

B. HUBER.
Lithographic-Presses.

No. 145,420.

Patented Dec. 9, 1873.

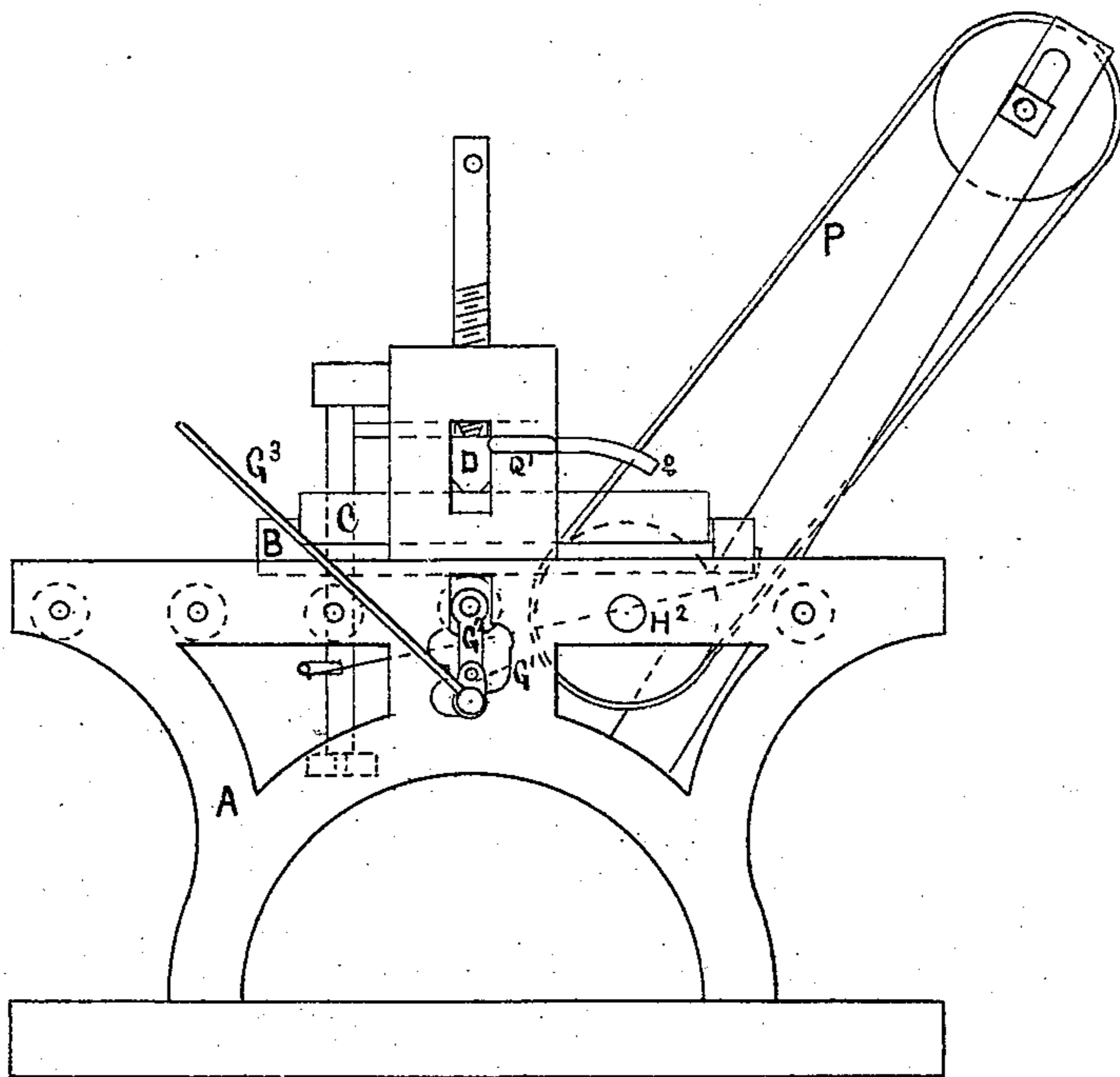


Fig. 1.

