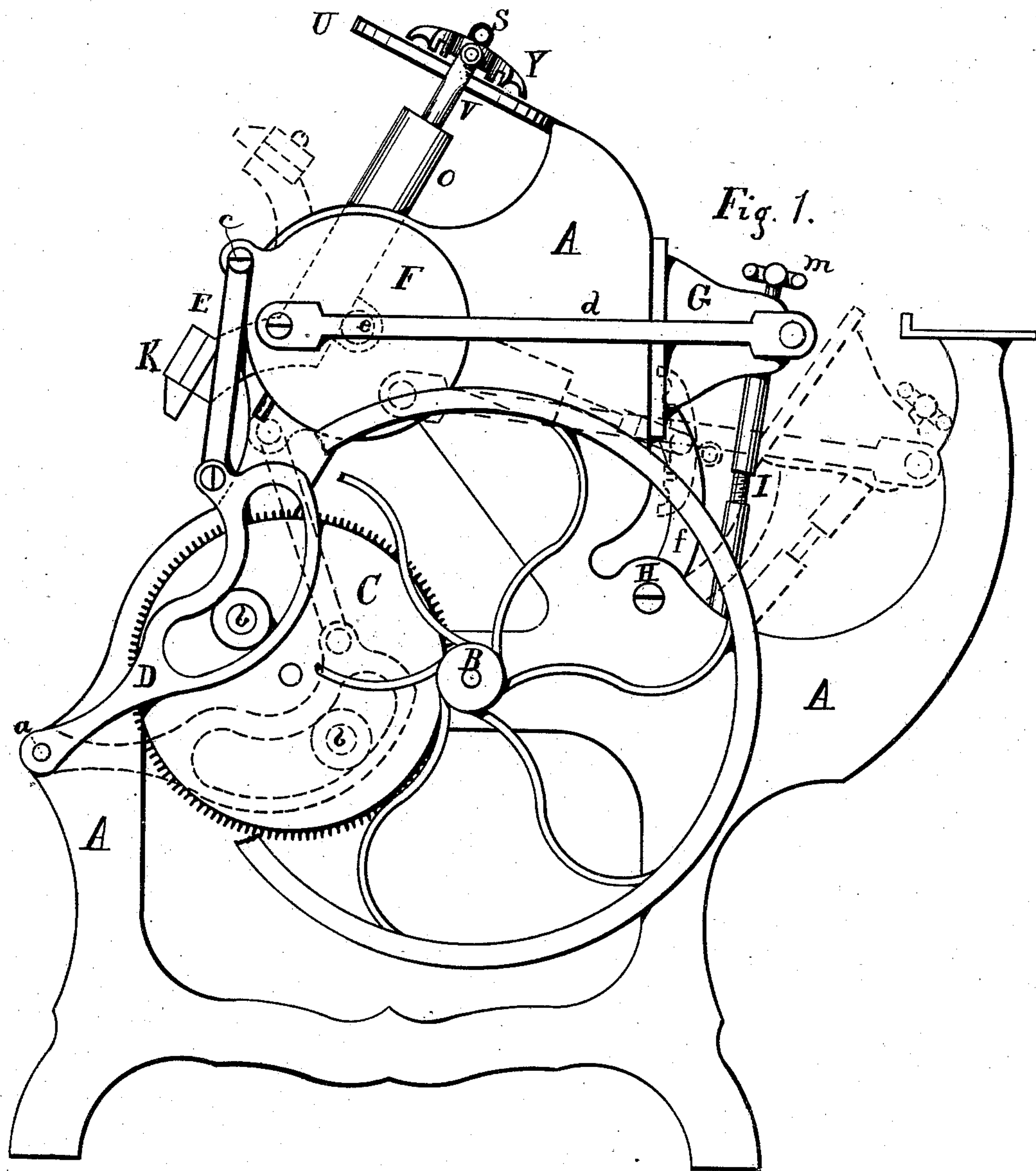


J. M. JONES.
Printing-Press.
No. 215,459. Patented May 20, 1879.



Witnesses:

