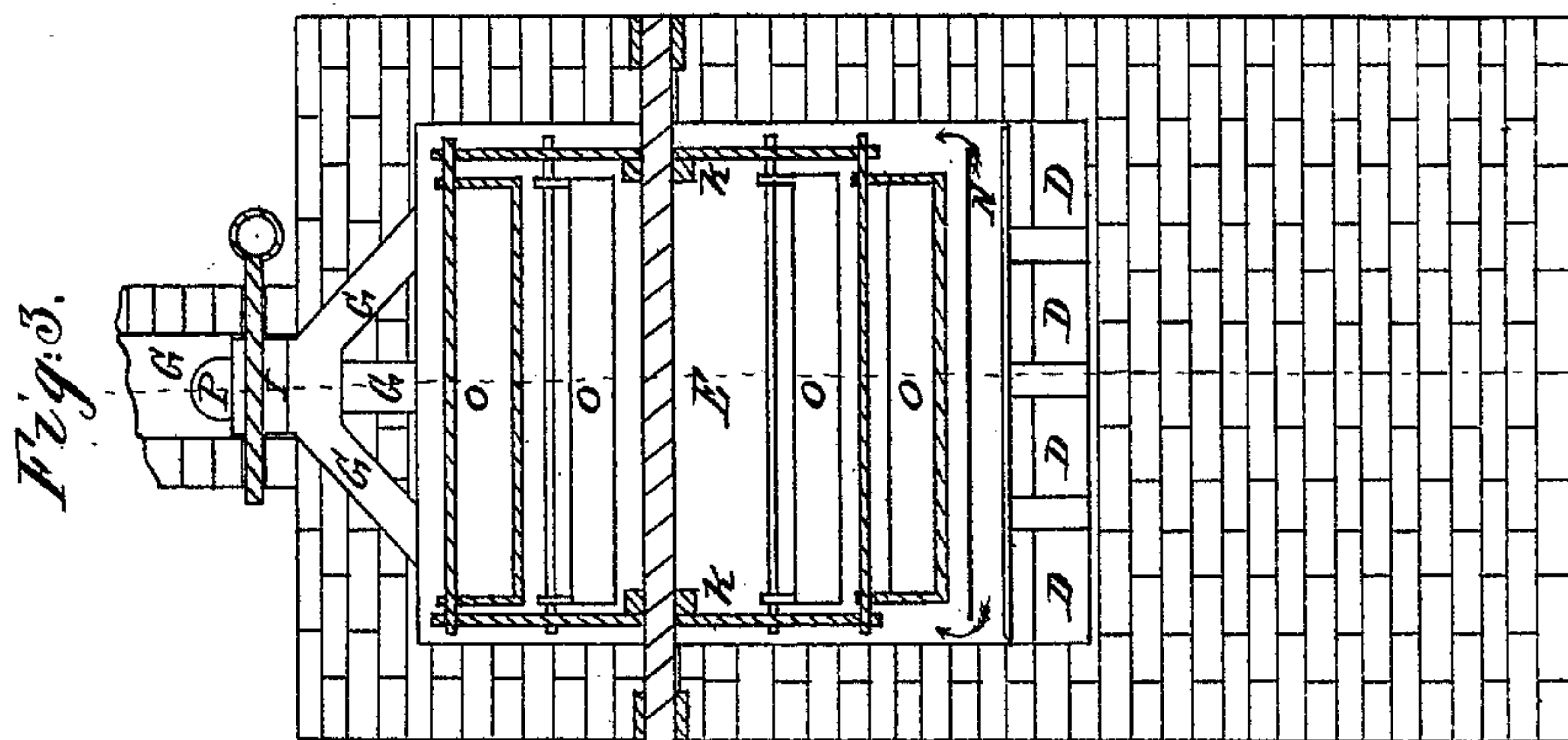
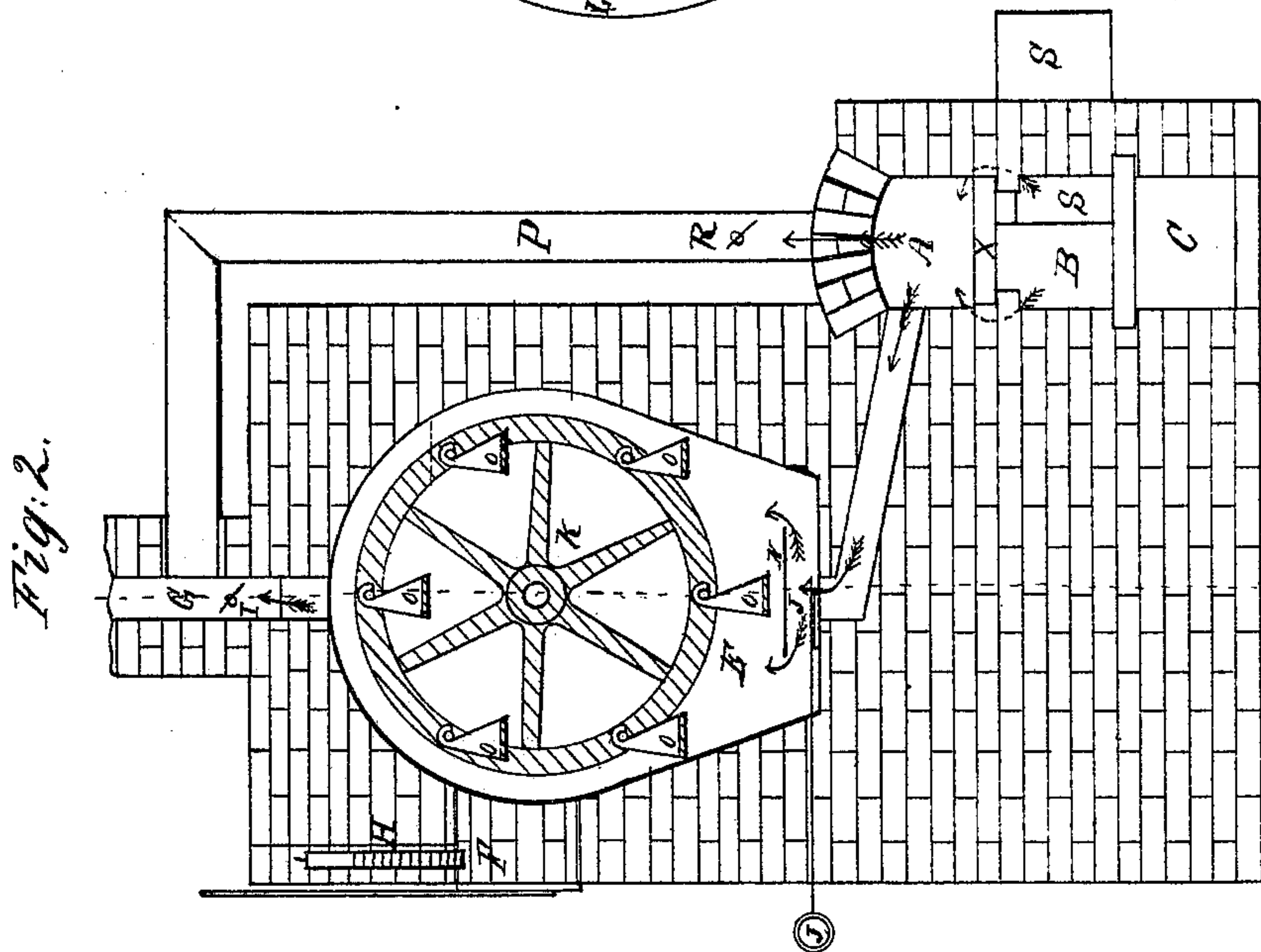
