

(No Model.)

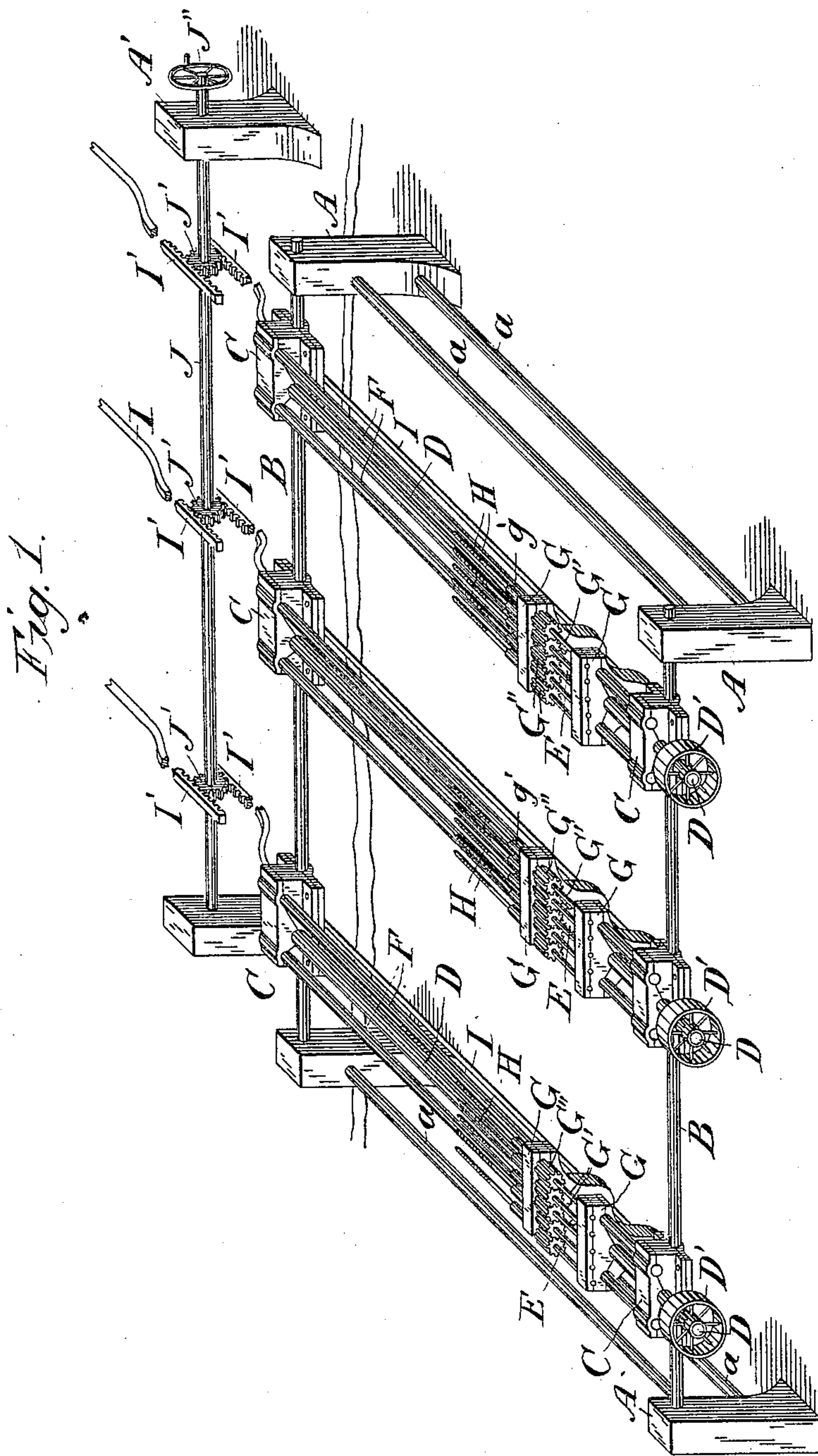
2 Sheets—Sheet 1.

A. MCKAY.

MACHINE FOR MANUFACTURING PANEL DOORS.

No. 464,581.

Patented Dec. 8, 1891.



Witnesses :

Chas. Reley.  
Arthur Cantin.

