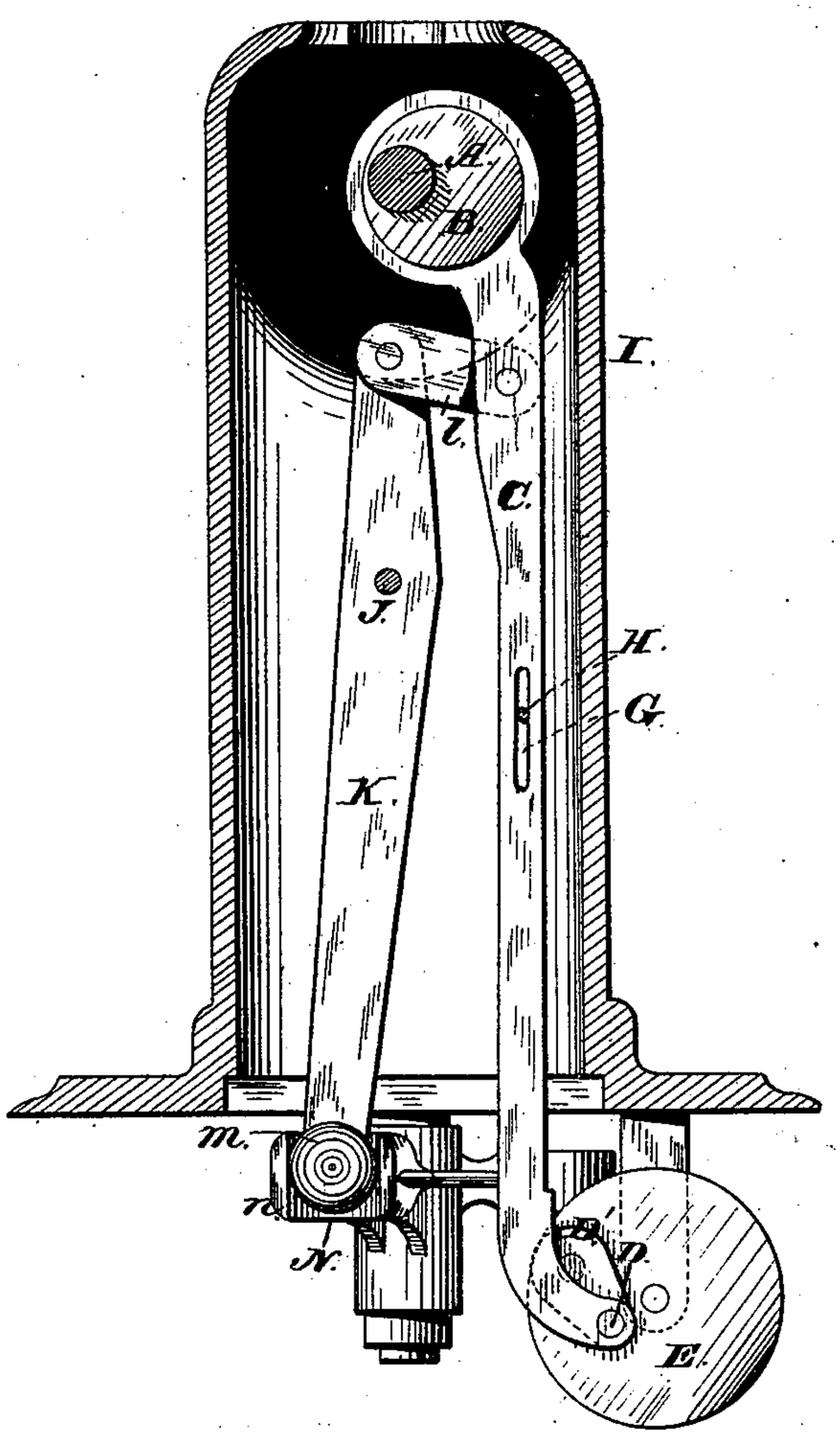
2 Sheets—Sheet 1.

G. M. PRATT.

Mechanism for Operating the Feed and Shuttles of Sewing-Machines.

No. 226,550. **Patented April 13, 1880.**

Fig. 1.



WITNESSES=

Jas. E. Hutchinson.

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by James L. Norris,

Atty.

2 Sheets—Sheet 2.

G. M. PRATT.

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Fig. 2.

