(No Model.)

P. D. DUPONT.

POWER HAMMER SPRING.

No. 429,807. Patented June 10, 1890.

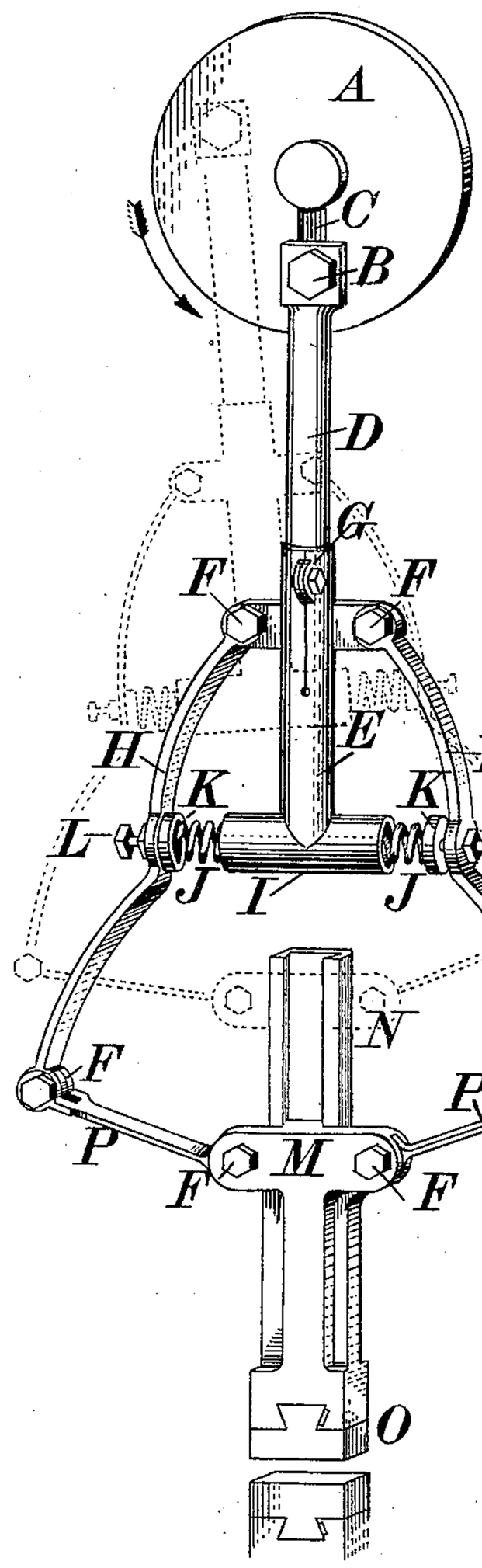

Fig. 1,

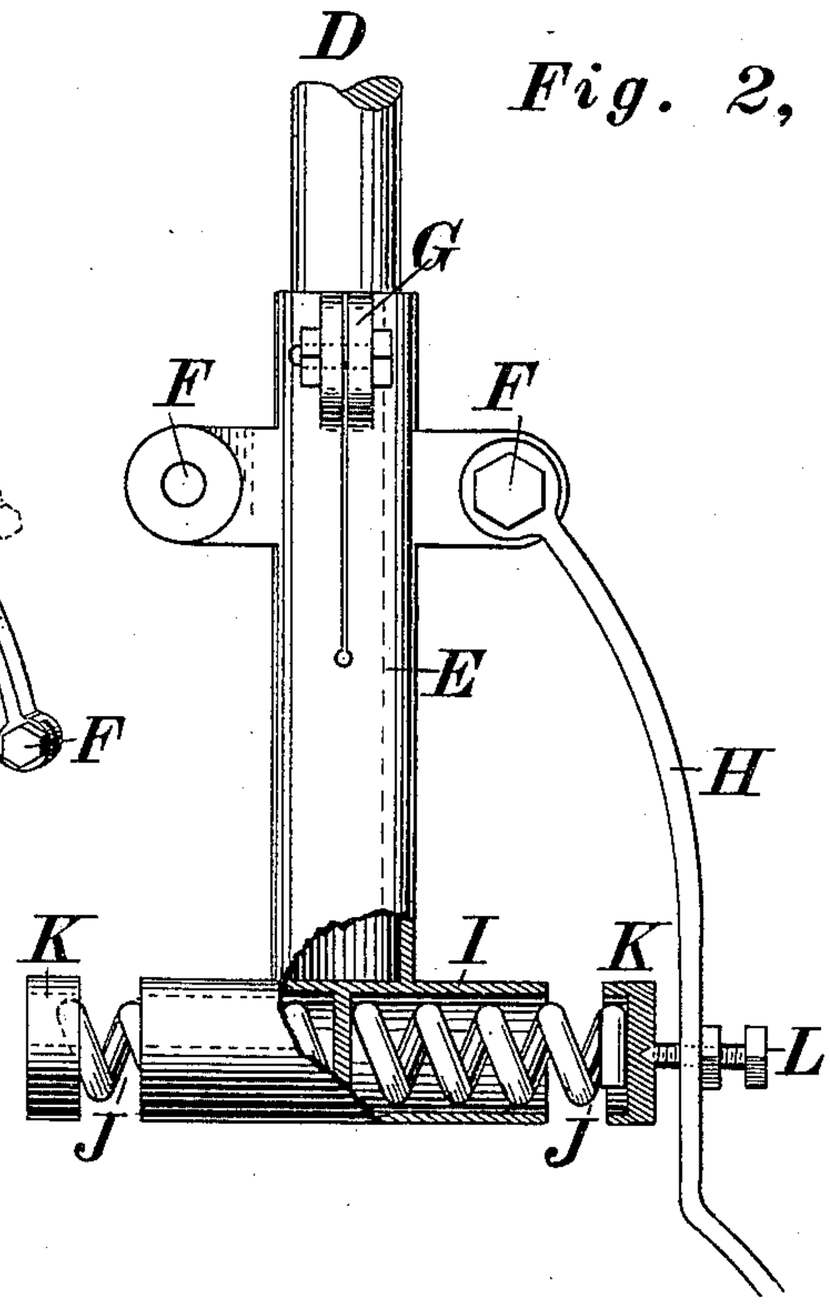

Fig. 2,

Witnesses,
W. H. Sargent.
A. J. Butler.

Philippe Henry Dupont. Inventor

O. H. Orcutt. Attorney.

UNITED STATES PATENT OFFICE.

PHILIPPE DÈNÉRY DUPONT, OF ST. JOHNSBURY, VERMONT.

POWER-HAMMER SPRING.

SPECIFICATION forming part of Letters Patent No. 429,807, dated June 10, 1890.

Application filed April 12, 1890. Serial No. 347,605. (No model.)

To all whom it may concern:

Be it known that I, PHILIPPE DÈNÉRY DUPONT, a citizen of Canada, residing at St. Johnsbury, in the county of Caledonia and State of Vermont, have invented a new and useful Power-Hammer Spring, of which the following is a specification.

My invention relates to improvements in power-hammers in which a vertically-reciprocating hammer-head works in conjunction with a spring or springs; and the objects of my improvements are, first, to provide a continuously-acting spring for the hammer; second, to afford facilities for adjusting the spring independent of the other parts of the machine; third, to reduce the shock of the blow on the running connections. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the entire machine; Fig. 2, a sectional view of the spring.

Similar letters refer to similar parts throughout the several views.

The frame-work of the machine is not shown.

The crank-disk A, mounted on counter-shaft and hung in substantial bearings, crank-pin B, connecting-rod D, flat springs H, springs J and P, cross-head M, and hammer O constitute the running part of the machine. The connecting-rod D is adjustable in the collar E by means of the tightening-clamp G to meet the requirements of different thicknesses of work. The hammer O is connected to collar E by means of