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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

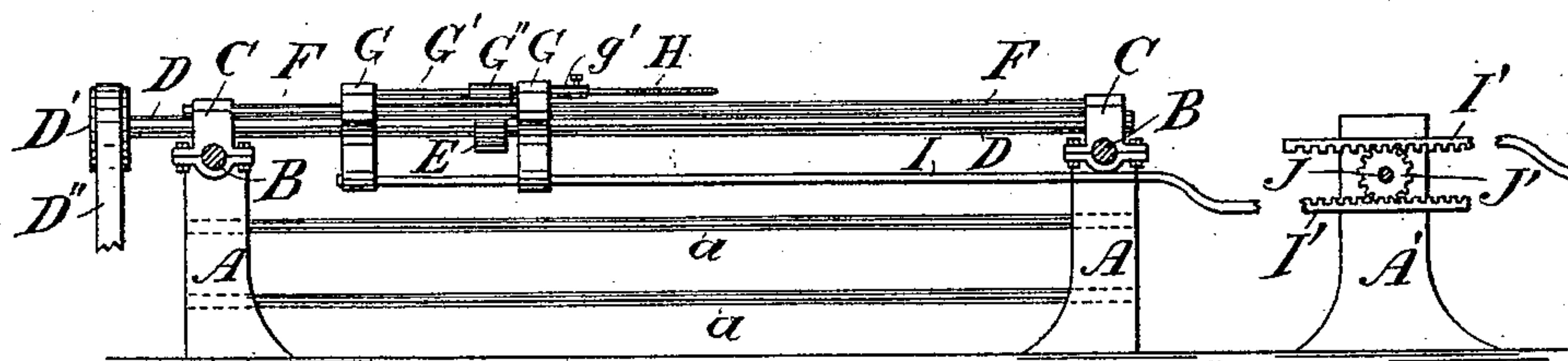


Fig. 3.

