

(No Model.)

J. H. PALMER.

BUTTON HOLE ATTACHMENT FOR SEWING MACHINES.

No. 332,426.

Patented Dec. 15, 1885.

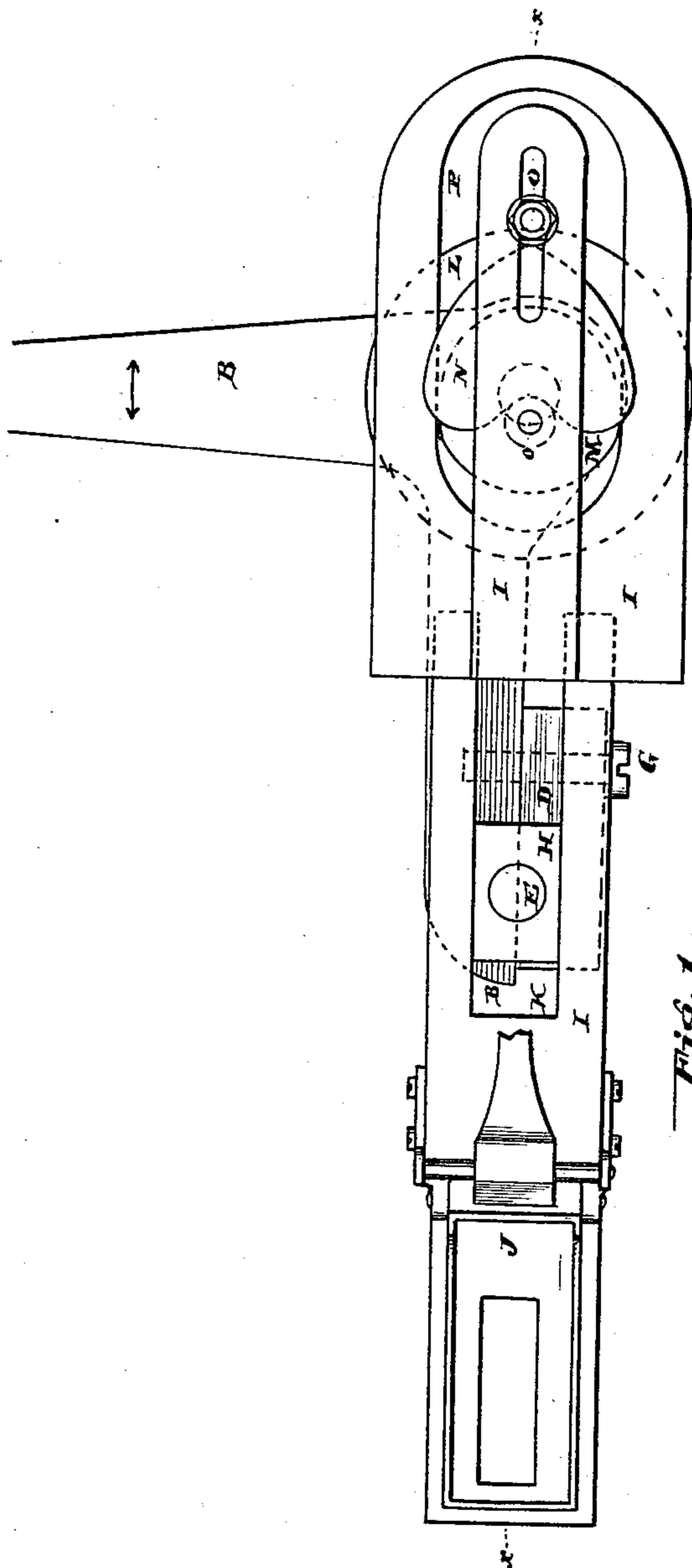


Fig. 1

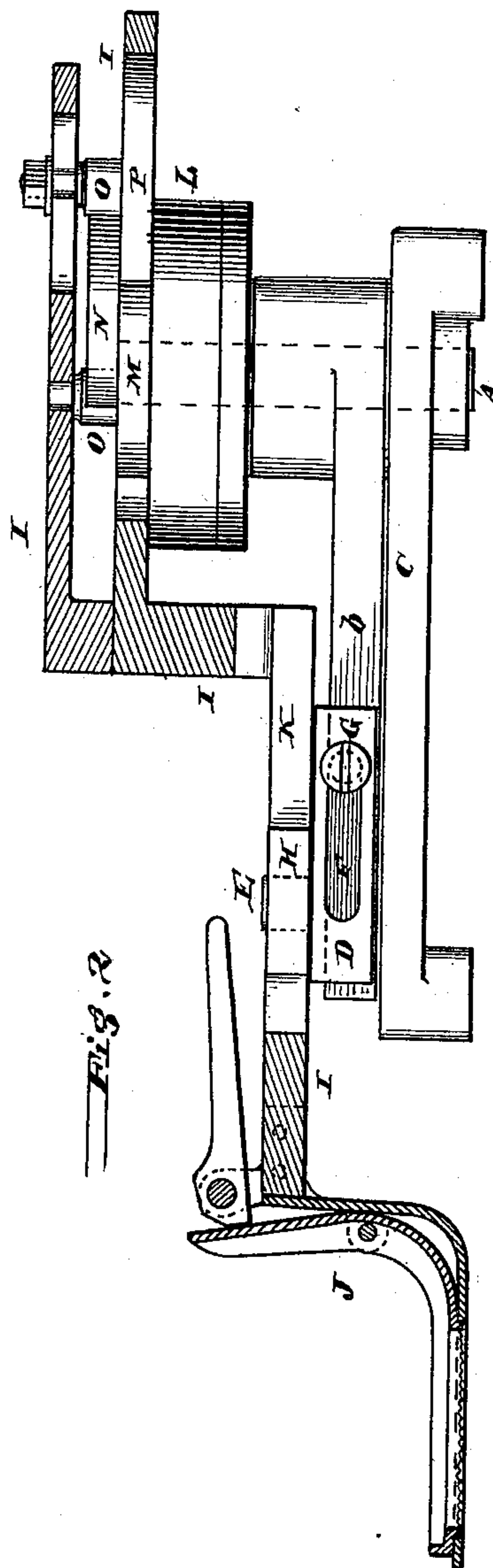


Fig. 2

Attest

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# UNITED STATES PATENT OFFICE.

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## BU TON-HOLE ATTACHMENT FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 332,426, dated December 15, 1885.

Application filed June 19, 1884. Serial No. 135,393. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. PALMER, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and  
5 useful Improvement in Button-Hole Attachments for Sewing-Machines, of which the following is a specification.

My invention has reference to button-hole attachments for sewing-machines, but more  
10 specifically to an improvement in that class of machines for which Letters Patent No. 302,018 were granted to me July 15, 1884; and it consists in certain mechanism to regulate the distance between the rows of stitches or  
15 the sides of a button-hole, which is fully set forth in the following specification and shown in the accompanying drawings, which form part thereof.

In making button-holes it is necessary to be  
20 able to regulate the length of the button hole, the length of the stitches, and the distance apart of the two parallel rows of stitches which form the sides of the button-hole. The two former regulations could be effected in the  
25 machine set forth in my application referred to above; but the latter regulation could not be accomplished in that machine, and therefore forms the subject-matter of this application.

30 In the drawings, Figure 1 is a plan view of part of my improved button-hole attachment for sewing-machines with the regulating mechanism attached thereto, and Fig. 2 is an elevation of same.

35 A is the stud upon which the various parts work, and is secured to the frame or bed-plate C.

B is the oscillating lever, pivoted to said stud A, and adapted to be oscillated by the sewing-machine. Adjustably secured upon  
40 the free arm of the lever B is the pin E, which is secured to a block, D, having a slot, F, through which a set-screw, G, passes to secure said block to said lever and allow of its adjustment.