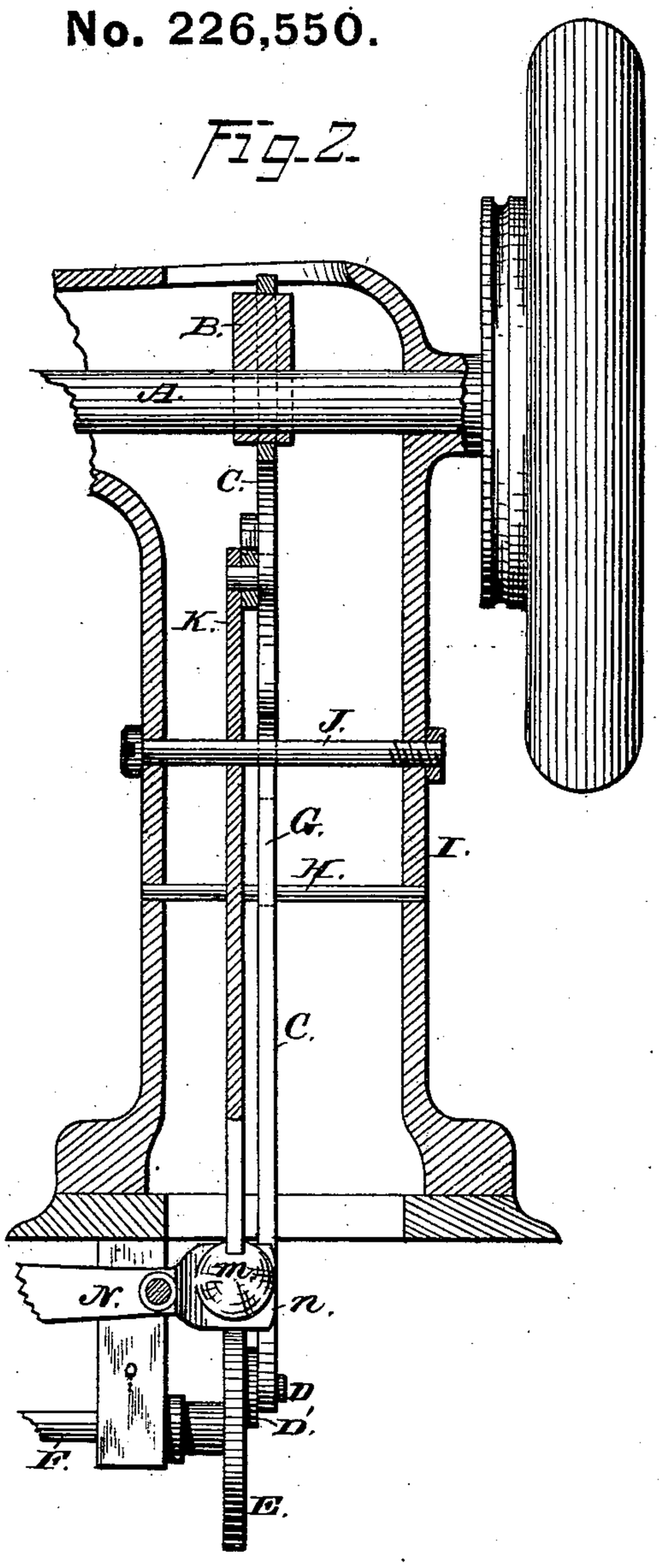
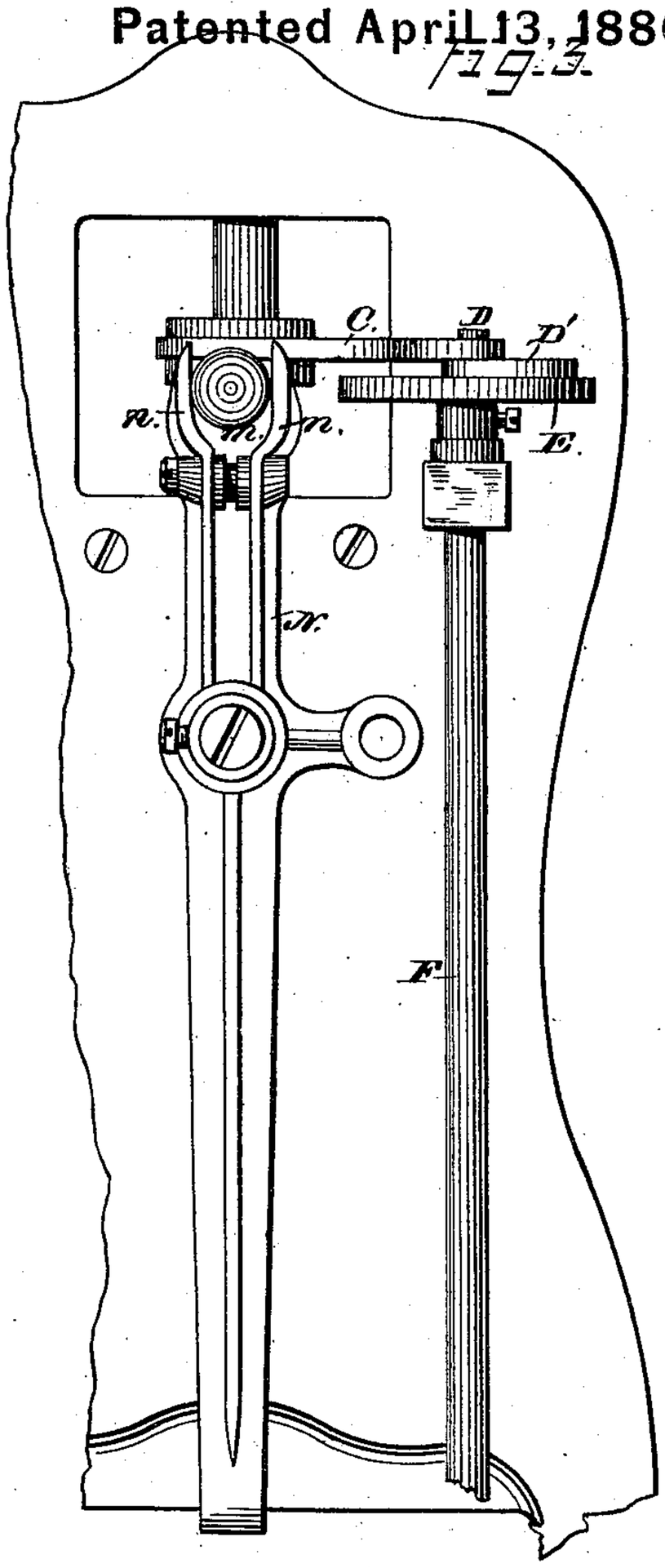


