

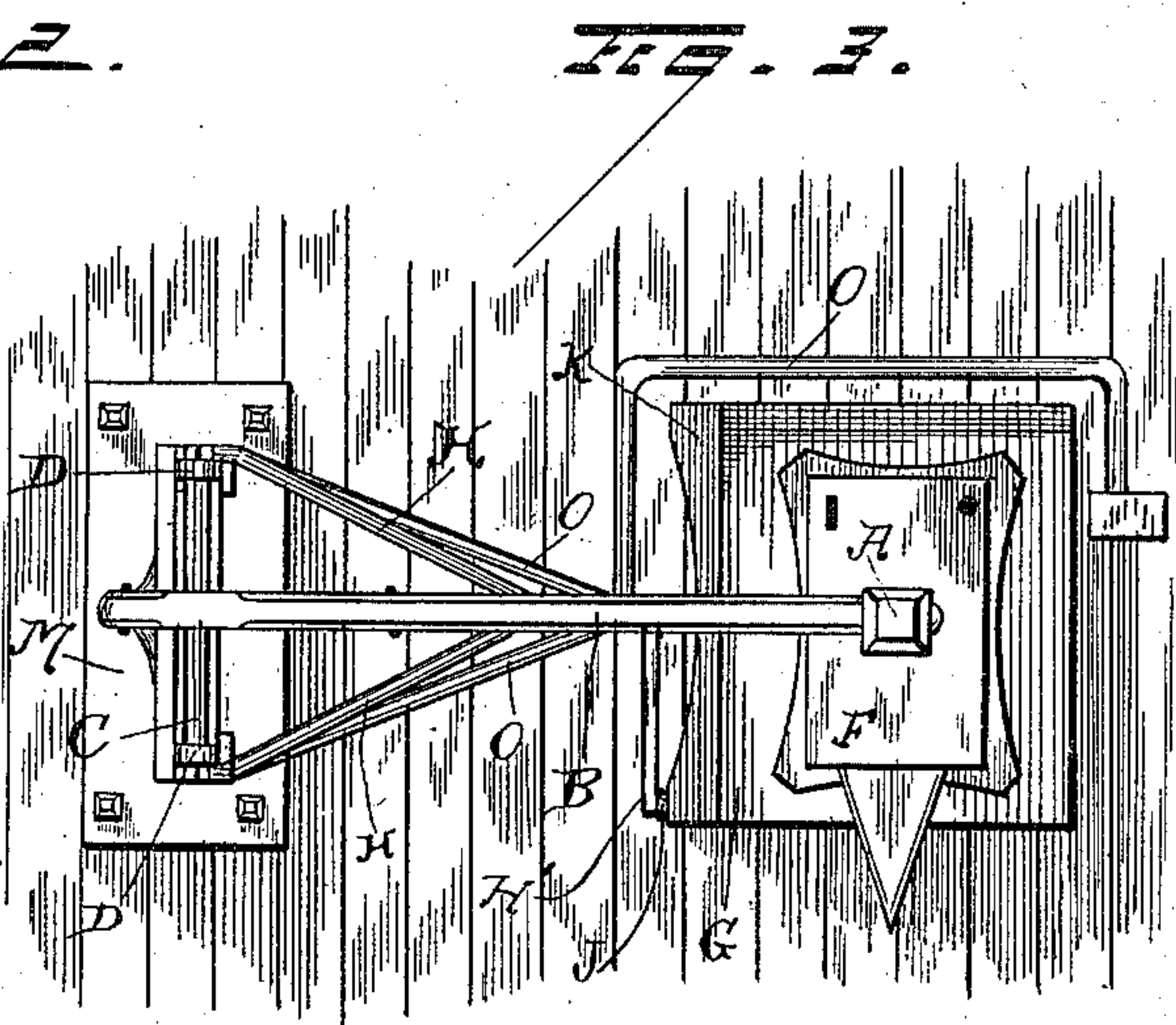
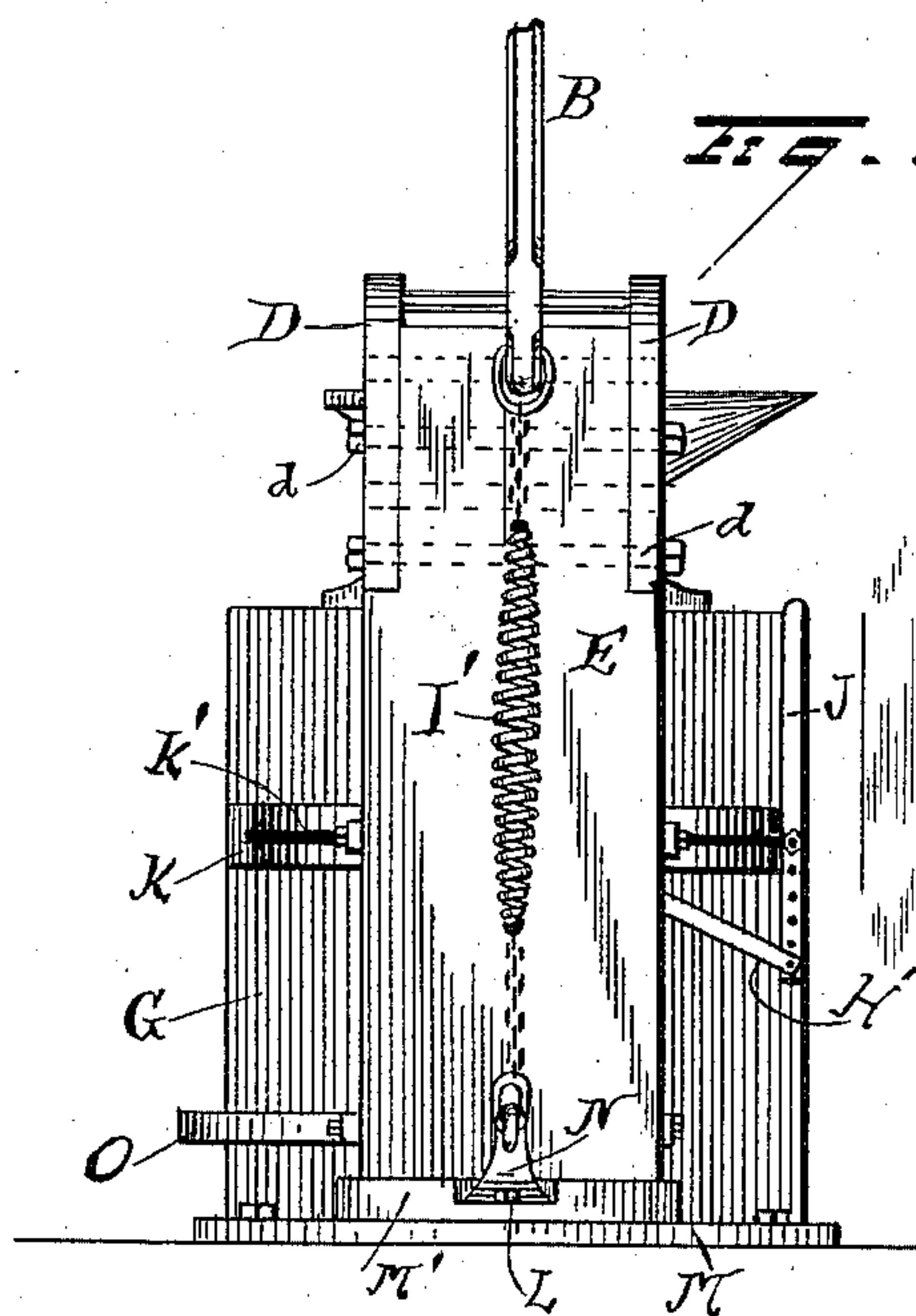
