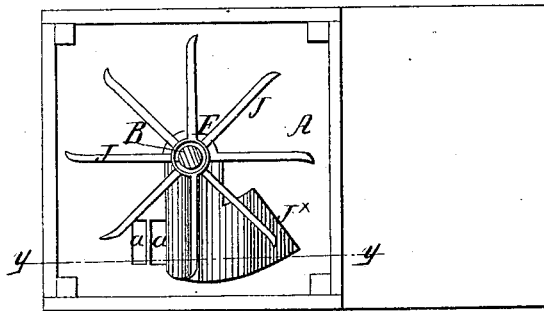


*George & Hague,  
Brick Machine.*

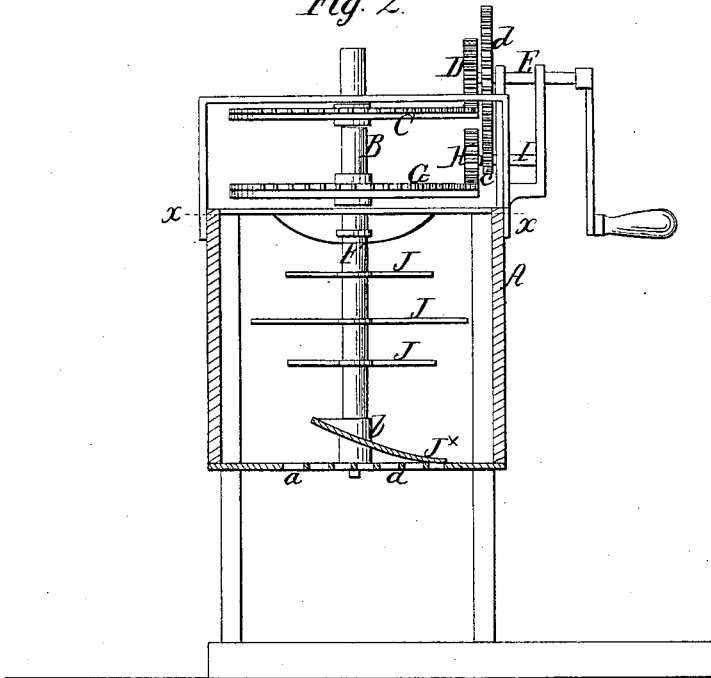
*N<sup>o</sup> 53, 600.*

*Patented Apr. 3, 1866.*

*Fig. 1.*



*Fig. 2.*



Witnesses;  
J. M. Hovington  
Jas. A. Service

Inventors;  
J. George  
J. H. Hague  
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Attys.

# UNITED STATES PATENT OFFICE.

JOHN GEORGE AND HENRY HAGUE, OF JACKSON, MICHIGAN.

## IMPROVED BRICK-MACHINE.

Specification forming part of Letters Patent No. 53,600, dated April 3, 1866.

*To all whom it may concern:*

Be it known that we, JOHN GEORGE and HENRY HAGUE, of Jackson, in the county of Jackson and State of Michigan, have invented a new and Improved Brick-Press; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan or top view of our invention; Fig. 2, a vertical section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to an improvement on a brick-press invented by JOHN GEORGE and HENRY HAGUE, bearing date March 14, 1865. The present improvement relates to the "pug-mill," as it is frequently termed, and which consists of the apparatus employed for grinding and tempering the clay previous to pressing it into the molds.

The pug-mill of the patented press above alluded to, and which is common to most brick-presses, consists of a vertical rotating shaft placed centrally in a box, and having lateral arms or blades for grinding, cutting, and tempering the clay or mixing it thoroughly with the water introduced into the box with it, said shaft having secured to it, at its lower part, pressers for forcing the mixed and tempered clay into the molds. The disadvantage attending this grinding, mixing, and pressing device is due to the grinding or tempering blades or arms being on the same shaft with the pressers, and consequently having the same speed as the latter, whereas the grinding or tempering blades should have a quicker rotary motion than the pressers, in order that the clay may be tempered as rapidly as the pressers can force or press it into the molds—a result fully attained by our improvement, as hereinafter fully set forth.

A represents the box of the pug-mill of a brick-press, the bottom of said box being perforated with rectangular openings *a*, as usual, through which the tempered clay is forced or pressed into the molds.

B represents a vertical shaft fitted centrally in the box A, and having a spur-wheel, C, on its upper part, into which a pinion, D, on a horizontal driving-shaft, E, gears.

F is a tubular shaft, which is fitted on over the shaft B, and rests upon a hub, *b*, at the lower end of B. This tubular shaft F also has a spur-wheel, G, on its upper part, into which a pinion, H, gears, the latter being on a horizontal shaft, I, having a smaller pinion, *c*, upon it, into which a wheel, *d*, on the driving-shaft E gears.

To the tubular shaft F the lateral grinding or tempering arms J are attached, and to the hub *b* at the lower end of the shaft B the presser J<sup>x</sup> is secured.

By this arrangement it will be seen that the grinding or tempering arms and the pressers are secured to different shafts, and the two shafts may be driven by gearing from one and the same driving-shaft, and consequently with different speeds, as the gearing may be constructed or arranged to effect that end, as shown clearly in Fig. 2, in which the tubular shaft is geared to rotate much more rapidly than the shaft E, and consequently the clay will be ground and tempered as rapidly as the presser J<sup>x</sup> can force it into the molds through the openings *a*. Hence by our improvement the press is made to operate more rapidly than heretofore, and the clay will also be more thoroughly ground and tempered.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The attaching of the grinding or tempering arms J of the pug-mill of a brick-press to a tubular shaft, F, fitted loosely on the shaft B, which has the presser attached, and driving said shafts by means of gearing so arranged that the shaft F will rotate more rapidly than the shaft B, substantially as and for the purpose herein set forth.

JOHN GEORGE.  
HENRY HAGUE.

Witnesses:

JAS. A. DYER,  
H. WAKEMAN.