

(No Model.)

3 Sheets—Sheet 1.

J. G. HÖFER.  
STONE SAWING MACHINE.

No. 322,821.

Patented July 21, 1885.

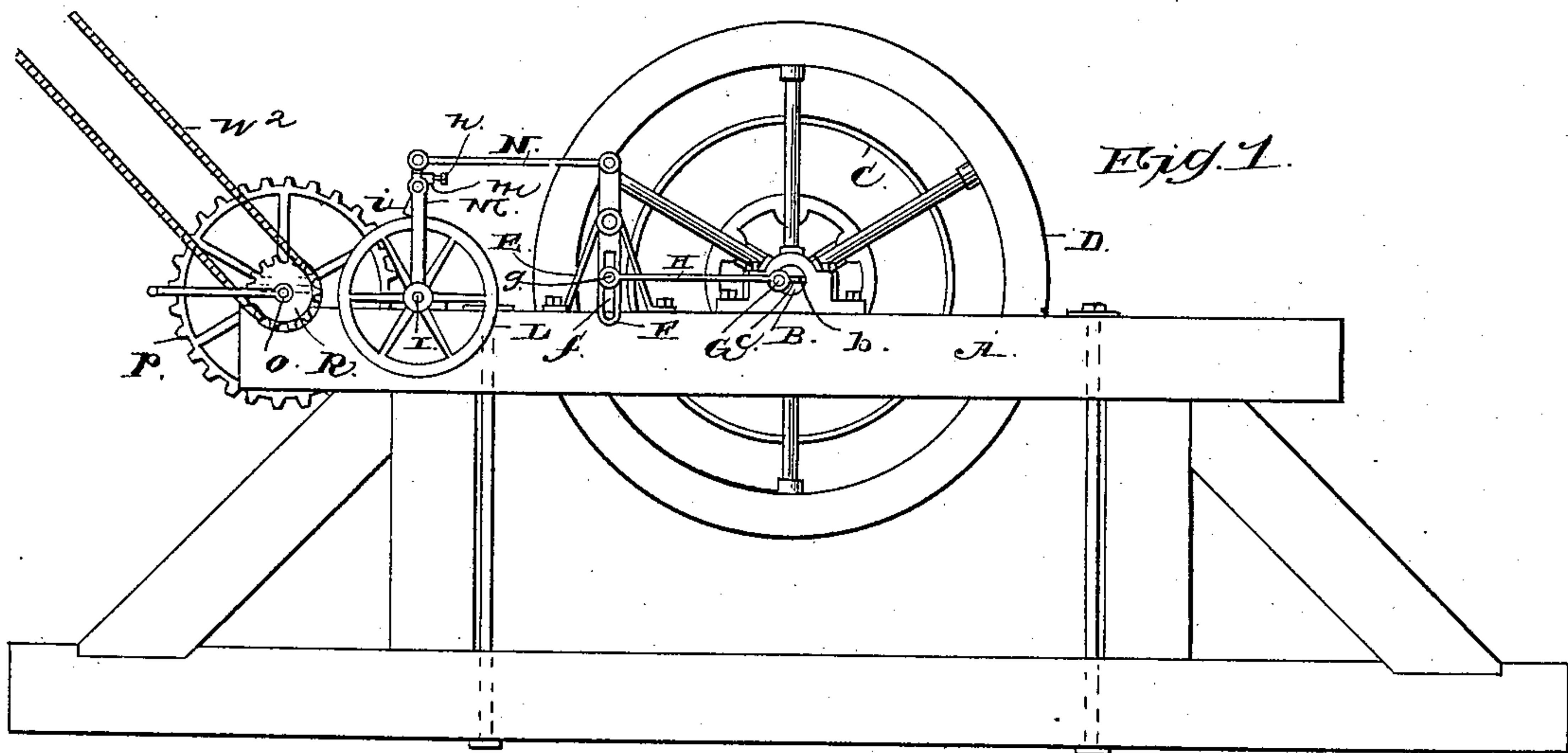


Fig. 2.