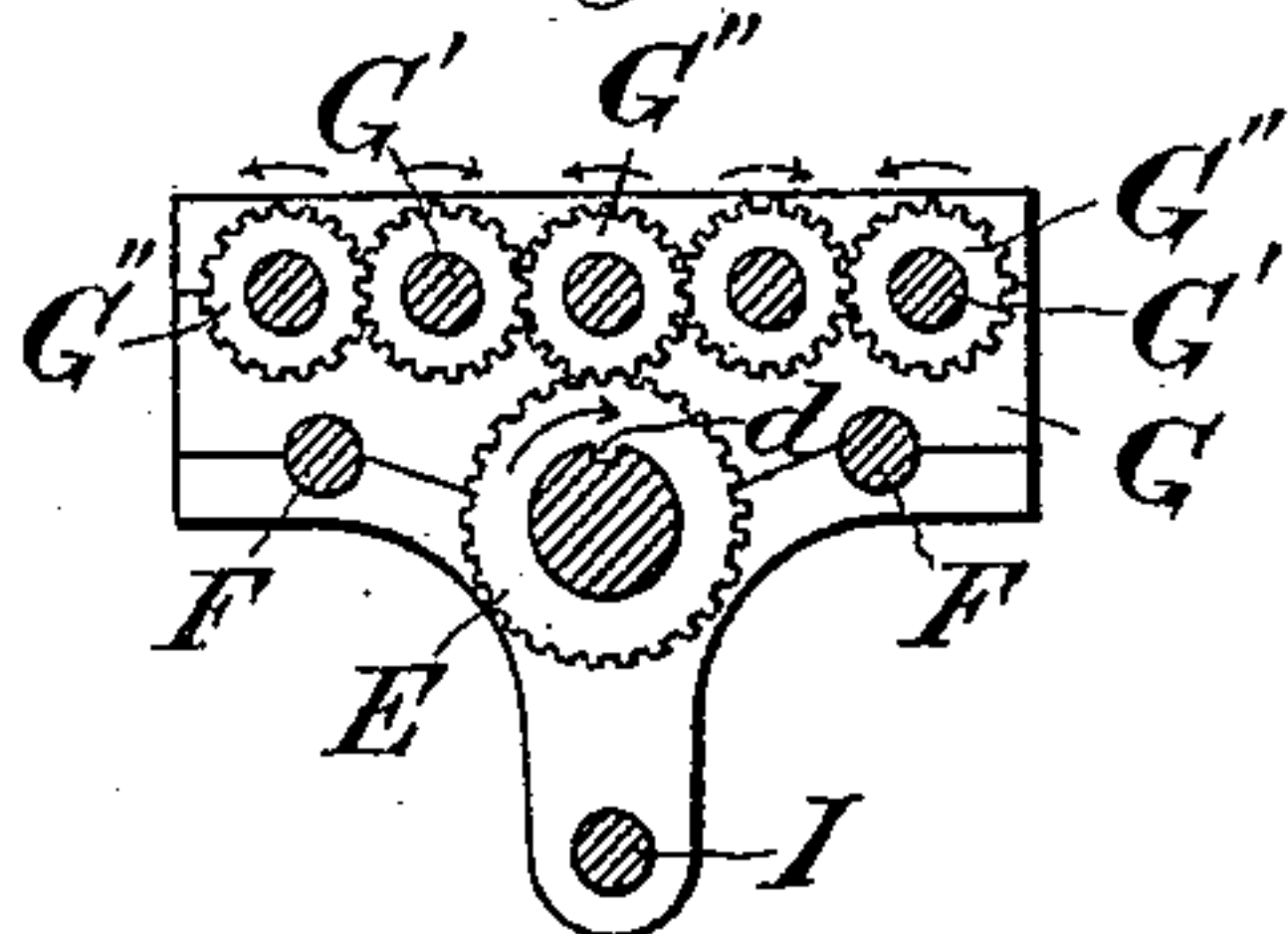
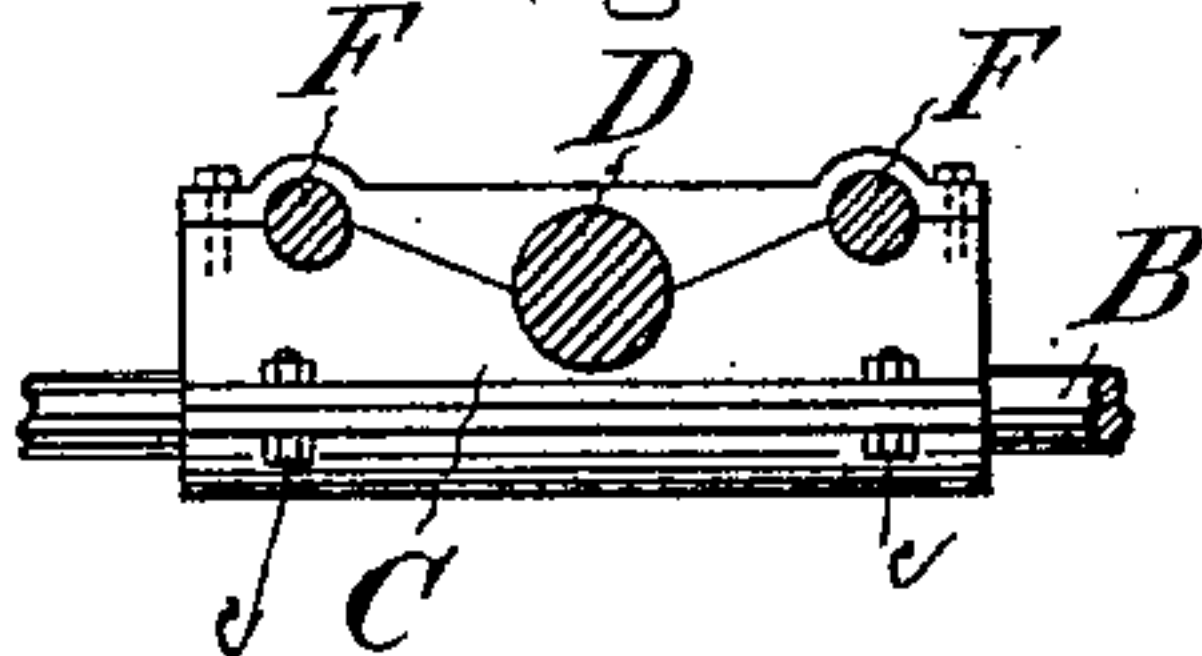


Fig. 4.



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# UNITED STATES PATENT OFFICE.

ALEXANDER MCKAY, OF VANCOUVER, CANADA.

## MACHINE FOR MANUFACTURING PANEL-DOORS.

SPECIFICATION forming part of Letters Patent No. 464,581, dated December 8, 1891.

Application filed March 19, 1891. Serial No. 385,695. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER MCKAY, of Vancouver, in the Province of British Columbia, in the Dominion of Canada, have invented certain new and useful Improvements in Machines for Manufacturing Panel-Doors; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part hereof.

