

C. Badgerman & J. Green.

Mortising Machine.

PATENTED

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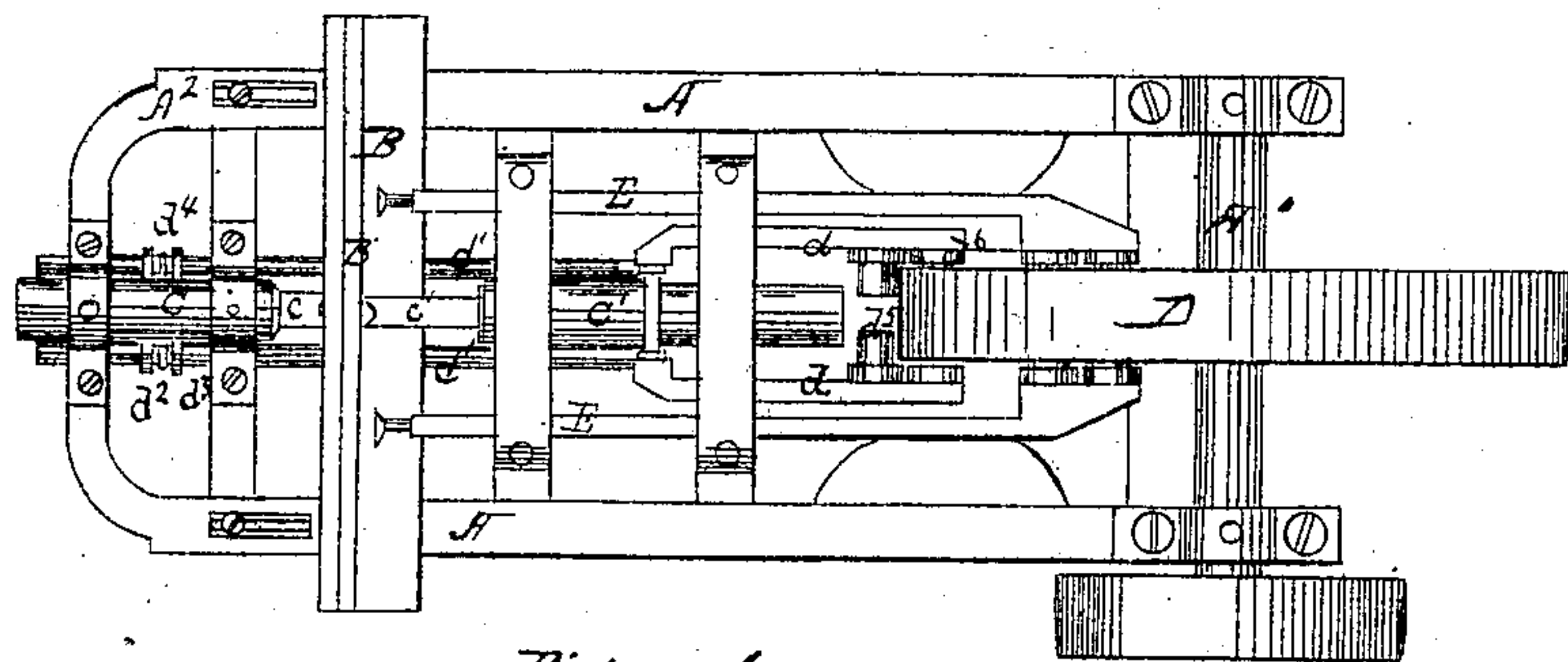


Figure 1.