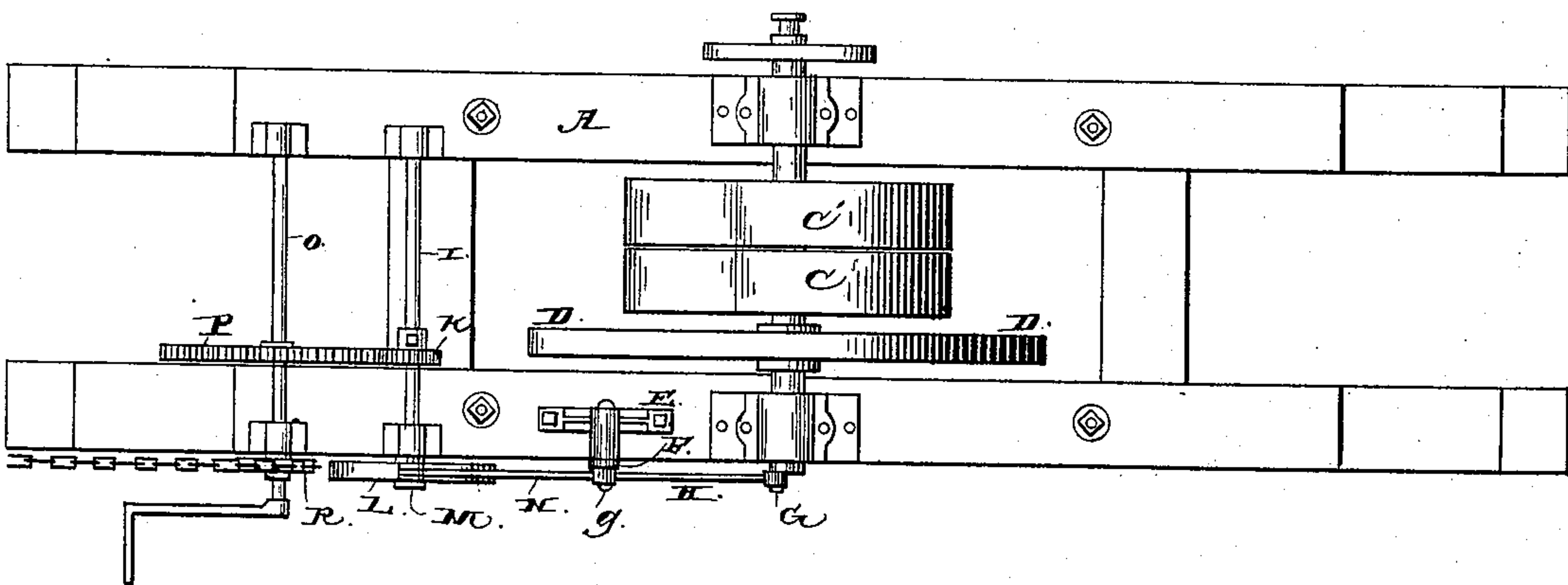
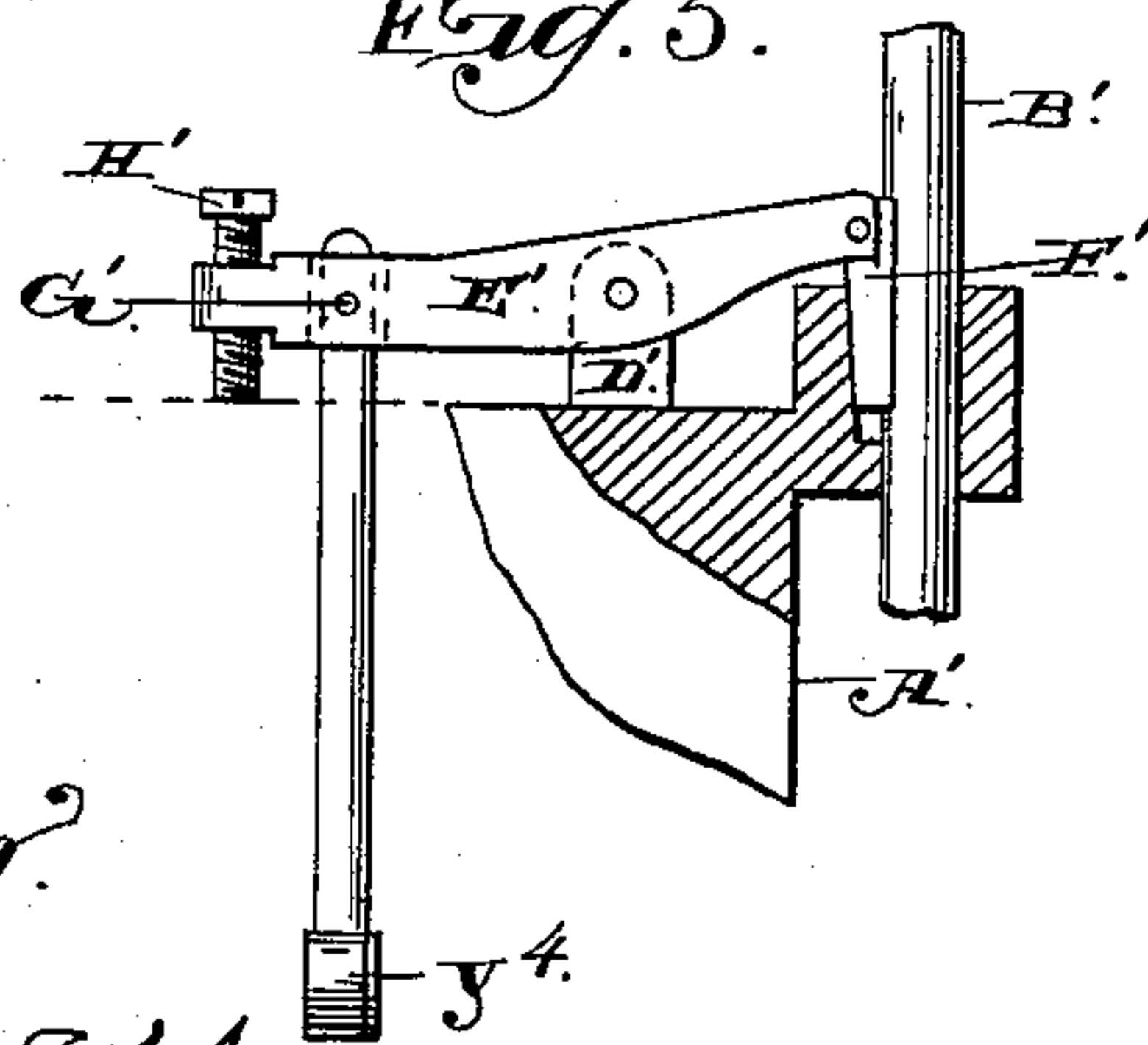