My invention, which will be hereinafter fully set forth and claimed, relates to machinery for manufacturing panel-doors by means of doweling.

Figure 1 is a perspective view of my improved door-doweling machine. Fig. 2 is a vertical longitudinal section showing one of the boring-heads in elevation. Fig. 3 is a cross-section on line *x x*, Fig. 2; and Fig. 4 is a detail.

A A are two stands connected by tie-rods *a a* to form a machine end or frame, two such ends being used.

A' A' are two stands carrying the setting mechanism.

In the stands A are secured two transverse rods B, upon which the boxes C are adapted to slide for the purpose of being adjusted thereon in any desired position or distance from each other by tightening the bolts *c*, Fig. 4. The boxes C are compound, and, besides having bearings for the rods B, have journaled in them the shafts D, and have also secured in them the ends of the guide-rods F. One of these bearings is shown separately in Fig. 4. The shafts D are each provided with a pulley D', which is driven by a belt D'' from above or below, as shown in Fig. 2. The shafts D have each key-bed *d* nearly their whole length and carry each a pinion E, adapted to slide thereon and be rotated by a key fast on said pinion and engaging a groove or key-bed.

G G are the two blocks or ends of a carriage, adapted to slide upon the guide-rods F. In these are journaled a series of spindles G', each having upon it a pinion G'', all of which in the series gear together and rotate said spindles, the central one being geared into the pinion E, as shown in Fig. 3. Spindle G' is also provided with a drill-socket *g'* for the insertion of a bit H. The ends G are con-

nected below by a rod or bar I, which extends forward beyond the outer box C, on which it is carried, and terminates in a rack I', gearing into a pinion J', which is mounted upon a shaft J, provided with a hand-wheel J'' and journaled in the stands A'. By turning the hand-wheel J'', and thus rotating the shaft J in one direction or the other, the carriages G are moved on the guide-rods F forward or backward, the pinions E moving with their carriages and sliding on their shafts D. The shafts D may be set any distance apart on the rods B, and there may be any number of them that can be contained on the length of said rods. Each carriage G G may also be constructed to carry any number of spindles desired.

Two machines may be placed opposite each other, with one common propelling-shaft J between them. The pieces to be doweled are placed across the rods F and the carriages G G and bits H propelled toward and into them by turning the hand-wheel J'' while the shafts D, and with them the bits H, are rotating.

I claim as my invention—

1. In a machine for doweling panel-doors, the combination of suitable frames supporting a pair of guide-rods B, the compound boxes C, supported adjustably on the guides B, and each pair of opposite boxes holding two guide-rods F and having a shaft D journaled therein, having pulley D', long key-bed *d*, and pinion E, the guide-rods F, supporting sliding carriages, blocks G, connected in pairs by the rods I and forming said carriages, and a series of drill-spindles G', journaled in said block and carrying pinions G'', geared together and one of them gearing into the pinion E, substantially as set forth.

2. In a machine for doweling panel-doors, the combination of suitable frames supporting a pair of guide-rods B, the compound boxes C, supported adjustably on said guide-rods, and each pair of opposite boxes holding two guide-rods F and having a shaft D journaled therein, having pulley D', long key-bed *d*, and pinion E, the guide-rods F, supporting sliding carriages, blocks G, connected in pairs by the rods I and forming said carriages, a series of drill-spindles G', journaled in said blocks and carrying pinions G'', geared to-

gether and one of them gearing into the pinion E, racks I' at the ends of the rods I, a shaft J, journaled in stands A', pinions J', and hand-wheel J'' on said shaft, said pinions gearing into the racks I', substantially as set forth.

3. In a machine for doweling panel-doors, the combination of a pair of boxes adapted to be adjustably held on a pair of parallel rods, a pair of parallel guide-rods F, having their ends secured in said boxes, a shaft D, journaled in said boxes and having a long key-bed, means of rotating said shaft, a slid-

ing pinion E on said shaft, a pair of blocks G, connected by a rod and adapted to slide on the guide-rods F, and drill-spindles G', journaled in the blocks G and carrying pinions G'', geared together and in the pinion E, substantially as set forth.

In testimony whereof I have signed in the presence of the undersigned witnesses.

ALEXANDER MCKAY.

Witnesses:

S. G. McPHILLIPS,  
J. H. QUIGLEY.