

(No Model.)

J. W. P. JOHNSON.

BELT CLAMP.

No. 351,514.

Patented Oct. 26, 1886.

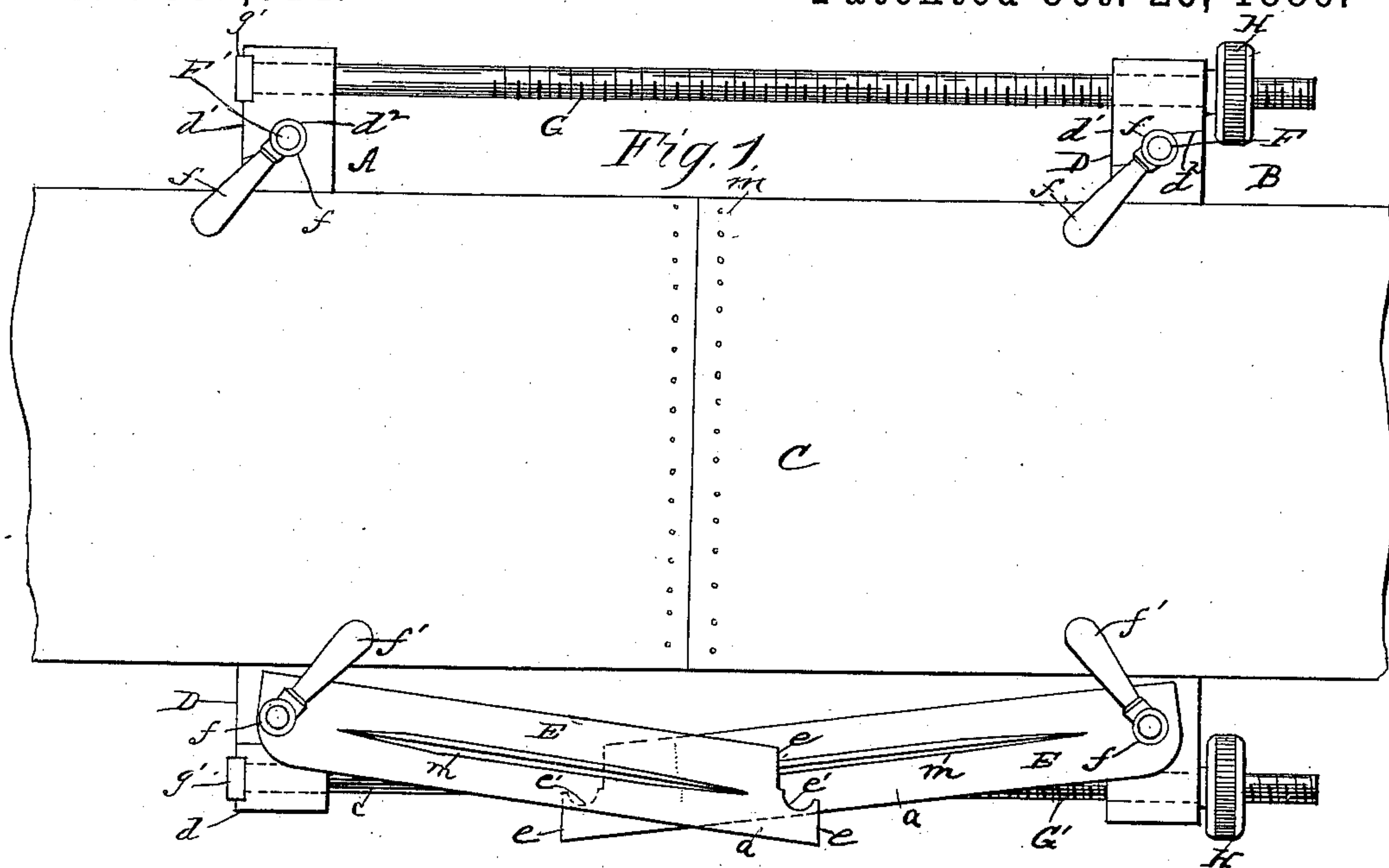


Fig. 2.