H. H. Schleber.
J. H. Clement.

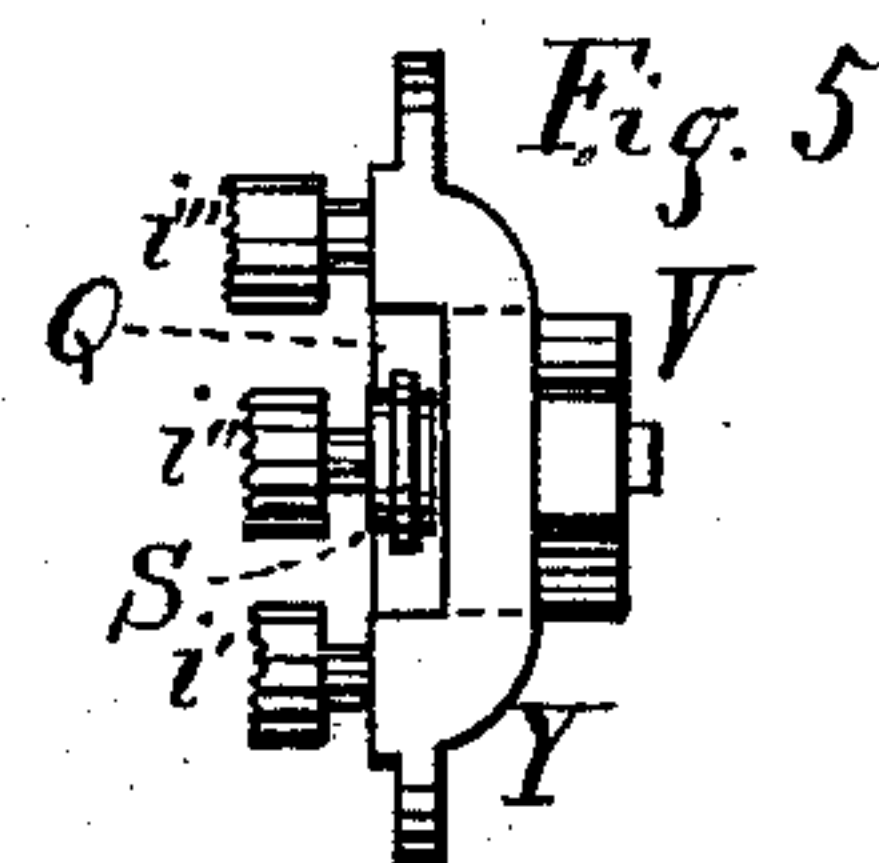