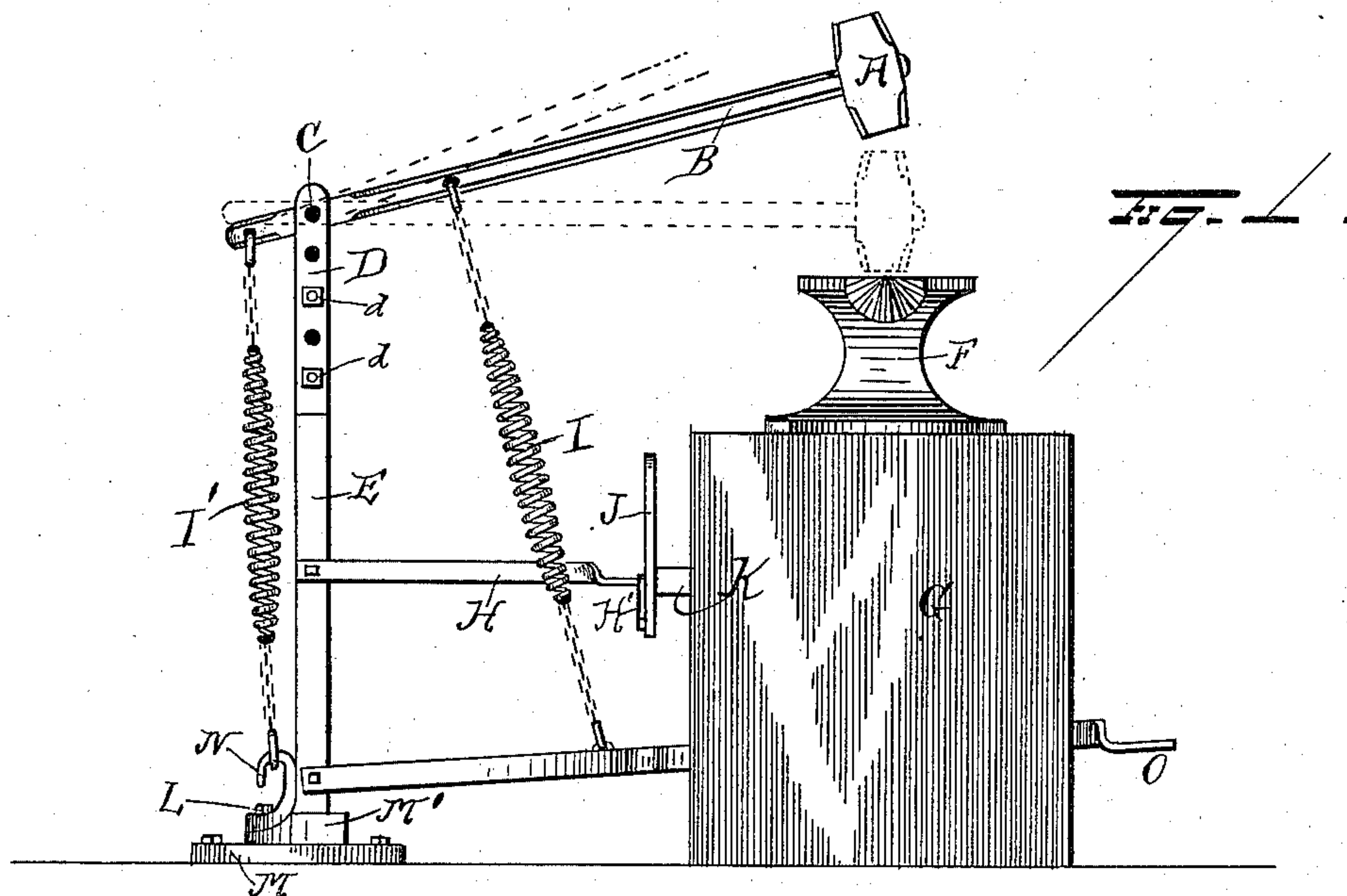
(No Model.)