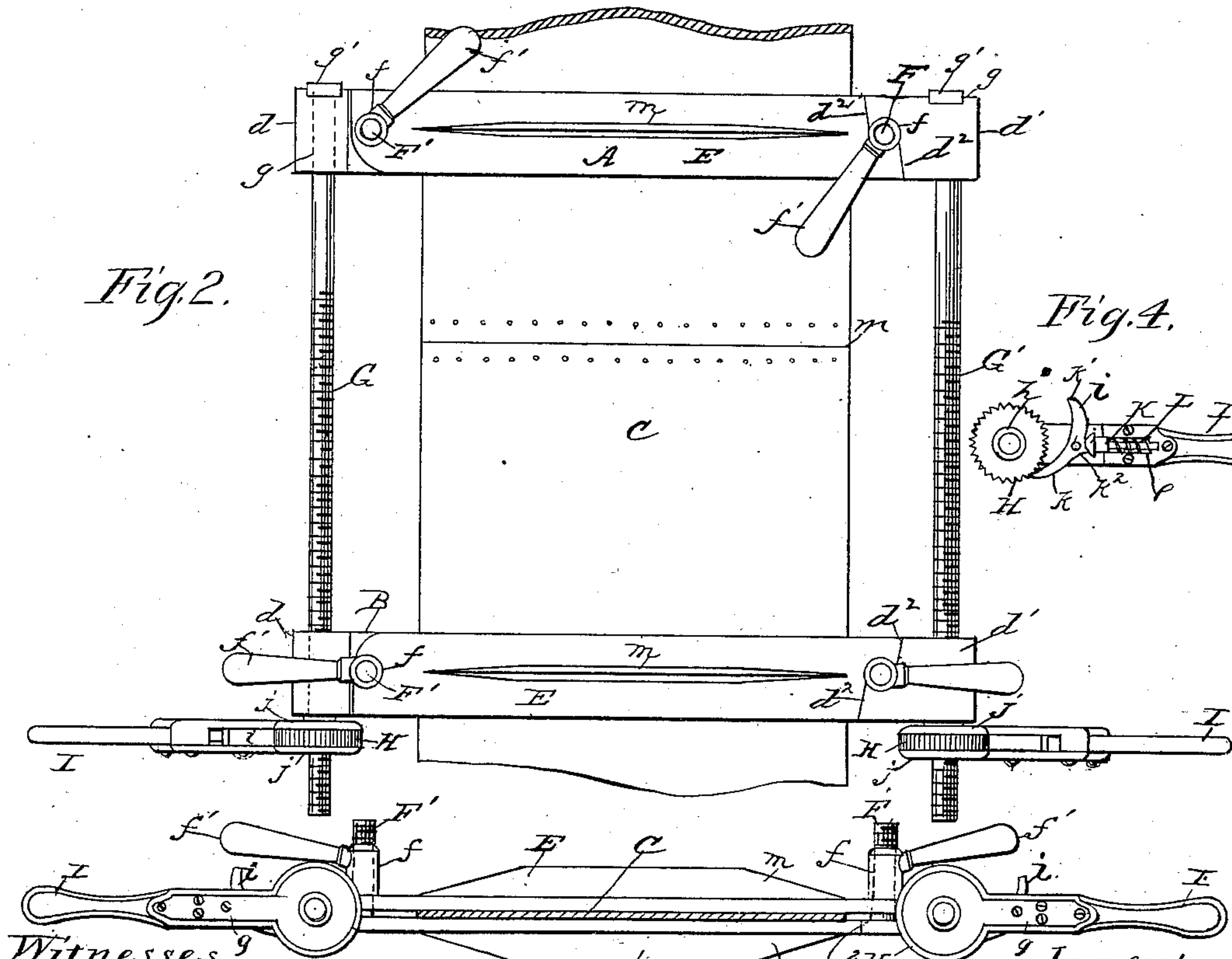
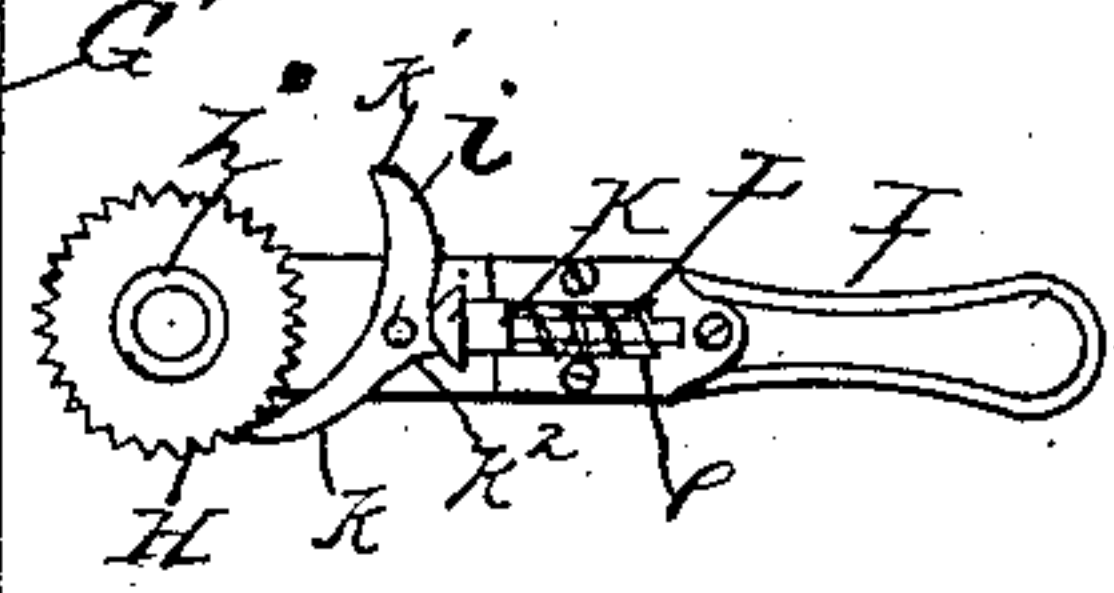