the steel bars P and H and the joints F. Collar E has a case I at its lower end, in which are one or two (preferably two) spiral steel or rubber springs, with cap K and adjusting-screws L, passing through bars H. Springs J spread the bars H, holding bars P in nearly a horizontal position, which prevents the shock of blow of hammer O being communicated to connecting-rod D or crank-pin B. The ways N are bolted to frame-work in a perpendicular position, in which slides the hammer O, keeping it in position to strike fairly on the anvil. The dotted lines show the running part in another position.

The case I is broken away in Fig. 2 to show stop in middle for holding the ends of springs J, or this stop may be left out and one long spring used, passing clear through from K to K. Preferably two springs are used. The screws L are to tighten or slacken the springs J to give more or less elasticity to the stroke of hammer O, as may be required by light or heavy work. The joints F give perfect freedom to motion of bars H and P and springs J. The bars H and P are springs to a certain extent; but I prefer to make them rigid enough so that springs J will do nearly all the spring movement.

I am aware that prior to my invention power-hammers have been made with springs. I therefore do not claim such a combination, broadly; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, in a power-hammer spring, of the collar G, case I, and springs J, all substantially as set forth.

2. The combination, in a power-hammer spring, of the collar G, the bars H, the bars P, joints F, and cross-head M, all substantially as described.

3. The combination of the case I with collar G, the springs J, cap K, and adjusting-screws L, with check-nuts, substantially as shown, and for the purpose specified.

PHILIPPE DÈNÉRY DUPONT.

Witnesses:
J. F. CASSETTE,
A. J. DUTILE.