Fig. 5.



WITNESSES

M. E. Fowler.  
E. G. Digger.

INVENTOR

Julius G. Hofer

By C. A. Snow & Co.

His Attorneys

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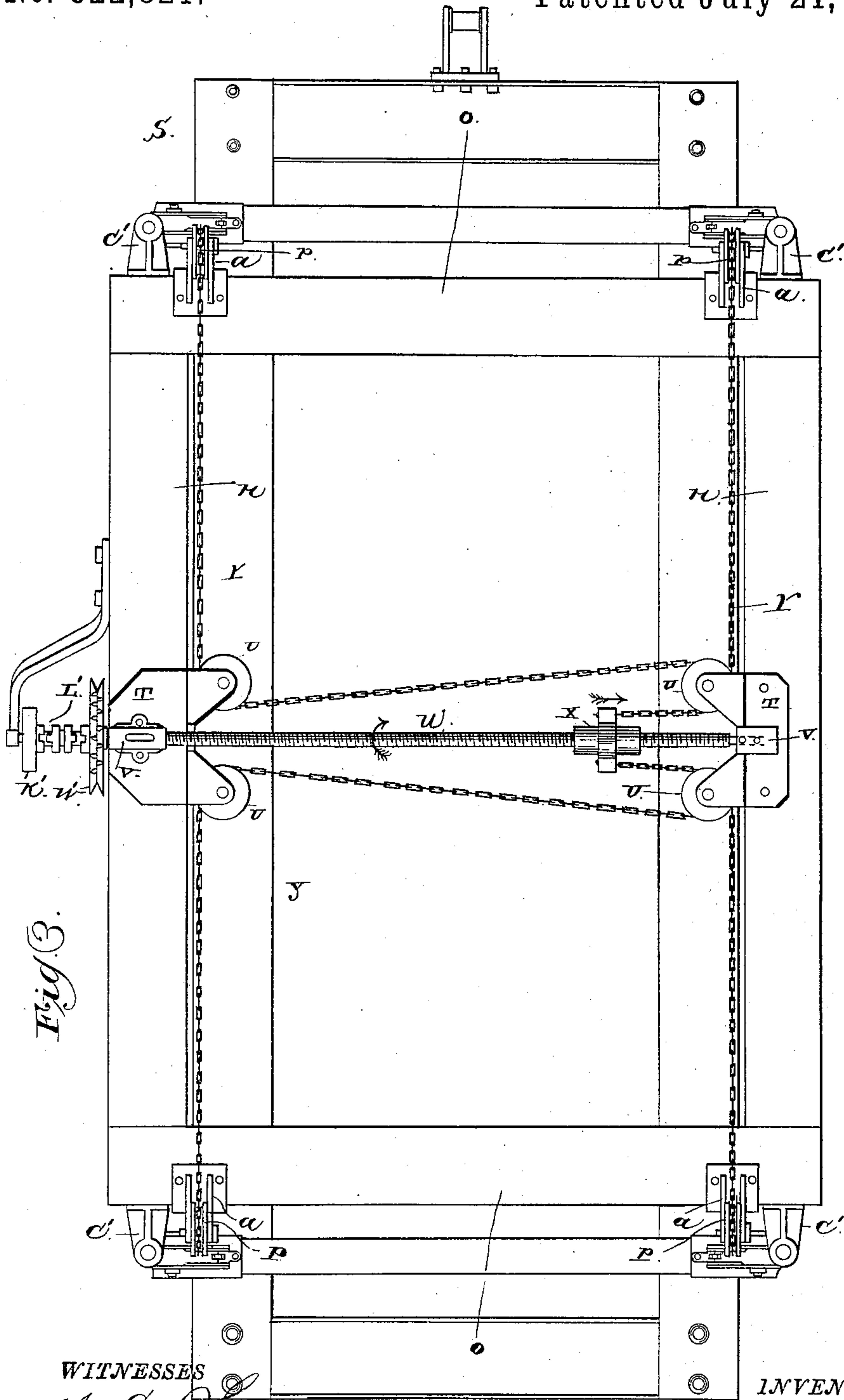
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Fig. 4.

