

WILLIAM HOLLENBAUGH.

Improvement in Blast Attachments for Lime Kilns.

No. 120,278.

Patented Oct. 24, 1871.

Fig. 1.

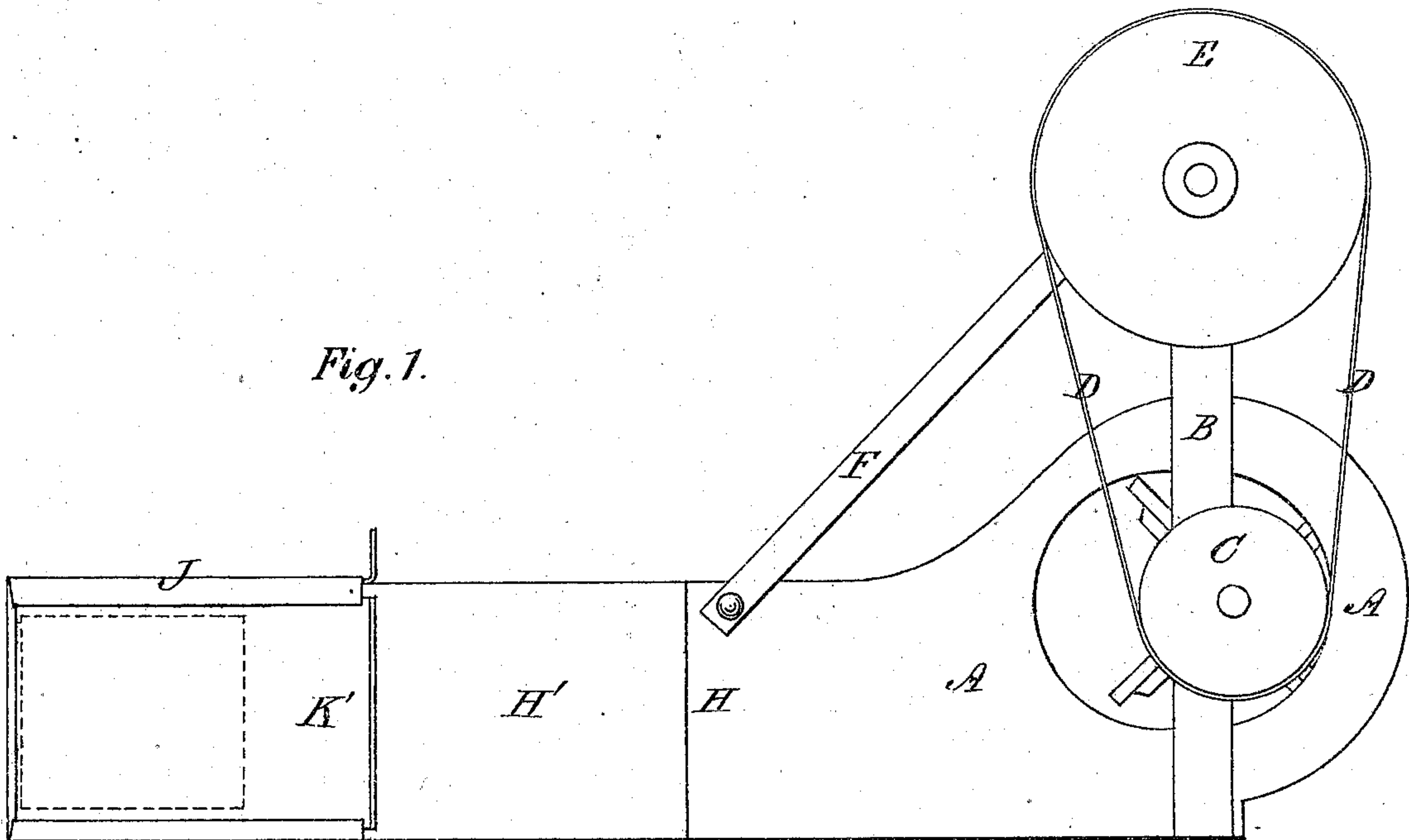


Fig. 3.