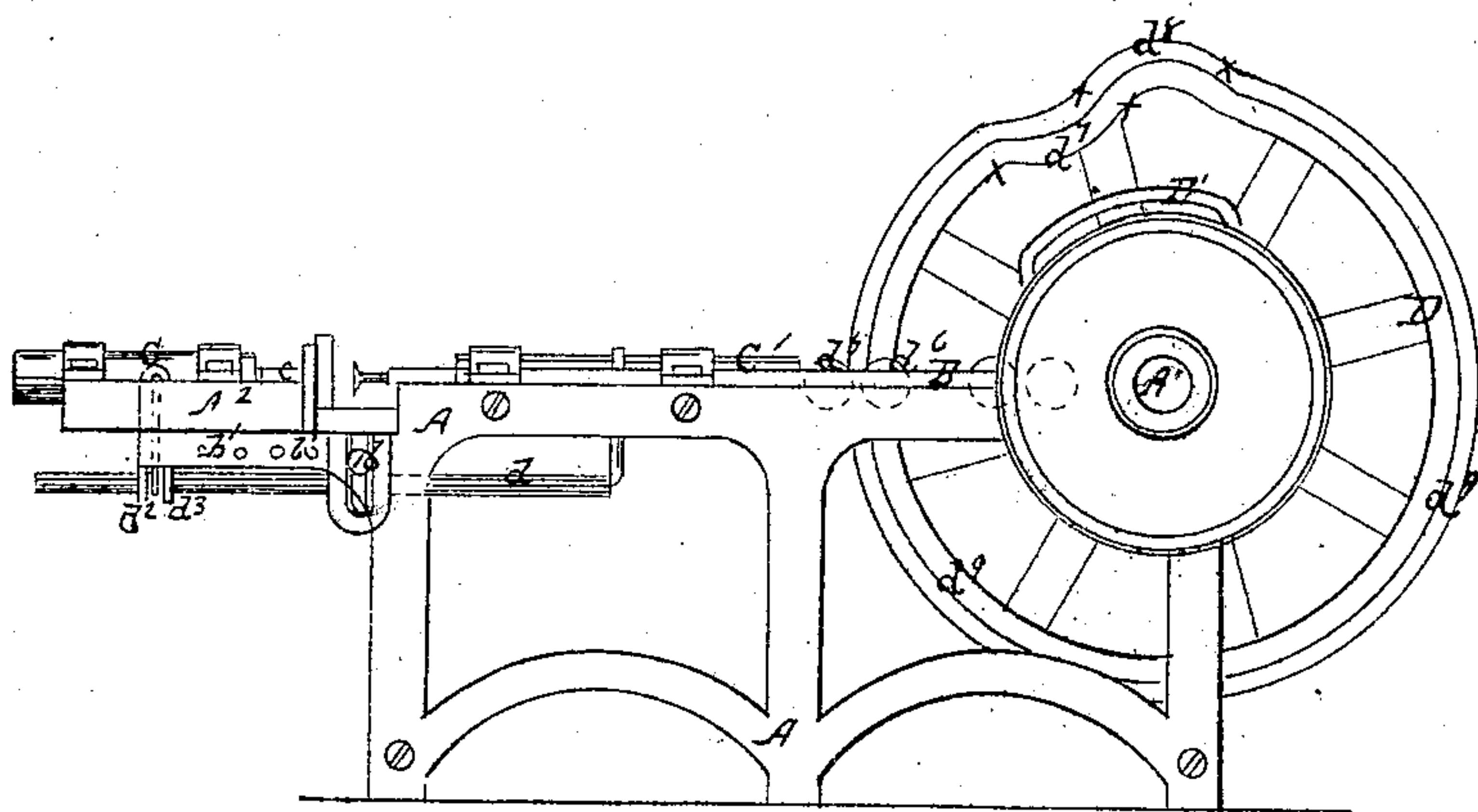


Figure 2.

