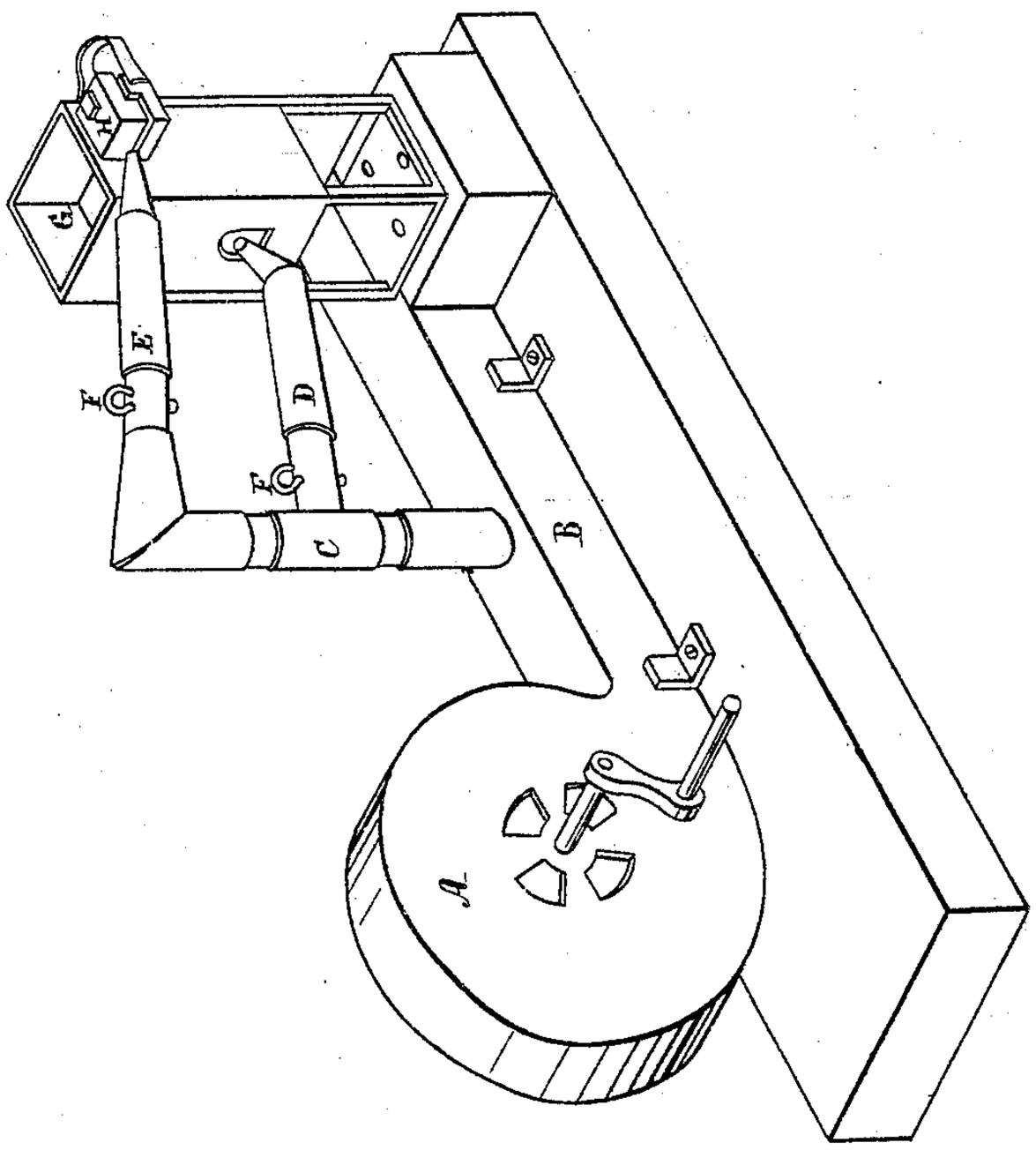
G. Bruce,
Type Machine.

No. 11955. Patented Nov. 14. 1854.



James Lindsay
Chas. E. Jenkins
} Witnesses

Geo. Bruce

UNITED STATES PATENT OFFICE.

GEORGE BRUCE, OF NEW YORK, N. Y.

IMPROVEMENT IN CASTING TYPE.

Specification forming part of Letters Patent No. **11,955**, dated November 14, 1854.

To all whom it may concern:

Be it known that I, GEORGE BRUCE, of the city of New York, in the county and State of New York, have invented and applied to use an Improvement in the Art of Casting Printing-Types, by which I have greatly increased the product of all those sizes of type which usually in casting overheat the molds.

I effect this by an artificial blast of wind, which I produce and apply in the following manner: Having a blower worked by a steam-engine, the wind is driven by it into a wooden tube which runs around the casting-room and near to the casting-machines. From this tube each casting-machine is supplied with a steady blast by means of an upright tin tube terminating in two horizontal tin tubes, the upright part being about two inches in diameter, and the horizontal parts about an inch and a half. One of the horizontal tubes is directed to the fire of the casting-machine, where its blast is discharged to promote the combustion of the fuel, and the other is made to discharge its blast on the type-mold, which it cools in proportion to the force of the blast and the directness of the application. All the tin tubes have sleeve-joints by which their length and position can be regulated by the workmen, and the horizontal tubes have dampers to reduce or shut off the wind. By the application of this blast to a small-pica mold figures and other characters of the same size have been cast continuously at the rate of fifteen pounds per hour, which is believed to be twice as much as was ever cast before, and therefore a very great improvement on the working of a single mold. In connection with this increased product a larger supply of metal must be kept fluid and fit for casting, which is successfully done by the application of the blast to the fire, superseding the use of a high chimney, and rendering the state of the atmosphere, whether windy or calm, of no consequence.

In giving the dimensions and forms of the tubes that I have put in use, and have found to answer well, I by no means intend to confine myself to them. They may be varied and enlarged at pleasure, and instead of a blower driven by a steam-engine, with which I supply a blast to many casting-machines, a bellows or blower may be attached to a single one and worked by the same power that moves the mold, by hand or by a treadle.

In the drawing annexed, A is the blower, with a crank, as if it were to be turned by hand.

B is the main air-tube, which receives the wind from the blower and carries it round the room.

C is an upright tube which receives a sufficient portion of the blast for the supply of one casting-machine.

D is a horizontal tube conveying wind from the upright tube to the fire.

E is a horizontal tube conveying wind from the upright tube to the mold.

F is dampers in the horizontal tubes.

G is the metal-pot.

H is the type-mold.

I do not claim as new the application of an artificial blast to the fire; but

I claim as my invention or discovery--

The application of an artificial blast to cool the type-mold or prevent it from overheating in casting, by which printing-types can be cast much more rapidly than ever before, as here described.

GEO. BRUCE.

Witnesses:

JAMES LINDSAY,

GEO. T. JENKINS.