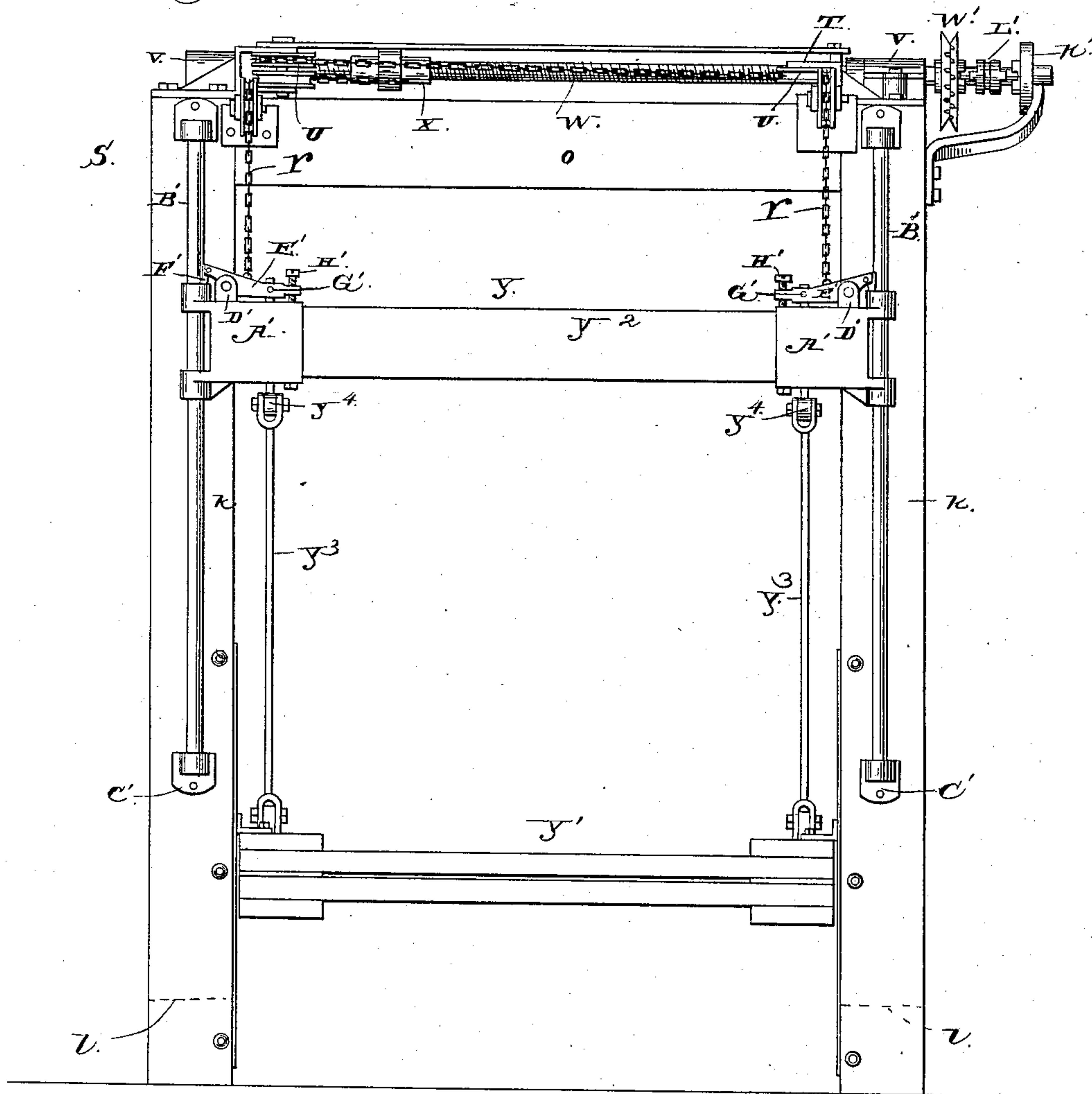