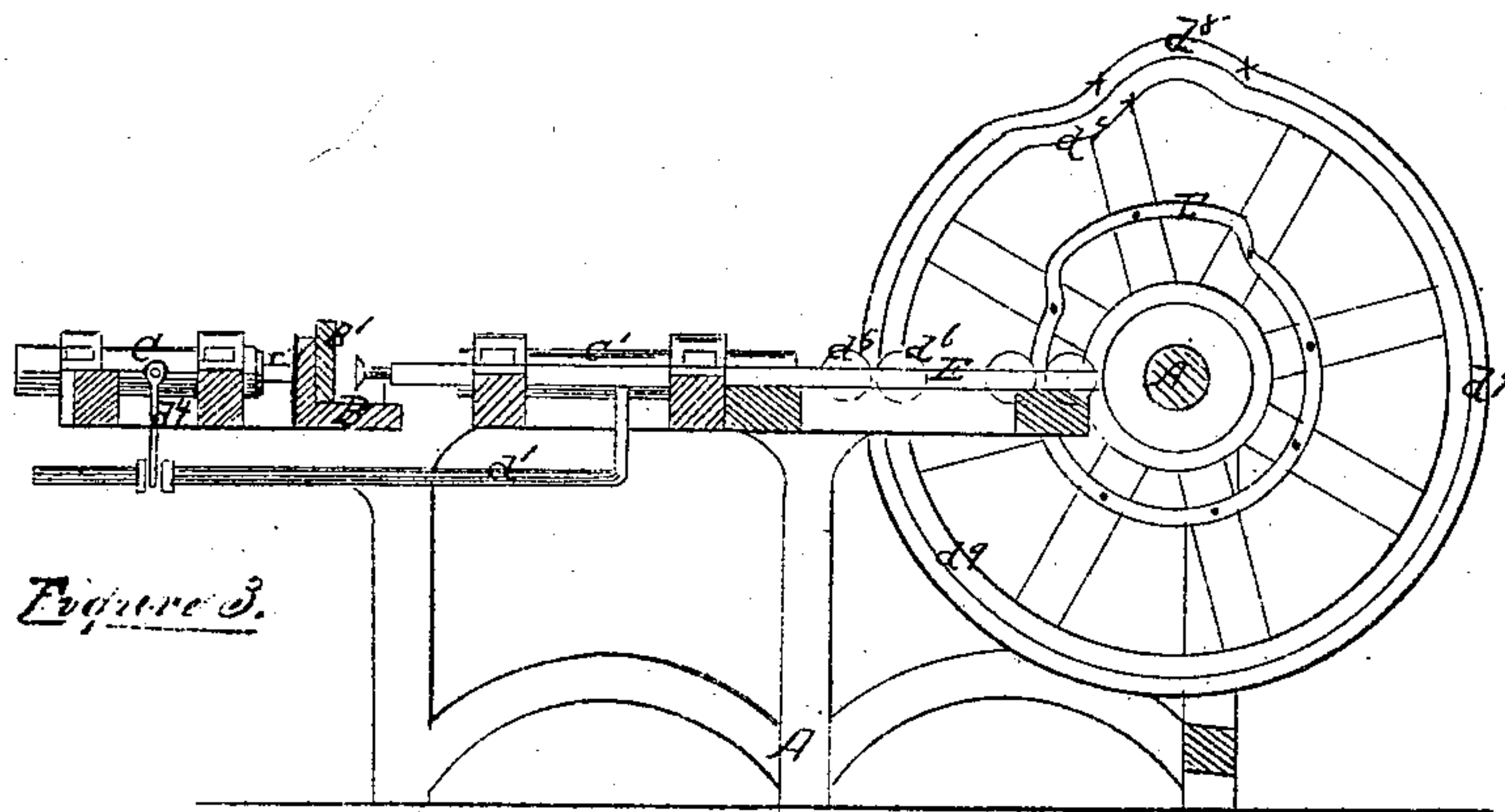


Figure 3.

Witnesses:

Thomas H. Durridge

Chas. H. Boyd

Inventors:

C. Badgerman

John Green } by this day  
Wm. H. H. H.

# United States Patent Office.

CORNELUS BAGGERMAN AND JOHN GREEN, OF ST. LOUIS, MISSOURI.

