(No Model.)

P. D. DUPONT.

POWER HAMMER SPRING.

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

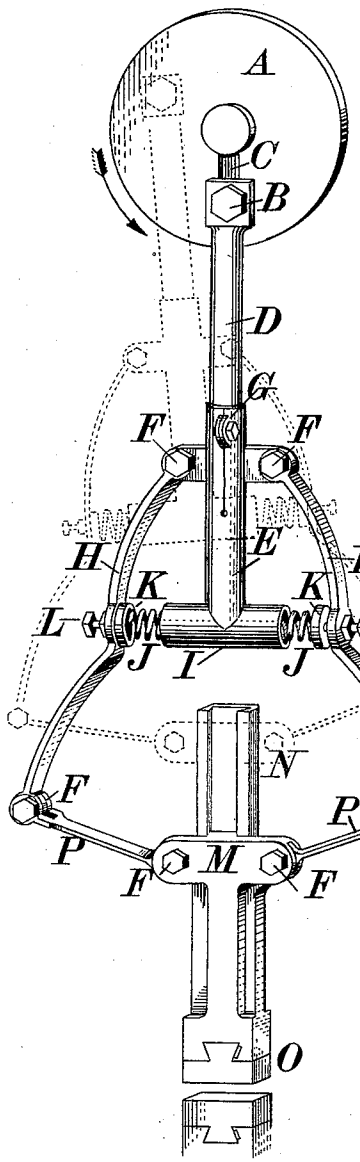


Fig. 1,

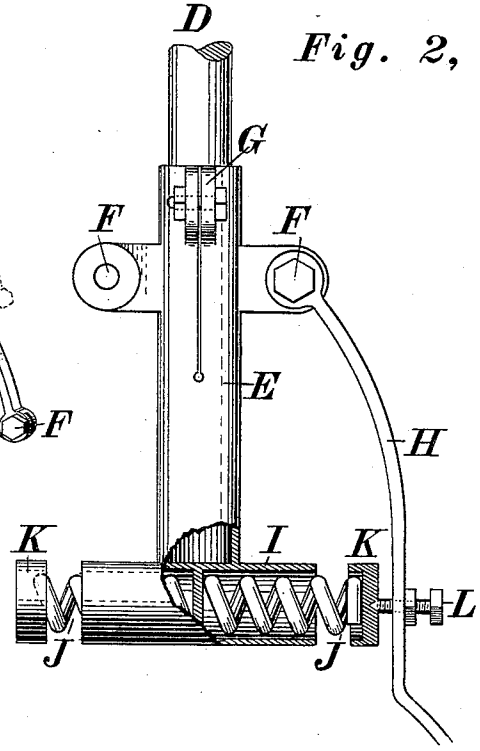


Fig. 2,

Witnesses,
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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 countershaft 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:
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A. J. DUTILE.