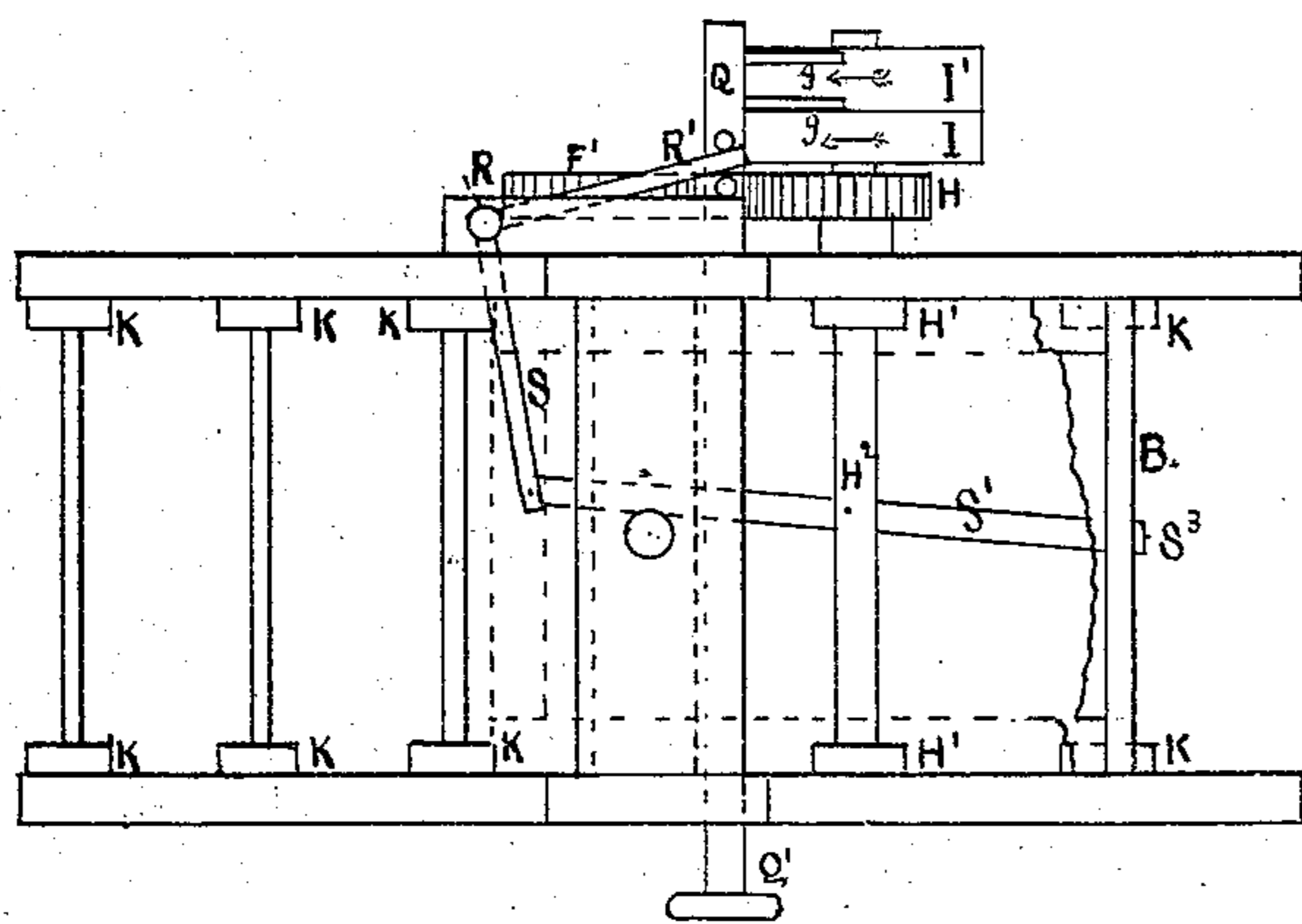


Fig. 2

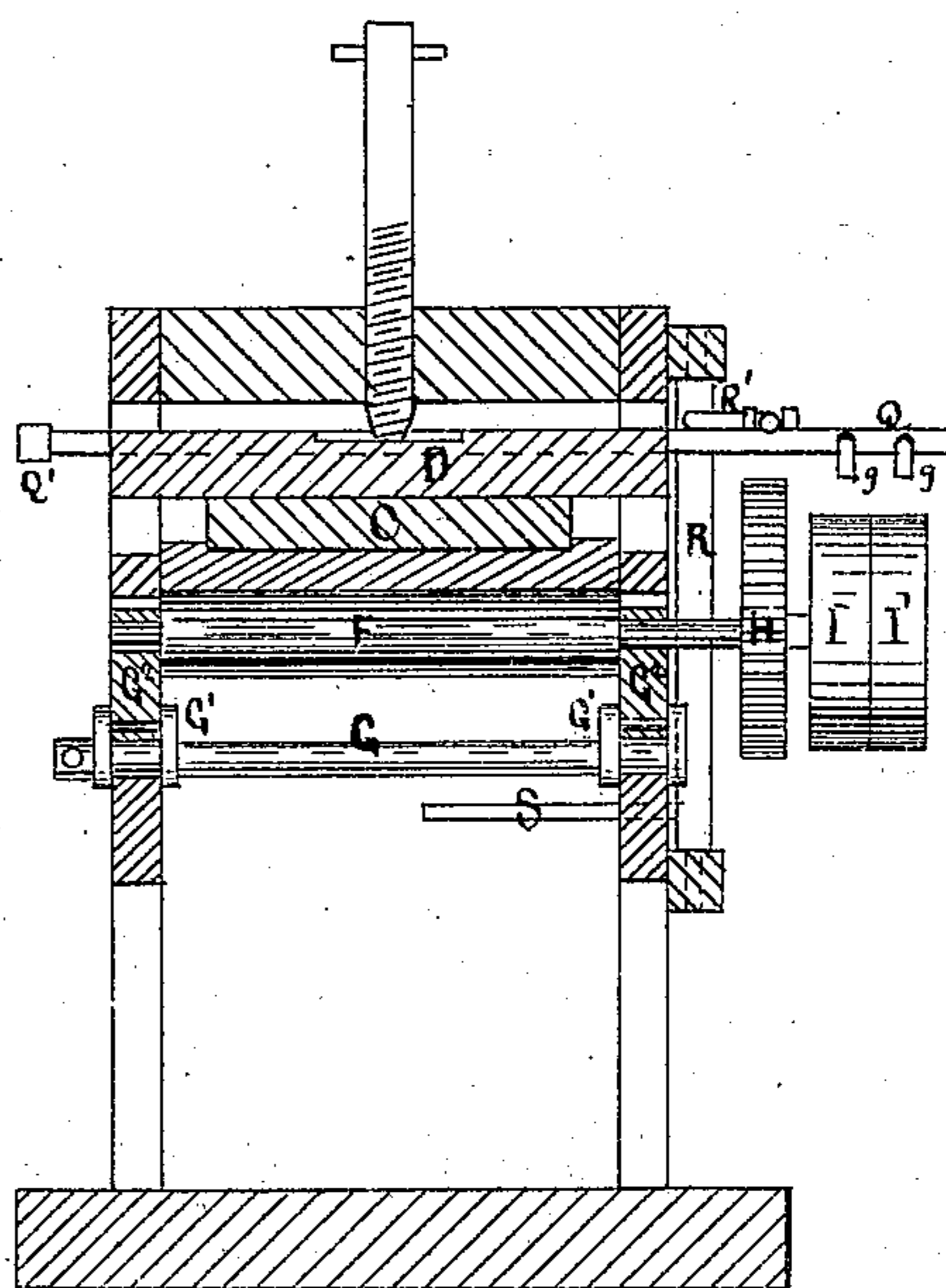


Fig. 3

WITNESSES

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BERTHOLD HUBER, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN LITHOGRAPHIC PRESSES.

Specification forming part of Letters Patent No. **145,420**, dated December 9, 1873; application filed May 28, 1873.