Fig. 4.



Witnesses,  
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Fig. 3.

By his Attorneys

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# UNITED STATES PATENT OFFICE.

JOHN W. P. JOHNSON, OF GARDINER, MAINE.

## BELT-CLAMP.

SPECIFICATION forming part of Letters Patent No. 351,514, dated October 26, 1886.

Application filed July 3, 1886. Serial No. 207,095. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. P. JOHNSON, a citizen of the United States, residing at Gardiner, in the county of Kennebec and State of Maine, have invented a new and useful Improvement in Belt-Clamps, of which the following is a specification.

My invention relates to improvements in belt-clamps; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully set forth, and particularly pointed out in the claim.

The object of my invention is to provide simple and durable means for drawing the ends of a belt together when the same has become broken or separated, which can be easily and rapidly operated by one person; to provide means for quickly and easily adjusting the sections of the clamp upon the belt without requiring the sections to be detached or separated; to provide improved means for securely locking or connecting the sections of the clamp together, and to provide improved mechanism for drawing the clamps toward each other, and thus tightening and drawing the belt-sections together.

In the accompanying drawings, which illustrate a belt-clamp embodying my invention, Figure 1 is a top plan view. Fig. 2 is a similar view with the belt clamped or fitted between the clamps. Fig. 3 is an end view showing the belt in section fitted between the clamp-sections. Fig. 4 is a detail view of one of the levers for moving one of the clamps.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A and B designate the rigid and movable clamps, which are detachably connected or fitted upon opposite ends of a belt, which, for the sake of convenience, I have lettered C. Both of the clamps A and B are constructed substantially alike, and I will therefore describe the construction of only one of them. Each of the clamps comprises two sections, D and E, one of which is arranged or located on the under side of the belt, and the other is adjusted on the upper side, the belt being inserted or fitted between the clamp-sections and rigidly and firmly held therein,

while the clamps A and B are drawn toward each other, to bring the free ends of the belt together so that they will overlap one another, or be brought close enough together to be connected by lacing or other suitable means. The lower clamp-section, D, is provided at its ends with raised flanges or ledges  $d$  and  $d'$ , the former of which is made substantially square or rectangular, while the flange  $d'$  has its inner face recessed or cut away in inclined lines to form bearing surfaces for the free end of the upper section, E. These inclined faces of the lug or flange  $d'$ , I have lettered  $d''$ , and against these faces bear or fit the inclined ends  $e$  of the upper clamp-section, E.