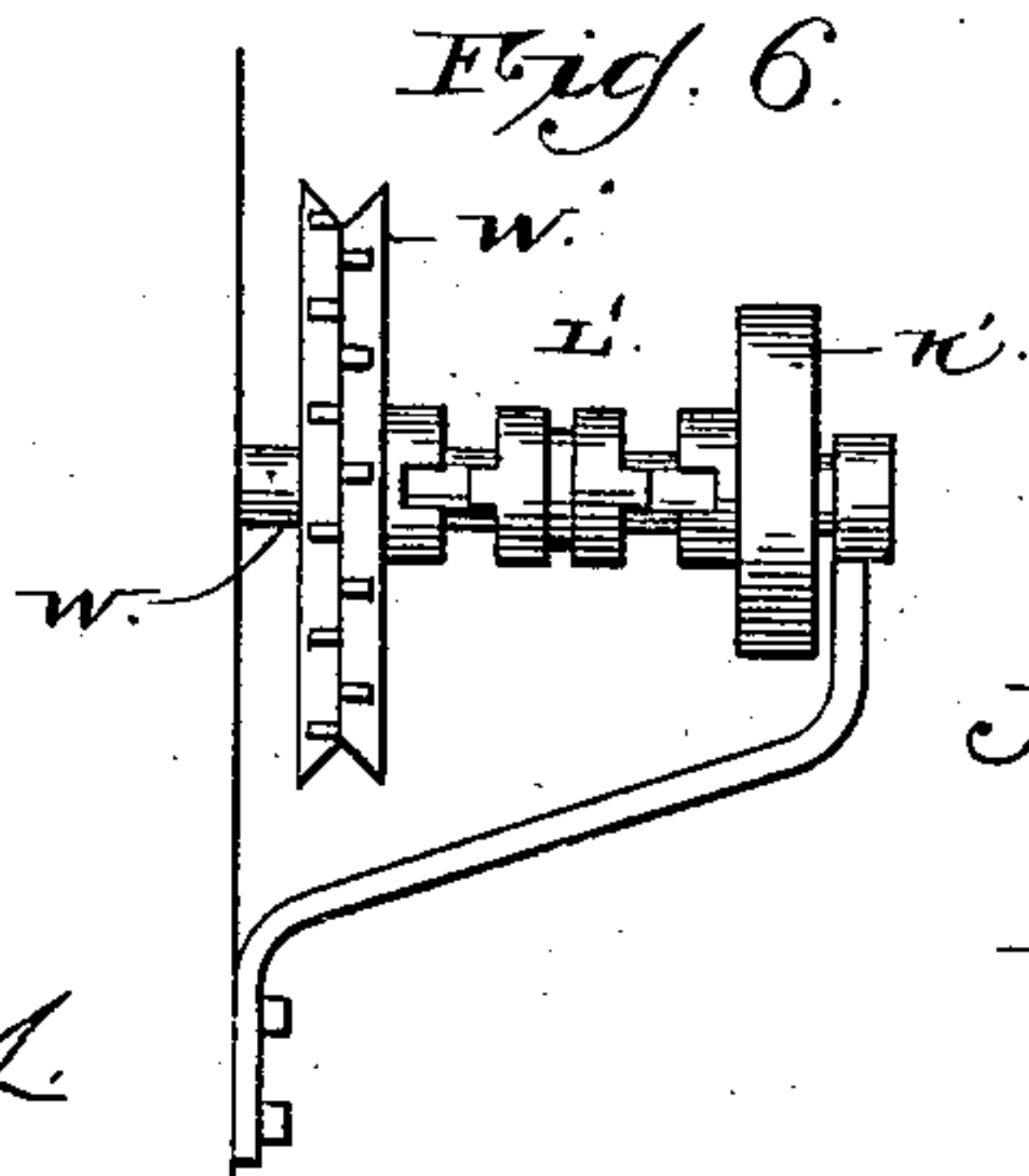