To all whom it may concern:

Be it known that I, BERTHOLD HUBER, of Boston, in the county of Suffolk and State of Massachusetts, have invented a certain new and useful Improvement in Lithographic Presses, of which the following is a complete specification:

The nature of my invention consists in a device by which the stone (in a press driven by power) is caused to be sent forward under the scraper-bar and returned by the simple movement of a lever, thus relieving the workman from a great outlay of strength; the object of the invention being to adapt the ordinary hand-press to the action of power, the power serving to move the stone back and forth, the placing of the paper, the inking, &c., being done by hand, as in an ordinary hand-press.

Figure 1 is an elevation of a lithographic press with my invention attached. Fig. 2 is a plan of the same. Fig. 3 is a cross-vertical section of the same.

Let A represent the frame; B, the bed-piece; C, the stone; F, the cylinder, upon which the bed-piece travels; D, the scraper-bar; all of which parts are made in the usual manner. The cylinder F, upon which the bed-piece B rests, is hung upon links $G^2 G^2$, Figs. 1 and 3. The lower ends of these links rest upon cams $G^1 G^1$, which are attached to the shaft G, and are operated by the lever G^3 . Thus when the lever is up the cams G^1 assume an inclined position, which allows the links G^2 to lower, and consequently the cylinder F. As the bed-piece B rests upon this cylinder the lowering of it will allow the stone C to fall away from the scraper-bar D. When the lever is down, as shown in Fig. 1, the cams G^1 , links G^2 , and bed and stone B C are thrown up against the scraper-bar D. K K, &c., are rolls upon which the bed-piece B rests when it is not thrown up by the cylinder F. $H^1 H^1$ on the shaft H^2 are rolls which receive the bed-piece after it has passed under the scraper-bar and the impression taken, and the cylinder F has been lowered. The shaft H^2 extends as shown in Fig. 2, and has upon it the gear-wheel H and the two pulleys I I'. The pulley I' is fast to the shaft H^2 , and causes it to revolve in the direction indicated by the arrow. The pulley I is loose on the shaft, but is attached to the gear H. The gear H engages with the

gear F', which is on the shaft of the cylinder F. Hence when the pulley I revolves, as indicated by the arrow, it will cause the gear F' and cylinder F to revolve in the opposite direction.

By this arrangement of the pulleys, I am enabled to obtain the desired reverse motion for the two carriers—namely, the forwarding-cylinder F and the returning-rolls H H'—by a continuous motion in the same direction of the driving-belt P.

The belt-shifting device consists of the slide Q, belt-guards $q q$, lever R', and rocker-shaft R and arm S. Extending laterally to this arm I affix a chain or strap, S^1 , which connects it with the end of the bed-piece B, at S^3 , so that when the bed-piece B has traversed the desired distance it will act on the lever S, and turning the rocker-shaft R cause the lever R' to move the slide or belt-shifter Q $q q$ so as to throw the belt from the pulley I to the pulley I'. The shifter Q has a handle, Q', for convenience of the operator.

The operation of my invention is as follows: The bed-piece B is run back from under the scraper-bar D. The stone C is inked, and the paper to be printed upon laid on, so that its end will just underlie the scraper-bar. Then the lever G^3 is brought down, which throws up the cylinder F, and the stone C is brought up, so that the scraper-bar D presses hard upon the paper. As the cylinder F is revolving the bed-piece is carried forward under the scraper-bar, and the print is made. The further advance of the bed-piece causes a strain upon the chain S^1 , which, acting upon the belt-shifting device S R' Q, will throw the belt from I to I'—that is, will cause the belt to cease to act upon the cylinder F, and operate instead the return-rolls H' H'. Now, by raising the lever G^3 , the cylinder F is removed from contact with the bed-piece B. The bed-piece falling upon the rolls $H^1 H^1$ is carried back to the position from which it started.

I claim as my invention—

In a press, the combination of the bed-piece B, the chain S^1 , shifting device S R Q, and gears H F', operating substantially as described, and for the purpose set forth.

BERTHOLD HUBER.

Witnesses:

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