H. STEWART & W. B. WISWALL.

SPRING HAMMER FOR BLACKSMITHS.

No. 385,018.

Patented June 26, 1888.



Witnesses.

W. S. McArthur

B. L. Carr.

Inventors.

Henry Stewart and  
William B. Wiswall, by  
Frank P. Deor Attorney.



# UNITED STATES PATENT OFFICE.

HENRY STEWART AND WELLINGTON B. WISWALL, OF LONGMONT,  
COLORADO.

## SPRING-HAMMER FOR BLACKSMITHS.

SPECIFICATION forming part of Letters Patent No. 385,018, dated June 26, 1888.

Application filed April 30, 1888. Serial No. 272,251. (No model.)

*To all whom it may concern:*

Be it known that we, HENRY STEWART and WELLINGTON B. WISWALL, of Longmont, county of Boulder, and State of Colorado, have  
5 invented a new and useful Spring-Hammer for Blacksmiths; and we do hereby declare that the following is such a full, clear, and exact description of the invention as will enable any person skilled in the art to which it belongs to  
10 make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to spring-hammers or power-hammers for blacksmiths, and has for  
15 its object the production of a device that will greatly lessen the amount of physical exertion necessary to operate it; and it consists in combinations and devices that will be hereinafter fully specified.

20 Referring to the accompanying drawings, Figure 1 is a side view. Fig. 2 is a rear end view. Fig. 3 is a top or plan view.

The same letters of reference refer to the same or corresponding parts.

25 G is a block or base supporting the anvil F.

M is a base-piece, preferably a casting, secured to the floor by means of lag-screws or by any suitable means. Upon this base is swiveled a block, M', which is also preferably  
30 a metallic casting, L being the swivel-bolt. Into a mortise or slot in the block M' sets the foot of the standard E, upon which are adjustably secured by means of bolts *d d* the bearing-pieces DD, which are also preferably  
35 metallic castings. Material, however, is not of our invention, as this standard, the bearing-blocks, and many other parts may be made of hard wood or any suitable material. The object of making these bearing-pieces adjustable  
40 vertically, as shown in Fig. 1, is to adjust their height to that of the work, to anvils of different heights, and so on.