Fig. 6.



WITNESSES

*M. E. Fowler*  
*E. S. Siggers*

INVENTOR

*Julius G. Hofer*

*By C. A. Snow*

*His Attorneys*



# UNITED STATES PATENT OFFICE.

JULIUS GEORGE HÖFER, OF KNOXVILLE, TENN., ASSIGNOR OF ONE-HALF TO  
THE KNOXVILLE FOUNDRY AND MACHINE COMPANY, OF SAME PLACE.

## STONE-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 322,821, dated July 21, 1885.

Application filed May 4, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, JULIUS G. HÖFER, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Improvement in Marble-Saws, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in feeding devices for marble-saws; and it consists in the peculiar construction and combination of devices, as hereinafter set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a feed-gear adapted to work in connection with the mechanism for feeding the marble to the saws. Fig. 2 is a top plan view of the same. Fig. 3 is a top plan view of the marble-feeding mechanism. Fig. 4 is a front elevation of the same. Figs. 5 and 6 are detail views.

A represents a vertical frame, on which is journaled a shaft, B. This shaft is provided with the fast pulley C, a loose pulley, C', and a fly-wheel, D. In advance of the shaft, on one of the top beams of the frame, is bolted a vertical standard, E, to which is fulcrumed an oscillating lever, F, the lower end of which is provided with a vertical slot, *f*. In one end of the shaft B is cut a groove, *b*, in which slides a block, *c*, having a projecting stud or wrist-pin, G, which is connected to a connecting-rod, H. The block *c* may be moved in the groove *b* and clamped therein at any desired point, so as to connect the rod H eccentrically to the slot and regulate the throw or movement of said rod to any desired extent. The outer end of the rod H is secured to the slotted end of the oscillating lever F by means of a bolt, *g*. By means of this bolt and the slot it will be understood that the distance from said bolt to the center of the fulcrum-point of the lever may be increased or decreased at will, so as to regulate the distance that the upper end of the lever shall travel.

I represents a shaft, which is journaled in advance of the shaft B and is provided with a spur pinion, K, and a wheel, L. An oscillating lever, M, is pivoted on the shaft I by

the wheel L, and the upper end of said lever M is connected with the upper end of the oscillating lever F by means of a rod, N. A bracket, *m*, is formed near the upper end of the lever M, and through this bracket passes a set-screw, *h*, which bears against the upper end of a friction-pawl, *i*, which is fulcrumed to the lever M. The lower rounded end of the pawl *i* bears against the upper side of the rim of the wheel L. The set-screw *h* can be adjusted in or out, so as to limit the play of the pawl *i* to any desired extent.

By means of the mechanism hereinbefore described it will be understood that the rotation of the shaft B will be communicated to the shaft I, and that said shaft I can be caused to move faster or slower, as desired.

O represents a shaft that is journaled to the frame A in advance of the shaft I, and has a spur-wheel, P, which meshes with the pinion K, and a sprocket-wheel, R, on one end.