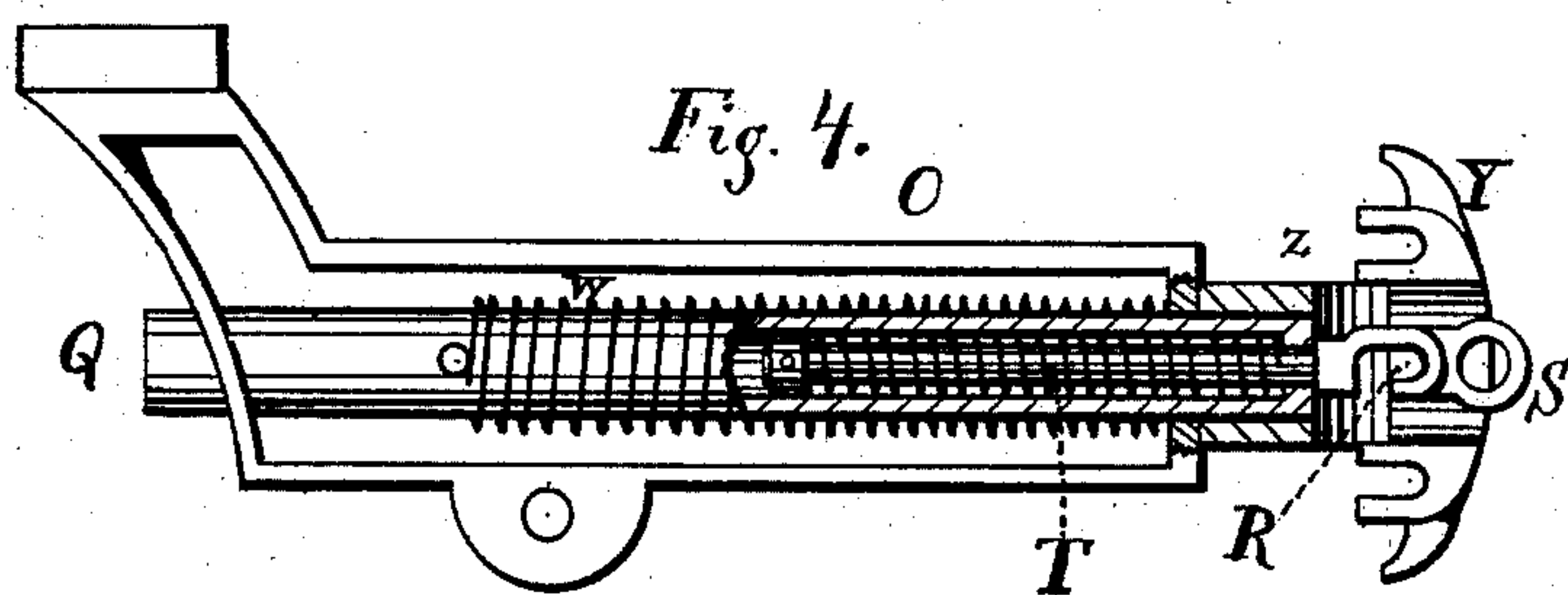
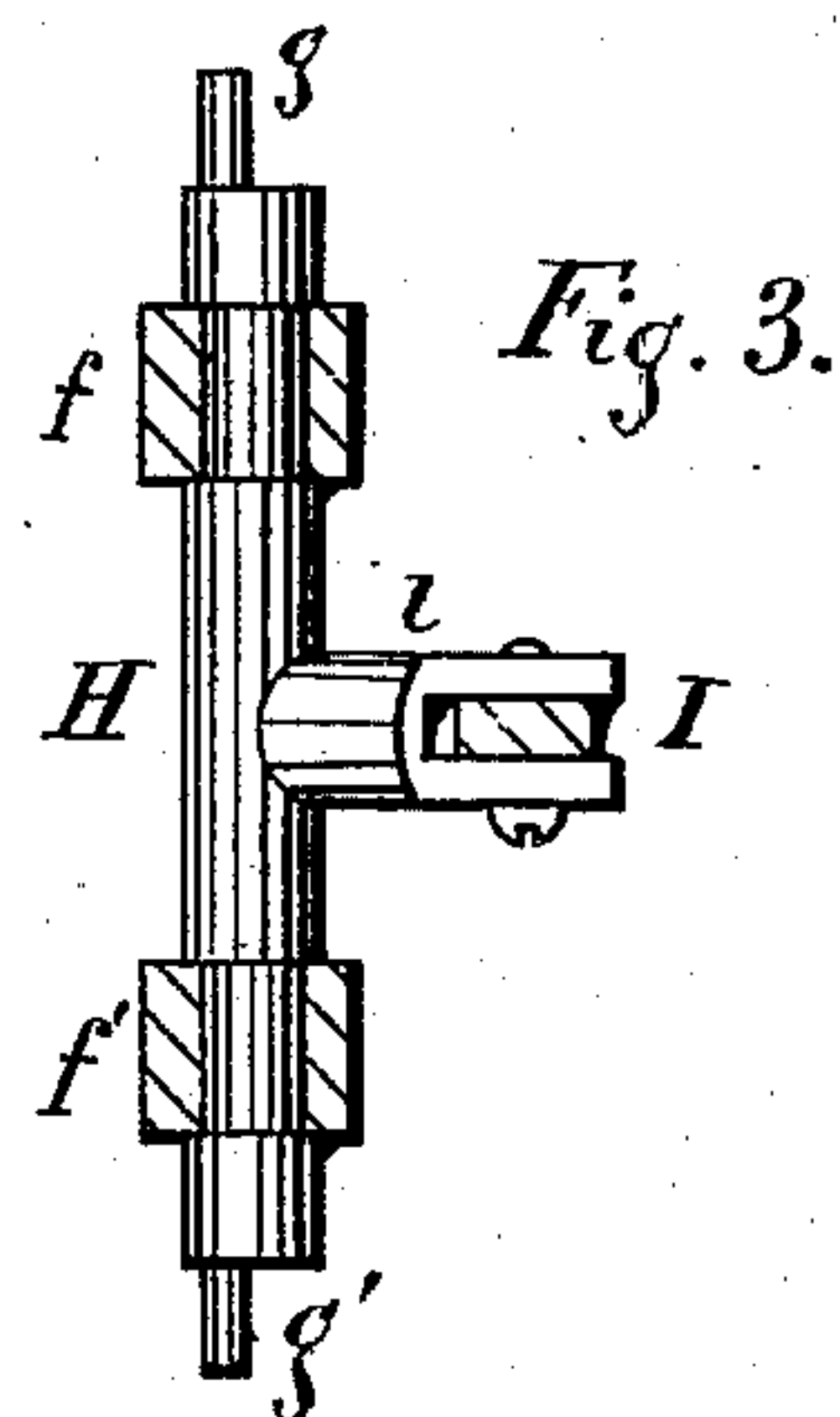