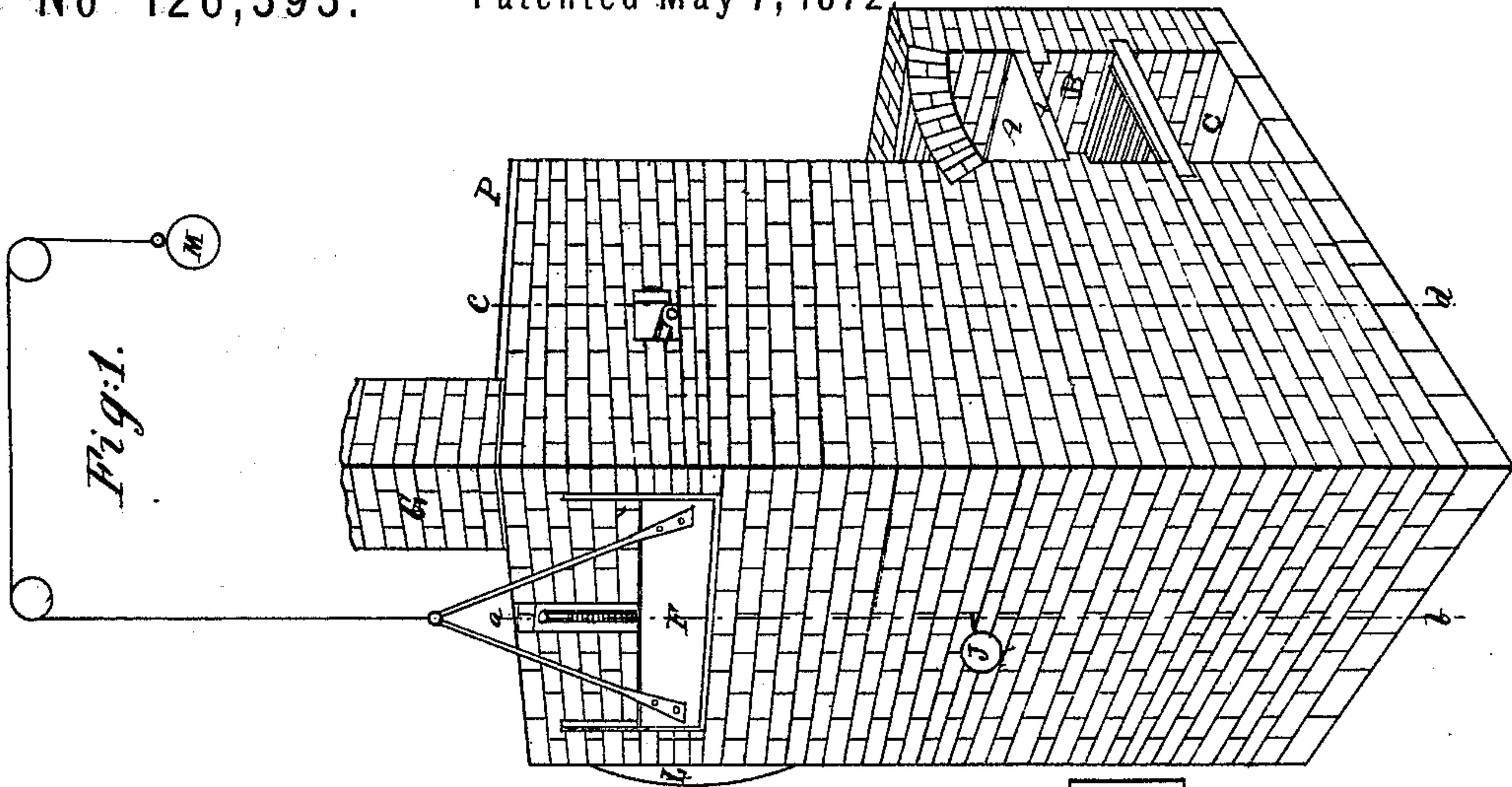