For convenience of illustration, the mechanism for imparting motion to the marble-feeding machine is shown detached in Figs. 1 and 2.

In Figs. 3 and 4, S represents a vertical frame which is composed of the end posts, *k*, the ground-sills *l*, the upper longitudinal beams, *n*, and the upper tie-beams, *o*.

T represents brackets, which are bolted on the upper sides of the beams *n* at the centers thereof, and have inwardly-projecting lugs in which are journaled sheaves U. On the upper side of the brackets are formed blocks V, in which are journaled the smooth ends of a screw, W, that extends transversely across the frame S. On one end of this screw is mounted a sprocket-wheel, W', which is connected to the sprocket-wheel R by the endless sprocket-chain W<sup>2</sup>, whereby the motion of the shaft O will be communicated to the screw W.

X represents a collar that works on the screw W. On the outer sides of the beams *o* are bolted brackets *a*, in which are journaled sheaves *p*. Chains *r* are secured to the collars X, pass around the sheaves U and over the sheaves *p*, and to the depending end of these chains is secured a rectangular frame, Y, in which the block of marble is placed when it



is being fed to the saws. The frame Y is composed of a lower section, Y', which is suspended from the upper section, Y<sup>2</sup>, by means of the rod Y<sup>3</sup>, which are pivoted to headed bolts Y<sup>4</sup>. Near the ends of the sections Y<sup>2</sup> are bolted metallic brackets A', the outer ends of which slide upon vertical rods B', which are supported by brackets C' that are bolted to the outer sides of the posts k. From the upper sides of the brackets A' project vertical ears D', between which are fulcrumed levers E'. To the outer ends of these levers are suspended keys F', which bear against the vertical rods D'. Through the levers E', near their inner ends, project the upper ends of the upper bolts, Y<sup>4</sup>, which are suspended in the levers E' by means of the transverse bolts G'. Through the inner ends of the levers E' pass vertical set-screws H', which bear upon the upper sides of the brackets A'. By means of these set-screws the outer ends of the levers E' may be raised or lowered, so as to cause the keys F' to bear against the rods B' with any desired degree of force, and thereby clamp the frame Y to said rods or allow it to slide vertically thereon.

When the shaft is rotated in the direction indicated by the arrow in Fig. 3, the collar X will be moved thereon in the direction indicated by the arrows in said figure and lower the frame Y. The reverse motion of the screw S reverses the operation of the collar X and raises the frame Y, as will be very readily understood.

On the outer end of the screw W is loosely mounted a pulley, K', which may be connected rigidly to the screw W by means of a sliding clutch, L', which is feathered on the end of the screw. The sprocket-wheel W' is also loosely secured on the screw. The pulley K' is connected by an endless belt (not shown) with steam or other power. When the clutch L' is engaged with the sprocket-wheel W', the pulley K' is loose, and the screw is then operated, by means of the mechanism hereinbefore de-

scribed, to lower the frame Y. When it is desired to raise said frame, the clutch L' is moved so as to engage with the pulley K', and the sprocket W' is then out of gear with the screw.

Having described my invention, I claim—

1. The combination, with a stone-sawing machine, of the frame S, having the sheaves U and p, with the screw W, the collar X, working on said screw, the chains r, secured to the collar and passing over the sheaves, and the frame Y, suspended by the chains r, substantially as described.

2. The combination, with a stone-sawing machine, of the frame S, having the vertical rods B', the frame Y, sliding on said rods, and means for raising and lowering said frame, and the fulcrumed levers E' on the frame Y, having keys F', bearing against the rod B', and the set-screws H', for adjusting the levers E', substantially as described.

3. The combination, with a stone-sawing machine, of the frame S, the suspended frame G, the screw W, for raising and lowering the frame G, the sliding clutch L' on the screw, and the loose pulleys or chain-wheels on the screw on opposite sides of the clutch, with which said clutch is adapted to engage alternately, for the purpose set forth, substantially as described.

4. The combination, with a stone-sawing machine, of the frame S, the suspended frame G, the screw W, for raising and lowering the frame G, the shaft O and connecting gearing for actuating the screw, and the shaft B and intermediate mechanism for imparting motion to and regulating the speed of the shaft O, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JULIUS GEORGE HÖFER.

Witnesses:

C. M. FOUCHÉ,  
J. B. KELLEY.