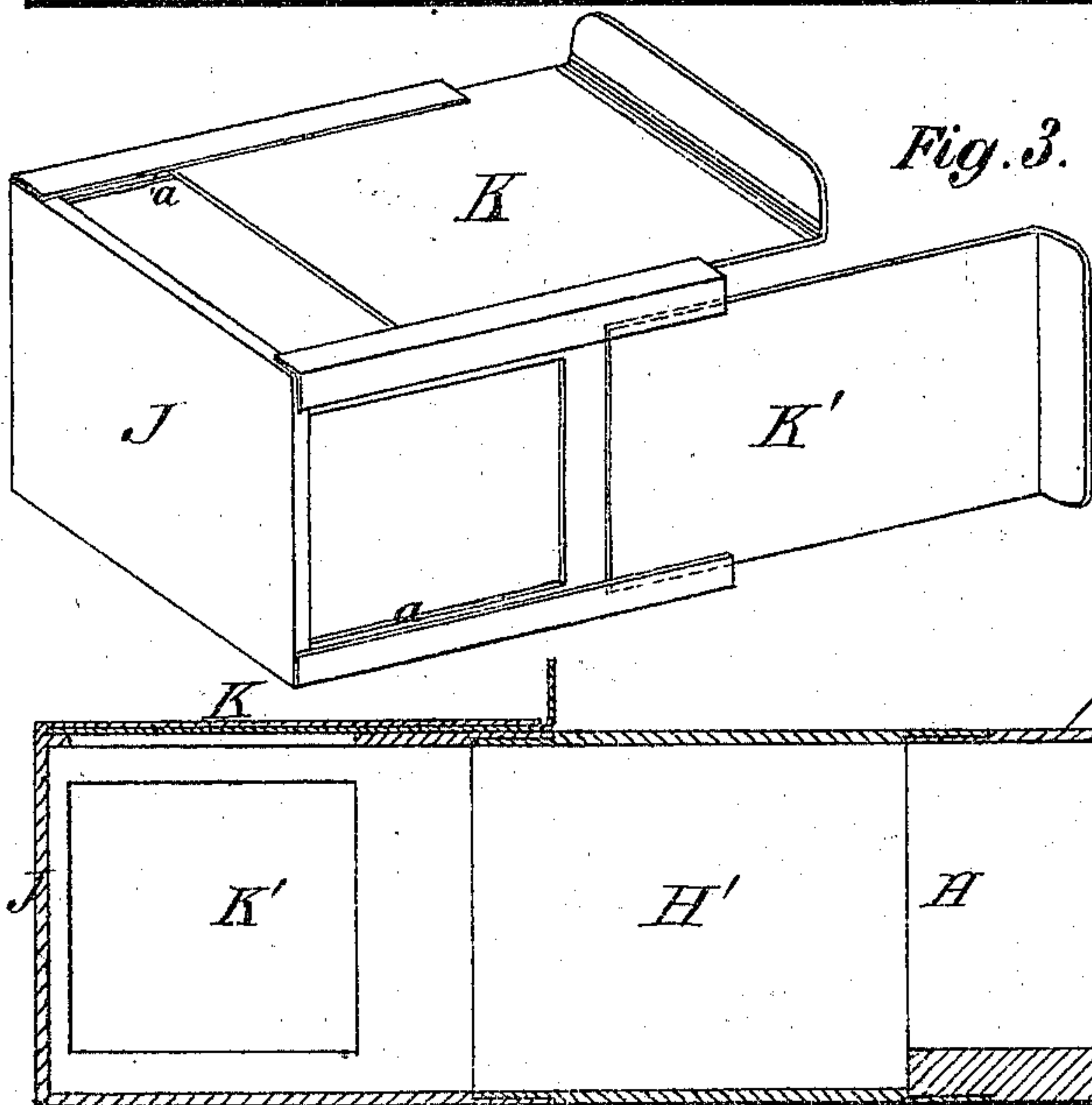