*Letters Patent No. 73,428, dated January 21, 1868.*

## IMPROVEMENT IN MORTISING-MACHINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, CORNELUS BAGGERMAN and JOHN GREEN, of St. Louis, in the county of St. Louis, and State of Missouri, have invented a new and useful Improvement in Framing-Machines for Mortising Sash-Rails; and we do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to an improved arrangement of the chisels, whereby they are enabled to cut from both sides of the piece to be mortised at one operation, the chisels being operated by cam-gearing, and the piece to be mortised held in position on an adjustable table by means of sliding holders, also operated by cam-gearing.

To enable those skilled in the art to make and use our improved machine, we will proceed to describe its construction and operation.

Figure 1 of the drawings is a plan of the machine.

Figure 2 is a side elevation of it, and

Figure 3 is a longitudinal sectional elevation:

A is the framework of the machine, on one end of which is placed the driving-shaft  $A^1$ , and on the other end the sliding arbor-frame  $A^2$ , the latter frame having an adjustable connection with the former by means of the set-screws  $a$ , in such a manner that it may be set so as to accommodate different widths of stuff. The table B, on which the piece  $B'$  is placed to be mortised, is adjustable as to height, by means of the set-screws  $b$ , so as to accommodate the different thicknesses required, the said screws working in slots in the table B for that purpose. In order to allow a longitudinal adjustment of the table, a series of holes,  $b'$ , is made in the side of the frame A, to which the said screws  $b$  may be changed when required. There are two chisel-arbors, C and  $C'$ , the former of which has its bearings in the frame  $A^2$ , and the other in the frame A. Both of the chisel-arbors are actuated in harmony with each other by the cam-wheel D, the cam-rods  $d$  operating the arbor  $C'$ , and connecting-rods  $d^1$  transmitting motion from the rods  $d$  to the arbor C. As it is necessary to adjust the frame  $A^2$  and its arbor C, at different distances, forward and backward, to accommodate different thicknesses of stuff for the piece  $B'$ , the attachment of the arbor C to the rods  $d^1$  must also be adjustable, and this is most readily done by means of the nuts  $d^2 d^3$ , which may be used to move the arbor-arms  $d^4$  backward or forward, as may be required. The cam-wheel D has a double-flanged rim, which passes between the sheaves  $d^5 d^6$ , attached to the cam-rods  $d$ , and thereby forces the said rods forward or backward by means of the internal cam  $d^7$ , or the external cam  $d^8$ , the motion given by the cam  $d^7$  being just sufficient to draw the chisel  $c$  of the arbor C into the piece  $B'$  a short distance, and then the cam,  $d^8$ , is of such size, and so located on the rim of D, as to force the chisel  $c'$ , of the arbor  $C'$ , the remaining distance desired into the opposite side of the piece  $B'$ , and thus a completely-formed mortise, cut from both sides of the piece, is finished at each revolution of the machine. The formation, size, and location of the cams  $d^7 d^8$ , upon the rim D, are such that a short, quick, reciprocating motion is given to the chisels  $c c'$ , and then the said chisels are allowed to remain stationary a sufficient length of time for the removal of the piece  $B'$ , and the substitution, instead thereof, of a new piece, the stationary time being occupied by the revolution of the circular part of the rim  $d^9$ . There are two sliding holders E, operated by the cams  $E'$ , located upon the shaft A, in much the same manner as are the cam-rods  $d$ . The construction of the cams  $E'$  and the rods E is such that ends,  $e e$ , of said rods will be forced hard against the piece  $B'$ , just an instant before either chisel strikes it, and hold the said piece up hard against its table until after the last chisel shall have left it.

Having described our invention, what we claim, is—

The combination of the sliding chisel-arbors C  $C'$ , the sliding holders E, the cam-rods  $d$ , the connecting-rods  $d^1$ , the cam-wheel D, and the cams E, constructed and operating substantially as described.

In testimony of which invention, we hereunto set our hands, in the presence of—

CORNELUS BAGGERMAN,  
JOHN GREEN.

Witnesses:

M. RANDOLPH,  
CHAS. H. BOYLE.