In the bearing-blocks D is pivoted the rod C, to which the hammer-handle B, carrying the  
45 hammer-head A, is secured in any well-known manner. Hammer-handle B and the rod C may be welded together, if of malleable iron, or they may be cast in one piece; or, if wooden, they may be united in any way common to a  
50 skilled workman.

The object of swiveling the standard E and

its supporting-block M' to the base-block M is, that the hammer A B may be swung to strike the fuller, the center of the anvil, or any part of the anvil-face. The standard and with  
55 it the hammer are swung thus sidewise by means of the lever H, which is forked to embrace the standard, and to which it is secured at one end, while its other end is furnished with a short bend or arm; or it may be fur-  
60 nished with a button or knob-like head, which fits into the aperture or slot K' in the block K. This block K is firmly bolted to the anvil-block G. An arm, H', extends from the lever H to the lever J, to which it is pivoted, the  
65 lever J being itself pivoted to the block K; or it would answer, if properly shaped, to be pivoted to the swivel-block. The lever J is at its lower end furnished with several holes, as seen in Fig. 2. The motion of the upper end  
70 of said lever J will throw the standard E, and hence the hammer, from one position to another, and the turning of the standard will be greater or less, according as the arm H' is pivoted in one or another hole in the lever J. 75

It is our intention to adapt our device to be used with anvils already in use in work-shops, and as these differ materially in size it is necessary to adapt the amount of swing of the hammer from side to side to the size of different  
80 anvils. This lever J may be furnished with a tooth to take into a rack fastened on the anvil-block; but we find that the friction between the lever H and the walls of the slot K' is sufficient to retain the lever wherever it may be  
85 set.

O is the operating-lever. As shown, it is to be operated by the foot of the blacksmith, who holds the work upon which he is operating. Connecting the rear or projecting end of the  
90 hammer-handle with the hook N, which is preferably secured to the part M', is the spiral or coil spring I', and the spiral spring I connects as a pitman the hammer-handle and the foot-lever O. We have shown these as coil-  
95 springs. Of course they might be flat or leaf springs, as any spring in these two places would be within our invention; but we find spiral or coil springs to answer our purpose best. Hitherto a spring has been used as we use the  
100 spring I' to throw up a hammer after it has been thrown down by means of a pitman-rod



or chain; but we are not aware that prior to our invention any one has ever used a spring-pitman, and herein resides the great power of our hammer. When once the hammer has  
 5 been thrown down to give a blow, the recoil of the spring I, assisted by the retractile energy of the spring I' which has just been expanded by the descent of the hammer, starts the hammer quickly upward again. This upward  
 10 motion of the hammer extends fully the spring I, and permits the other spring, I', to contract to its normal or even beyond its normal condition by reason of its elasticity and the momentum imparted to it, and hence their united  
 15 force again throws the hammer down, striking a blow whose momentum exceeds anything that we have ever known by any other than our invention. After the first two or three  
 20 strokes of the hammer a man can, without lifting his foot from the floor, but by simply working his toes up and down as his heel rests on the floor, strike a tremendous blow, the springs by their rebound keeping the hammer in activity.

25 Having thus described our invention, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of the support, the hammer, the operating-lever for the hammer, the  
 30 spring to throw up the hammer after the blow has been struck, and the spring-pitman, all substantially as described, and for the purposes set forth.

2. The combination of the hammer, the sup-

port therefor, its several connections with the floor, and means for adjusting the support so that the hammer may be thrown to strike on fuller or face of the anvil at will, as described.

3. The block M, the block M', swiveled therein, the standard or support E, secured in  
 40 the block M' and carrying the hammer, the levers H and J, the block K K', and the foot-lever O, all in combination, substantially as described.

4. The combination of the standard E, carrying the hammer, the base-blocks M M', in which the standard is swiveled, the adjusting-lever H J, and the block K K', with the foot-lever O and the springs I I', all substantially  
 45 as described, and for the purposes set forth.

5. The combination of a hammer, an adjustable support for the hammer, so that the hammer may be swung to deliver its blow at different points in a horizontal plane, a spring-pitman to operate said hammer, and a recoil-  
 50 spring to throw up the hammer after each blow is given, substantially as described, and for the purposes set forth.

In testimony that we claim the foregoing we have hereunto set our hands, this 23d day of  
 April, A. D. 1888, in the presence of two witnesses.

HENRY STEWART.  
 WELLINGTON B. WISWALL.

Witnesses:

FRANK L. SMITH,  
 B. L. CARR.