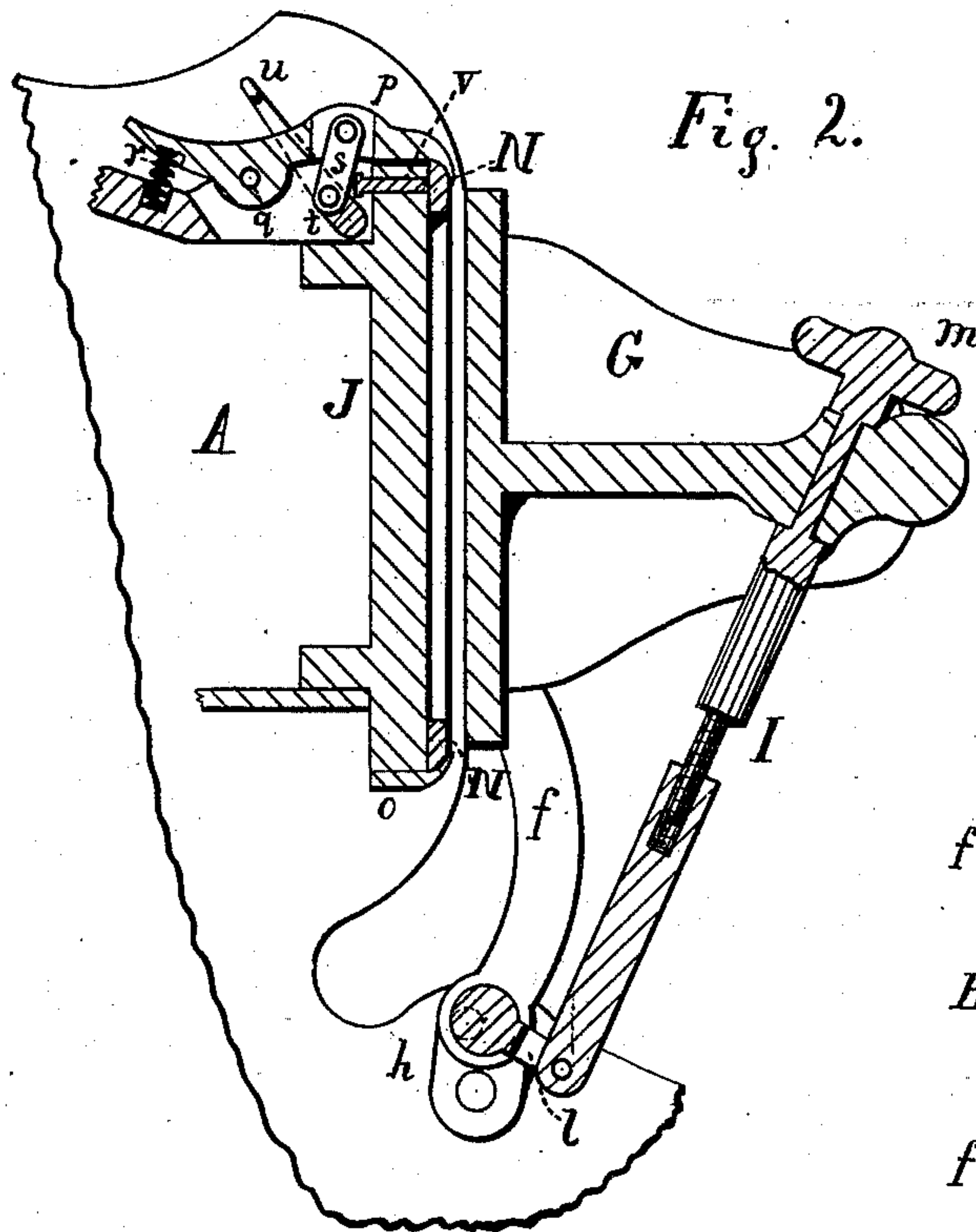
Inventor:

John M. Jones,
by G. B. Selden,
His Attorney.

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UNITED STATES PATENT OFFICE.

JOHN M. JONES, OF PALMYRA, NEW YORK.

IMPROVEMENT IN PRINTING-PRESSES.

Specification forming part of Letters Patent No. **215,459**, dated May 20, 1879; application filed September 28, 1878.

To all whom it may concern:

Be it known that I, JOHN M. JONES, of Palmyra, New York, have invented an Improvement in Printing-Presses, of which the following is a specification.

My invention relates to certain improvements in printing-presses of the class known as "job-presses;" and it consists in the means of operating the platen so that it may have the proper dwell at each end of its motion by a vibrating cam, of suitable shape, on one side of the machine, actuated by a crank, and connected by a link with a rock-shaft extending across the machine, and operating by impression-arms on each side of the machine to give the platen the desired movement.

It also consists in an improved means of regulating the impression by means of a rocking shaft, with which the platen swings, and on which the platen turns slightly on eccentric bearings to vary the impression, which said shaft is arranged to be rotated relatively to the platen by a screw-rod connecting an arm on the shaft with the platen.

My invention also consists in an improved construction of the ink-roller carriage, by which I am enabled to use three adjustable inking-rollers, the two outer rollers being carried at each end by a swinging yoke of suitable form on the end of a hollow sliding rod, within which slides another rod, which supports the third or central roller, each of the rods being provided with a suitable spring, and the whole inking apparatus being arranged on a vibrating frame to travel over the inking-plate and type.

My invention also consists in an improved automatic chase-hook, by which the chase is secured to the bed by means of a hook-lever pivoted near its center, and provided with a spring at its inner end, and arranged to be operated by a toggle-joint, in connection with a hand-lever, for removing the chase, and to operate automatically when the chase is placed on the bed by a pin passing through the bed, and acting on the toggle-joint to release the hook-lever.

In the accompanying drawings is shown a printing-press embodying my improvements.

Figure 1 is a side elevation of my improved press; and Fig. 2 is a vertical section through

the bed and platen, showing my improved chase-fastener and my improved method of adjusting the impression. Fig. 3 is a sectional view, showing the rocking shaft, on which the platen is supported on eccentric bearings; and Figs. 4 and 5 represent my improvements in the carriage for the inking-rollers.

A A, Figs. 1 and 2, is the frame of the machine, which consists of two sides, of similar shape, rigidly connected together by suitable cross-bars; and B is the driving-shaft, which extends across the machine, is journaled in each side frame, and to which power may be communicated in any convenient manner. The shaft B is provided with a suitable fly-wheel, and a pinion on the shaft meshes into the gear C, provided with a stud, *b*, from which the vibrating cam D is actuated. The cam D is pivoted to the frame at *a*, Fig. 1, and its inner end is provided with a curved slot, in which the stud *b* works.

A link, E, connects the vibrating end of the cam D with the disk or arm F, which is fastened to the rock-shaft *e*. The rock-shaft *e* extends entirely across the machine, and is provided at each end with a disk or arm, F, which, by the impression-arms *d* on each side of the machine, convey the motion of the rock-shaft to the platen G. The platen G swings on arms *f* about the pivotal point H, Fig. 1.

The cam D and platen and connecting mechanism are shown in Fig. 1 in two positions, as they appear when the platen is at one end of its travel in full lines and at the other end in dotted lines.

It will be observed that, owing to the shape of the slot in the cam D, when the platen arrives at the end of its motion away from the bed the stud *b* is traveling through the curved slot in the cam D, which nearly corresponds with the path described by the stud, and that, consequently, the platen will remain motionless, or nearly so, in this position during a portion of the revolution of the gear C. The object of this arrangement is to give the operator time to remove the sheet last printed and to feed a fresh sheet into the machine.

A shorter dwell, in order to secure the impression, takes place when the platen comes against the bed of the machine. This is due to the fact that at this time the stud *c* in the

disk F is approaching the limit of its travel to the left hand in Fig. 1.

The impression-arms on each side of the machine may be adjusted to the same length, or, to compensate for wear, by a screw-coupling in one or both of them.

