sho^d be directed forthwith to acknowledge the same, & return it to Mr. Poole for inrollm^t; that accordly, imñdly on the arrival of the s^d Specification, the 30 s^d Mr. Hobbins accompanied the s^d Cornelius Whitehouse to the office of Mr. Stephen Faulkner Crowther, a Master Extraord^r in Chancery, residing at Wednesbury afs^d, before whom the same was acknowledged by the s^d Cornelius Whitehouse, and the same was, the same day, about two o'clock in the afternoon, put into the post office at Wednesbury, directed to the said Mr. Poole, 35 who, on the receipt of the same on the following day, viz^t, the Twenty-fifth day of the same month of August, lodged the same with the proper officer at the Inrolm^t Office of this Court in Chancery Lane; that the s^d Specification appears to have been engrossed by the s^d Moses Poole, or by his diñon, from

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the draft thereof furnished to him by the Pet^r for that purpose; that the Pet^r hath been informed by his said clerk, the s^d Mr. Hobbins, that the s^d draft did not accompany the Speçon, & that the s^d Specification was not exam^d or perused by the s^d Cornel^s Whitehouse previously to his acknowledgm^t thereof; 5 but the Pet^r believes that if the s^d Cornel^s Whitehouse had perused & exam^d the same, he wo^d not have been able to discover & detect the clerical error therein-after ment^d & referred to, he, the s^d Cornel^s Whitehouse, being an uneducated person, or at least unaccustomed to the perusal of writing of any description; that the Pet^r, having lately & within the last fortnight had 10 occasion to refer to the Engrossment of the s^d Specification so as afores^d acknowledged by the s^d Cornel^s Whitehouse, discov^d that there is a mistake in such Engrossment, viz., in the eighth line from the bottom thereof, wherein the word "wire" occurs, but which sho^d & ought to have been written "fire;" that the s^d error is a mere clerical one arising in the Engrossment of the 15 Speçon, as appears by the original d^{rt} of the s^d Speçon from w^{ch} such Engrossm^t was made; that the Pet^r, on discov^r the s^d error in the Engrossm^t of the s^d Specification, im^medly caused appliçon to be made at the Inrollm^t Office, when it was ascert^d that the entry thereof on the orig^l Roll was & is erroneous & incorrect as to the use of the s^d word "wire" instead of "fire;" that 20 no scire facias hath been issued or applied for the repeal of the s^d recited Letters Patent, nor is any suit or action instituted or depending touching the s^d Patent right; that the Pet^r is advised that under the cirçes afs^d he is entitled to have the s^d original Roll amended, the Pet^r submitting that the s^d error is merely clerical, as may be seen by a comparison of the afs^d original 25 draft & the Ingrossm^t thereof: It was therefore prayed, and, upon reading an affidavit of Moses Poole and an affidavit of James Russell, the original draft of the said Specification, and the Engrossment of the same, as acknowledged by the said Cornel^s Whitehouse, it is accordingly ordered, that the proper Officer do amend the original Roll or entry of the said Specification remaining 30 of record in the Inrolment Office of this Court by altering the letter "w" in the s^d word "wire" to the letter "f," so that the same may be read "fire."

F. B. BEDWELL, D. Reg^r,
for Mr. Raynsford.

Therefore, on the 18th day of January, in the year of our Lord 1830, the 35 alteration abovesaid was made accordingly.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1857.