45 H is a block carried by said stud or pin E, and works in the slot K of the sliding vibrating lever I, to the free end of which is secured the cloth-clamp J. This lever I is intermittently moved in the direction of its length by  
50 the heart-shaped cam N, which works between

rollers O on the said lever, and is caused to vibrate at each end of the button-hole by the cam M, which works in the slot P in the lever I. These cams M N are supported upon a  
55 friction-wheel, L, and journaled on the stud A as an axis, and may be intermittently rotated by any suitable device—as, for instance, the friction device set forth in my application for Letters Patent filed February 20, 1884.  
60 The lever I being vibrated upon the pin E as a fulcrum in passing from one side row of stitches to the other, it is evident that if the said pin be moved nearer to or farther from the stud A and cam M the amount of said vibration will increase or decrease, thus enabling  
65 the operator to regulate the distance between the two parallel rows of stitches to suit the various goods upon which the button-holes are to be worked. It is evident that the block H might be dispensed with, if desired.  
70

While I prefer the construction shown, I do not limit myself thereto, as it may be modified in various ways without departing from my invention.

Having now described my invention, what  
75 I claim as new, and desire to secure by Letters Patent, is—

1. The combination of lever B, stud A, block D, having slot F and pin E, screw G, sliding  
80 vibrating lever I, having slots K P, cloth-clamp J, and cam M, substantially as and for the purpose specified.

2. The combination of lever B, stud A, block D, having slot F and pin E, screw G, sliding  
85 vibrating lever I, having slots K P and rollers or pins O, cloth-clamp J, cam N, and cam M, substantially as and for the purpose specified.

3. The combination of lever B, stud A, block D, having slot F and pin E, block H, screw  
90 G, sliding vibrating lever I, having slots K P, cloth-clamp J, and cam M, substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

JOHN H. PALMER.

Witnesses:

R. M. HUNTER,  
WILLIAM C. MAYNE,