This arrangement of parts for operating the platen and securing the proper motion thereof possesses the advantages of cheapness and simplicity, and is very durable in operation.

The platen-supporting arms $f f'$ are cast along with the platen, and are mounted upon the shaft H on journals turned eccentric to the end bearings of the said shaft, $g g'$, Fig. 3. The platen and shaft H swing together upon the bearings $g g'$ in holes in ears attached to the side frame of the machine, one of which is shown at h , Fig. 2; but the shaft H is arranged to be rotated slightly independently of the platen by means of a screw-rod, I, attached at its lower end to an arm, l , on the shaft H, and passing through a strengthening-rib on the platen at the other end. By the handle m on the upper end of the screw-rod I the shaft H may be rotated slightly in its journals in the arms $f f'$, thus securing parallelism between the bed and the platen, and consequently a uniform impression.

Fig. 2 shows my improved self-locking device for securing the chase in position on the bed of the press. J, Fig. 2, is the bed, which extends across the machine, and is rigidly secured to the side frames, or may be cast in one piece with them.

N, Fig. 2, represents the chase for holding the type, which is a square metallic frame of the ordinary construction. It is secured to the bed J, at the bottom, by one or more curved hooks, o , Fig. 2. At the upper side it is secured by the hook p , which is pivoted at q , and provided with a spring, r .

A toggle-joint, $s t$, operated by the hand-lever u , serves to raise the outer end of the hook p , and to hold it up when the toggle-joint is thrown over the center to the right in Fig. 2. In the raised position of the hook p the chase N may be removed from the bed or replaced on it, and in the latter case the chase, striking against the pin v , which slides freely in a hole through the bed J, throws the toggle-joint $s t$ to the left, thereby releasing the hook and allowing it, under the action of the spring r , to come down on the chase and secure it to the bed.

When it is desired to remove the chase again, the hook p is raised by means of the hand-lever u . The lower part, t , of the toggle-joint is pivoted to the bed, and the upper part, s , to the hook p .

A crank on one end of the shaft of the gear C operates the inking-roller carriage O, Figs.

1 and 4, by means of a connecting-rod. The ink-roller carriage is composed of two oscillating hollow bars, one on each side of the machine, pivoted on the journal-boxes of the rock-shaft e , or on the shaft itself, and connected together by a cross-bar, K, Fig. 1, so placed as to swing outside of the frame of the machine.

The two positions of the inking-roller carriage, at each end of its travel, are shown in Fig. 1, the motion of the same being so timed that the inking-rollers pass from the inking-plate U, Fig. 1, over the type on the bed of the press at the time when the platen G is moving away from the bed.

Inside of each oscillating bar O of the ink-roller carriage is placed a hollow rod, Q, Fig. 4, sliding freely within it, and held down by a coiled spring, w . To the upper end of the hollow rod is attached an offset-arm, V, Figs. 1 and 5, affording support for the swinging roller-carrier Y, which is pivoted to the arm and provided with sockets for receiving the shafts of the inking-rollers $i' i'' i'''$, Fig. 5. Inside the hollow sliding rod Q is another sliding rod, T, Fig. 4, held down by a coiled spring, z , surrounding it, and provided at its upper end with a socket, R, for the central inking-roll, i'' , Fig. 5.

A ring, S, is attached to the socket for convenience in changing the inking-rolls.

The oscillating bars at each side of the machine are provided with similar roller-carriers, and afford support for the inking-rollers at each end thereof.

I do not claim herein anything which has been previously secured to me by Letters Patent.

I claim—

1. The combination of the vibrating cam D, link E, rock-shaft e , impression-arms d , and oscillating platen G, substantially as described.
2. The combination of the oscillating platen G, shaft H, provided with eccentric bearings for the platen and an arm, l , and the screw-rod I, attached to the arm l and to the platen, and operating substantially as described.
3. The combination, with the vibrating arms of an ink-roller carriage, of the interior sliding rod, T, outer sliding rod, Q, and swinging yoke Y, substantially as and for the purposes set forth.
4. The combination of the automatic chase-hook p , bed J, spring r , toggle-joint $s t$, and pin v , arranged to operate substantially as and for the purposes set forth.

JOHN M. JONES.

Witnesses:

JAMES F. GORDON,
ARTHUR R. SELDEN.