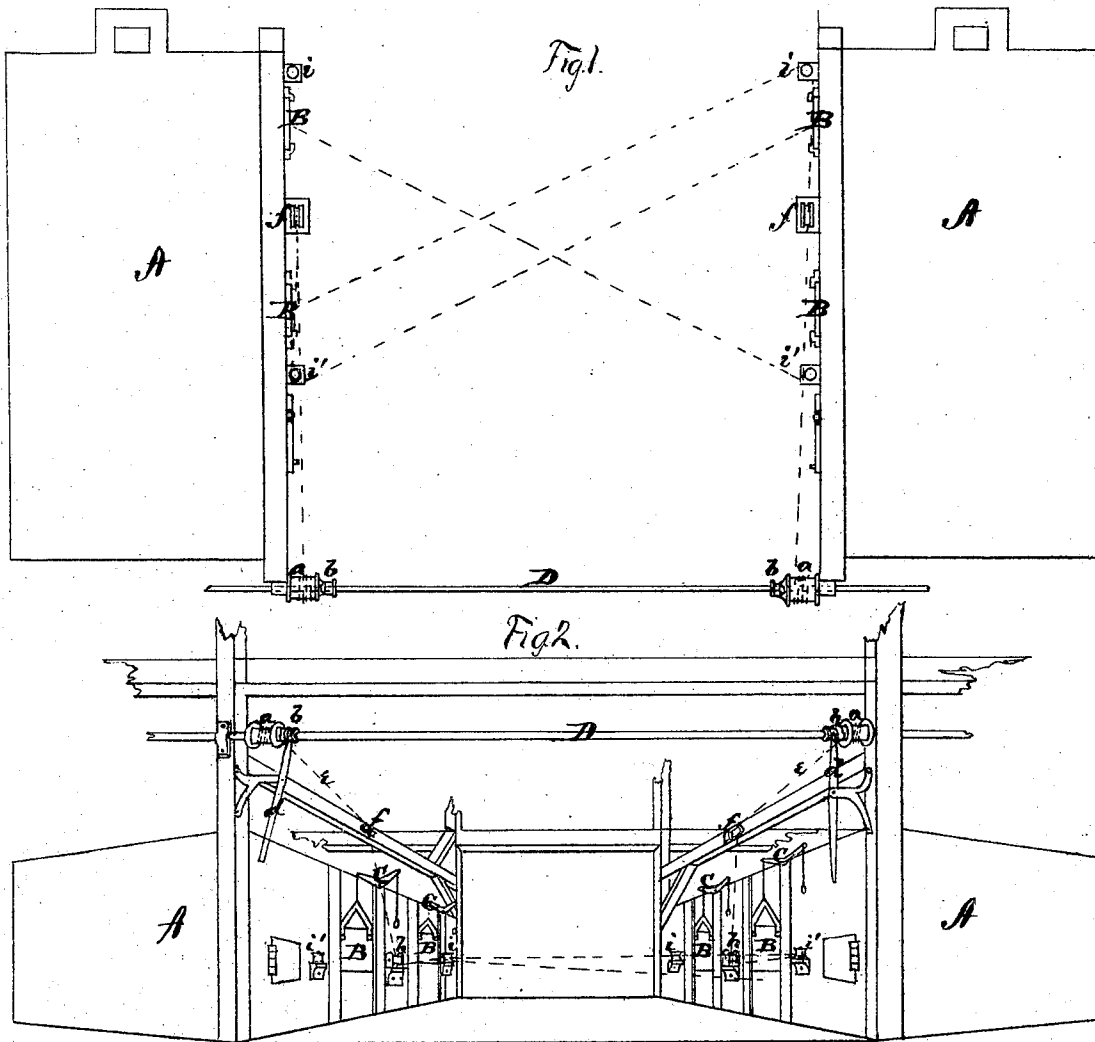


2 Sheets--Sheet 1.

WILLIAM STEPHENS.
Improvement in Device for Drawing Iron from Heating Furnaces.
No. 118,165. Patented August 15, 1871.



Witnesses.