R. L. HEWETT & A. F. HEWETT.
Combined Furnace and Tempering Oven.

No 126,393.

Patented May 7, 1872



Witnesses:

John Hoffmann
T. H. Lyndon

Inventor:

Richard L. Hewett
Alfred F. Hewett

UNITED STATES PATENT OFFICE.

RICHARD L. HEWETT, OF WORCESTER, AND ALFRED F. HEWETT, OF MILBURY, MASSACHUSETTS.

IMPROVEMENT IN COMBINED FURNACES AND TEMPERING-OVENS.

Specification forming part of Letters Patent No. 126,393, dated May 7, 1872.

Specification describing certain Improvements in a Combined Furnace and Tempering-Oven, invented by RICHARD L. HEWETT, of Worcester, and ALFRED F. HEWETT, of Milbury, Massachusetts.

Our invention consists, first, in connecting a furnace (used for heating articles to be hardened) with a tempering-oven, by means of one or more flues, for the purpose of utilizing the heat that escapes from the furnace; second, in the use of a wheel in said tempering-oven whose axis is horizontal, or nearly so. I use the words "horizontal, or nearly so" because wheels have been employed working upon vertical shafts for a similar purpose.

Figure 1 is a perspective view of our furnace and oven complete; Fig. 2, a vertical section through *a b*, Fig. 1; Fig. 3, a vertical section through *c d*, Fig. 1, or at right angles to section, Fig. 2.

A, the hardening-furnace; B, the fire-place; C, the "ash-pit;" D, the flues from the furnace A to the oven E; F, the oven-door; G, the flues from the oven to the chimney; H, the thermometer; I, the damper in chimney; J, damper to the flues D; P, a flue direct from the furnace to the chimney, to be used when all of the heat is not required in the tempering-oven; R, its damper; N, plate for expanding the hot air as it enters the oven. S is a movable partition, for dividing the fire-place B when hardening short articles. This partition is represented partially drawn out or open. K is the tempering-wheel; L, pulley for driving same; O, receptacles for the articles to be

tempered. These receptacles are suspended by hooks to the tie-rods of the wheel K, as shown.

The articles to be hardened are placed upon the plate or tile X, which is kept at a red heat by the fire beneath, the hot air passing up around the edges of the tile into the furnace A, thence by the flues D into the oven E, thence out by the flues and chimney G. The course of the heat is clearly indicated by the arrows.

The articles to be tempered are placed in the receptacles O; and it will be seen that, by the motion of the wheel K, they must pass alternately through the upper and lower portions of the oven, and hence receive a much more uniform or even temper than they could if the wheel worked horizontally or on a vertical shaft or axis. The temperature of the oven is regulated by the dampers and the thermometer H.

We do not claim broadly the use of a tempering-wheel working in an oven; but

What we do claim as our invention is—

1. A tempering-wheel whose axis is horizontal, or nearly so, having suspended receptacles O for holding the articles to be tempered, substantially as specified.

2. We claim the connecting of the hardening-furnace A with the tempering-oven E by flues D, for the purpose explained.

RICHARD L. HEWETT.
ALFRED F. HEWETT.

Witnesses:

JOHN HOPKINS,
M. B. GOLDTHWAIT.