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE M. PRATT, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO THE VICTOR SEWING MACHINE COMPANY, OF SAME PLACE.

MECHANISM FOR OPERATING THE FEED AND SHUTTLES OF SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 226,550, dated April 13, 1880.

Application filed December 24, 1879.

To all whom it may concern:

Be it known that I, GEORGE M. PRATT, of Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Mechanism for Operating the Feed and Shuttles of Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in that class of sewing-machines having vibratory shuttle-levers and rotary feed-shafts; and it consists in an improved combination of devices by which a positive motion is transmitted to said shuttle-lever and feed-shaft from a main rotary driving-shaft.

In the accompanying drawings, Figure 1 is a vertical cross-section of a hollow sewing-machine standard and bed-plate, showing my improvement. Fig. 2 is a longitudinal section of a portion of the goose-neck, standard, and bed-plate, showing a side view of the transmitting devices. Fig. 3 is a bottom view of a portion of the machine, showing the connections of the operating-levers with the shuttle-lever and free shaft.

The letter A designates the main driving-shaft, which is provided, as usual, at its rear projecting end, with a belt-pulley and fly-wheel, and inside the standard carries an eccentric, B, which is coupled with a connecting-rod, C, the lower curved end of which is connected to the wrist-pin D of a crank, D′, which is pivoted eccentrically to a wheel, E, keyed to the rear end of the rotary feed-shaft F. This means of connecting the rod C with the wheel E is a common expedient to avoid the stopping of said wheel on the dead-point.

Through the middle portion of the connecting-rod C is an elongated slot, G, through which projects a guide-pin, H, which is fixed in the inner wall of the standard I. This guide-pin and slot maintain the longitudinally-reciprocating and oscillatory movement of the connecting-rod always in the same paths, and by this simple contrivance I obviate the necessity of the oscillating bearings heretofore necessary for rods connecting with devices for avoiding the dead-center.

Upon a stud, J, projecting from the wall of the standard is fulcrumed an oscillating lever, K, the upper end of which is connected by a pivoted link, *l*, with the connecting-rod C above the slot G, and the lower end of this oscillating lever terminates in a ball, *m*, which is embraced by the forked bearing *n* of the shuttle-lever N. I preferably provide this bearing with shoes in a well-known manner, which embrace the opposite sides of the ball and slide vertically on the jaws of the fork. The rotation of the main shaft causes a direct transmission of rotary motion to the feed-shaft, and through the oscillating lever K and intermediate pivoted link, *l*, a vibratory movement is communicated to the shuttle-lever N.

It will be seen that the devices involved in the transmission of motion are few in number and of the simplest form, and their peculiar combination materially reduces the cost of construction of sewing-machines of the class for which they are intended.

Having thus fully described my invention, what I claim is—

The combination, with the bed-plate and bracket-arm of a sewing-machine and the shafts A and F, mounted respectively in said bracket-arm and beneath the bed-plate, of the eccentric B, disk E, having the pivoted crank D′ thereon, the connecting-rod C, having the slot G, the fixed fulcrum H, the shuttle-lever N, the lever K, for actuating said shuttle-lever, pivoted in the bracket-arm, and the link *l*, for connecting the upper end of the lever K to the connecting-rod C, whereby the rotation of the shaft A imparts a rotary motion to the shaft F and the proper vibratory motion to the shuttle-lever N, as set forth.

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

GEO. M. PRATT.

Witnesses:
ALBERT H. NORRIS,
J. A. RUTHERFORD.