C. L. Ewert,
J. L. Durand

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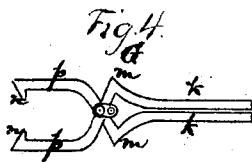
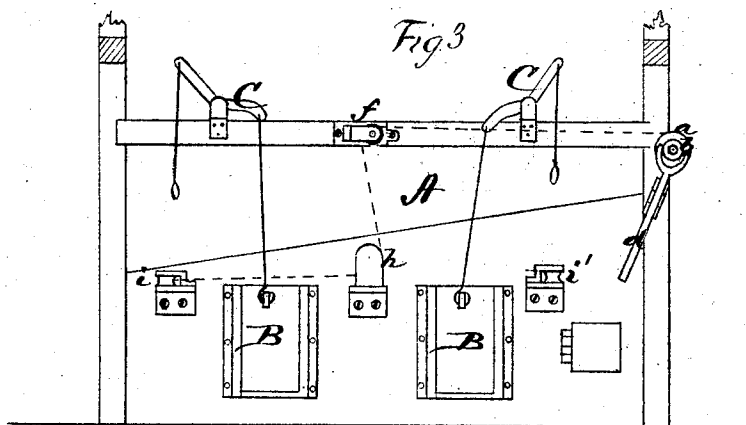
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WILLIAM STEPHENS.

Improvement in Device for Drawing Iron from Heating Furnaces.

No. 118,165.

Patented August 15, 1871.



Witnesses.
C. L. Coetz.
J. L. Curand

Inventor.
Wm Stephens.
Jes
Alexander Murray
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM STEPHENS, OF NEW ALBANY, INDIANA.

IMPROVEMENT IN DEVICES FOR DRAWING IRON FROM HEATING-FURNACES.

Specification forming part of Letters Patent No. 118,165, dated August 15, 1871.

To all whom it may concern:

Be it known that I, WILLIAM STEPHENS, of New Albany, in the county of Floyd and in the State of Indiana, have invented certain new and useful Improvements in Device for Drawing Iron from Heating-Furnace; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a device for drawing iron from heating-furnaces, as will be herein after more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view, and Fig. 2 a perspective view, showing two furnaces. Fig. 3 is a side view of one furnace, and Fig. 4 is a view of the tongs used.

A A represent two heating-furnaces, constructed in any of the known and usual ways, and arranged so as to face each other. Each furnace is provided with two or more doors, B B, sliding in suitable guides, and raised, each by means of a lever, C, pivoted above the door. One end of each lever is, by a chain, connected with the door, and from the other end depends another chain or rope, by means of which the operator raises the door. In suitable journal-boxes in the frame-work, at one end and above the furnaces, is placed a shaft or line of shafting, D, which is kept constantly revolving by any convenient power. On the shaft D is placed a drum, *a*, for each furnace, as shown, said drums being made to revolve with the shaft, when desired, by means of a clutch, *b*, and lever *d*, as shown in Fig. 2.

To each drum *a* is attached a chain, *e*, which passes over a pulley, *f*, situated in the frame-work above the furnace. From this pulley the chain passes downward around another pulley, *h*, the frame of which is placed upon a pivot or swivel so that it may be turned around to throw the chain *e* either to the right or left. The chain is then passed around a pulley, *i* or *i'*, as occasion may require, and with the tongs G attached to the chain the operator can readily withdraw the ball of iron from the furnace opposite onto the car. By means of the lever *d* the drum *a* is thrown in gear so as to wind up the chain, and all the operator has to do is to guide the tongs properly. The object of changing the chain from the pulley *i* to *i'*, and vice versa, by the use of the pivot or swivel-pulley *h*, is to allow the chains at all times to draw at obtuse angles, which greatly facilitates the operation.

The tongs G are constructed, as shown in Fig. 4, of two metal bars, forming first the handles *k k*, then bent outward, forming the guards *m m*. After forming said guards they are bent inward, crossing each other, and pivoted together at this point, and then form the jaws *p p*, with hooks *n n* at the ends.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The device herein described for drawing iron from heating-furnaces, consisting of the shaft D with drum *a*, clutch *b*, lever *d*, chain *e*, pulleys *f i i'*, swivel-pulley *h*, and tongs G, all constructed and arranged to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of June, 1871.

WILLIAM STEPHENS.

Witnesses:

C. L. EVERT,
GEO. B. F. COOPER.