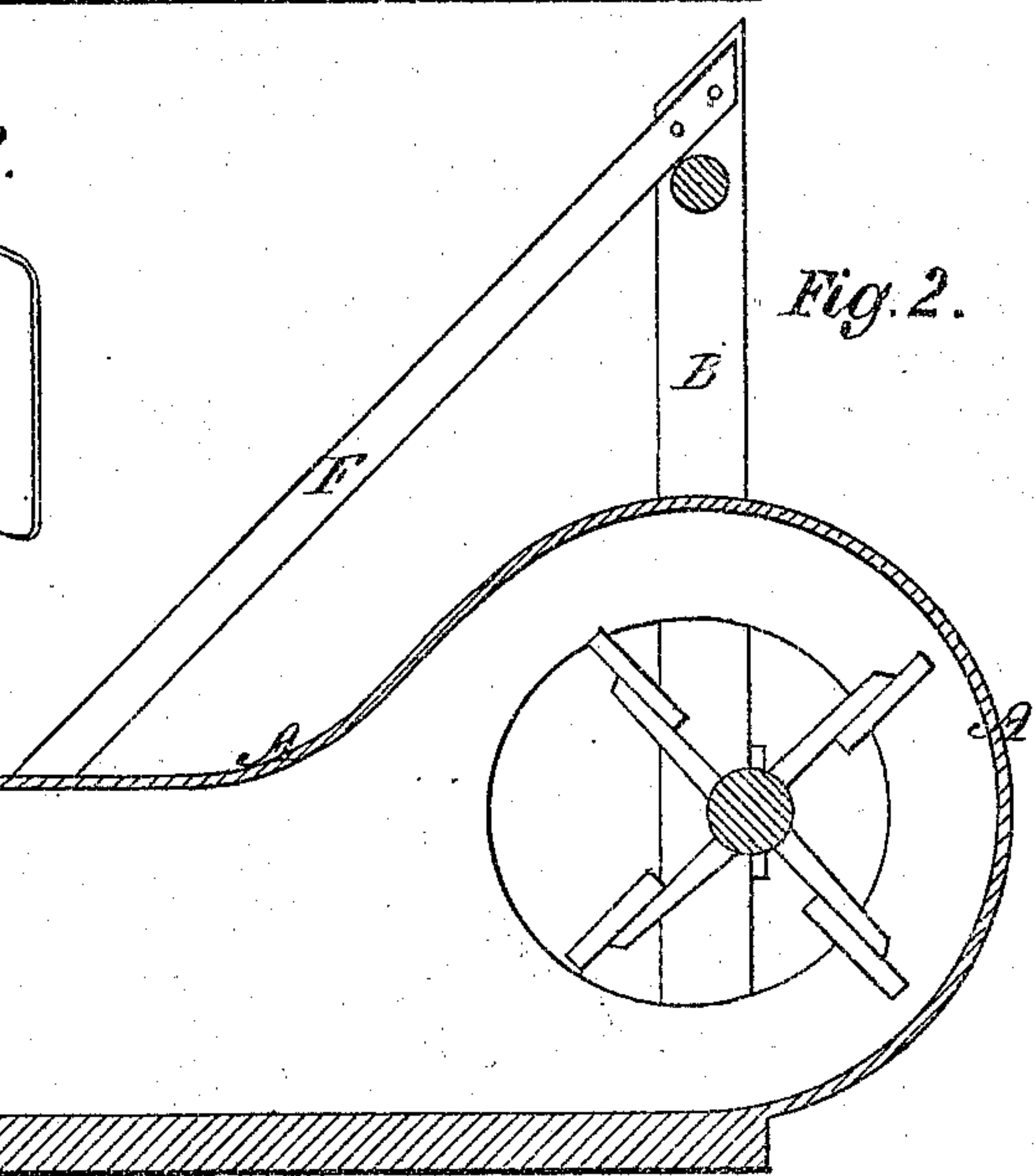