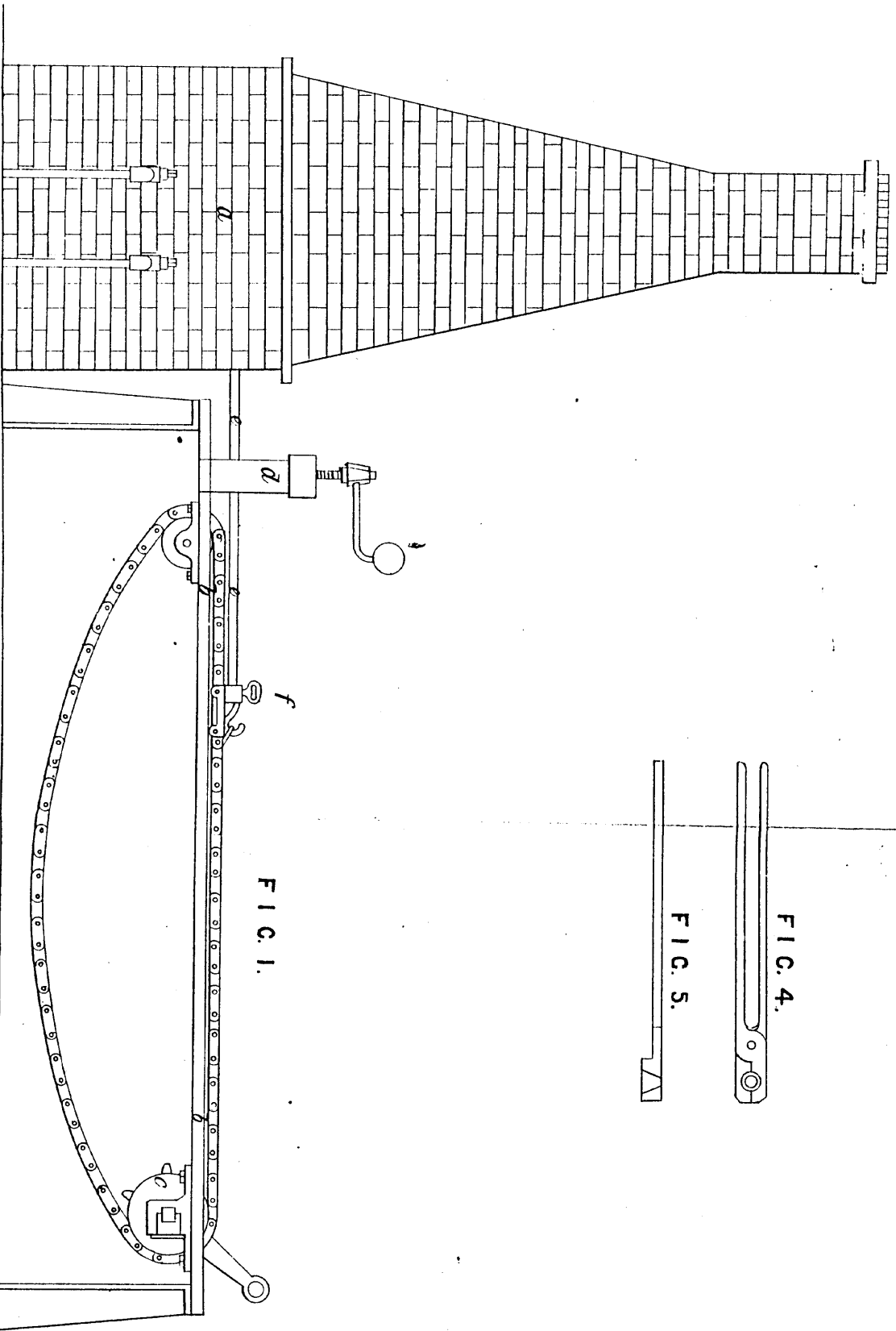


FIG. 1.

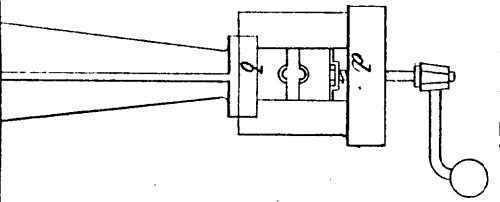


FIG. 2.

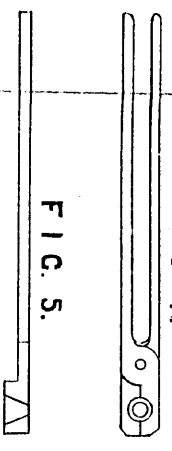


FIG. 4.

FIG. 5.

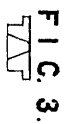


FIG. 3.

The enrolled drawing is colored.

Drawn by: Stans by Malby