Fig. 2.



Witnesses:

*Geo. A. Artois*  
*Wm. H. Spring*

Inventor:

*William Hollenbaugh,*

*By his Attorney,*  
*T. H. Opperman.*



# UNITED STATES PATENT OFFICE.

WILLIAM HOLLENBAUGH, OF NEW GERMANTOWN, PENNSYLVANIA.

## IMPROVEMENT IN BLAST-ATTACHMENTS FOR LIME-KILNS.

Specification forming part of Letters Patent No. 120,278, dated October 24, 1871.

*To all whom it may concern:*

Be it known that I, WILLIAM HOLLENBAUGH, of New Germantown, in the county of Perry and State of Pennsylvania, have invented certain new and useful Improvements in Blast-Attachments for Lime-Kilns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawing, in which—

Figure 1 represents a side elevation of a fan-blower embracing my improvements. Fig. 2 represents a longitudinal vertical section through the same. Fig. 3 represents a detached view, in perspective, of the terminal box of the blast-pipe with one of the slides partly withdrawn to force the blast in a required direction under the kiln.

My invention relates to means for equally diffusing the fire under a lime-kiln, and it consists in the use of a fan-blower outside of and at the bottom of the kiln for the purpose of creating a blast of air which is forced through blast-pipes under the kiln and out of a box closed at its end, provided with slides on its top and slides for the purpose of causing the fire to spread under the material to be burnt in any given direction, as may be required, as will be more fully described.

In the accompanying drawing, A represents the case of the fan-blower, secured at its circular end to vertical standards B, which form the bearings for the fan, as also the pulley C which drives it, and to which motion is communicated through the band D from the drive-wheel E, which latter may be moved by horse-power or by hand, as desired. The vertical posts B are suitably braced by the diagonal braces F connected to them and to the opposite end of the fan-case, which forms a part of the series of blast-pipes H, through which the blast is transmitted to and under the kiln. It is sometimes necessary to lengthen the blast-pipe, and for this purpose extra joints, H', are used, as occasion may require. Terminating the blast-pipe is the box J, closed at its outer end, but provided on its top and sides with slides or valves K K', as clearly shown in the drawing. These slides K K' are made to move in ways a

in the box J, made to receive them, and permit more or less air to be forced out, according to the distance they are opened, and in such direction as may be required to spread the fire evenly throughout the bottom of the kiln.

The operation and manner of use of my invention is as follows: The kiln is built as usual upon a foundation of timber or logs crossing each other at right angles, the lime-stone or other material to be burned being built upon such foundation and covered around its sides and on its top with moist earth, leaving therein a suitable number of holes for the escape of the gases of combustion and the smoke. The fire is started underneath and on one side of the kiln, and the box or terminal-pipe J of my blast apparatus is placed at a point opposite. Should the fire burn to one side it is necessary that draught be supplied to the other in order that the heat may be equally diffused, and for this purpose one or the other of the slides K', as the case may be, is opened, which gradually draws the fire to that part of the kiln burning behind. When the fire is burning equally throughout the bottom of the kiln the draught-pipes are withdrawn for the time being, the slide K' closed, and the one, K, on top of the box, opened, which has the effect of carrying the flame rapidly upward.

A practical test of my invention has shown it to be possessed of many advantages over the old method from the thoroughness and rapidity with which the work of lime-burning is accomplished by its use.

Having described my invention, I claim—

In connection with a kiln for burning lime, the combination of a fan-blower and the telescopic-pipe H H' with the terminal-box J provided with slides or valves K K' for distributing the heat equally, as described, under and throughout the kiln.

In testimony whereof I have hereunto signed my name.

WM. HOLLENBAUGH.

Witnesses:

FRENCH F. MIX,  
H. H. YOUNG.