F and F' designate threaded studs or standards, which are rigidly affixed to and carried by the lower clamp-section, D, the lug F being arranged in a curved recess,  $d^3$ , that is cut or formed in the inclined face of the lug or flange  $d'$ , between the sides thereof, and the stud or standard F' being arranged to one side of the lug  $d$  of the lower section. The upper section, E, of the clamps is pivoted on the stud or standard F', and thereby permanently connected with the lower section, D, of the clamp, and the opposite or free end of the upper section is cut away in inclined lines, as at  $e$ , for a purpose hereinbefore described, the said free end of the upper clamp-section being further provided with a rounded recess,  $e'$ , which fits around the periphery of the standard F, to partially inclose the latter. By thus forming the lug  $d'$  of the lower section and the free end of the upper section with the inclined and rounded faces, as hereinbefore described, a close and secure joint is formed between the said sections when they are connected together, so that the sections are not liable to be easily detached or disconnected when the binding-nuts are screwed home, as presently described. Binding-nuts  $f$  are fitted on each of the standards or studs, and each nut has a handle,  $f'$ , which is of any desired form, so that the nut can be easily and readily turned to screw it home and clamp the sections D E detachably together.

G and G' designate threaded rods, which are arranged on opposite sides of the belt, and connect the clamps A and B, to draw the latter



together. The ends of each of these rods are passed through openings  $g$  in the ends of the lower section of each of the clamps A B, and the rods are provided at one end with enlarged heads  $g'$ , which bear against the lower section of the clamp A, while the opposite ends of the said rods are extended through the openings in the lower section of the clamp B, traveling nuts or burrs H being fitted on the free ends of the rods and bearing against the clamp B, to adjust the latter longitudinally on the rods G G'.

The traveling nuts H are provided at their middle with enlarged hubs  $h$ , which are interiorly threaded to adapt them to move on the rods, and thus actuate the clamp B, which is free to move on the said rods, and the outer peripheries of the nuts H are provided with ratchet-teeth, with which engages one end of a reversible pawl,  $i$ , that is carried by a lever, I, by means of which the nut H is rotated in either direction, to draw the clamps A B together or adjust them away from each other, as presently described. One of these nuts H and its actuating-lever is provided for each of the rods G and G', and the levers and nuts are actuated or moved separately or independently of each other. The levers are bifurcated at one end to provide two parallel arms or plates,  $j$ , and between the outer extremities of these arms or plates is fitted the traveling nut H, which the lever is designed to actuate, the said outer ends of the plate or arms of the lever being provided with transverse openings, through which the threaded rod G or G' passes. The pawl  $i$  is also arranged between the arms of the lever at a point in rear of the periphery of the traveling nut, and this pawl has two arms,  $k$  and  $k'$ , arranged at an angle to each other, so that either one can be thrown into engagement with the teeth on the periphery of the traveling nut to actuate it in either direction. The pawl is pivoted centrally to the lever, and it has a projecting nib,  $k^2$ , with its opposite side faces curved, so that the headed and rounded end of a spring-pressed bolt, K, can fit closely and snugly against the same, to hold the pawl in either of its adjusted positions. The bolt or pin K is fitted to move freely in a recess or opening,  $l$ , in the lever I, and a spring, L, encircles the pin or bolt, and is inclosed within the recess or chamber  $l$  of the lever, to force the headed end of the bolt or pin beyond the chamber and into the path of the nib  $k^2$  and against the curved faces thereof, as is obvious.

It will be seen that when the lever is moved in one direction the pawl will engage with the toothed periphery of the nut H, to move the latter in a corresponding direction, and thus cause it to travel on the threaded rod G or G', and in order to cause the nut to travel in the reverse direction on its rod the pawl is reversed by pressing upon its free arm with sufficient force to overcome the tension of the

spring L and force the bolt or pin K within the chamber  $l$ , and thus allow the nib  $k^2$  to ride over the headed end of the bolt, which is thus caused to engage the opposite curved face of the nib and keep the opposite or other arm of the pawl into engagement with the toothed periphery of the traveling nut, after which the handle or lever I can be turned, and thus the pawl will actuate the nut H to move it in the reverse direction.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings.

To apply the clamps A B to the belt C to draw the ends of the same together, the binding-nuts are elevated on the threaded studs or standards to permit the upper sections, E, to be swung to one side, the standards F serving as pivots thereto. The sections D and E of each of the clamps are fitted on opposite sides of one end of the belt, the lower and upper sides thereof, respectively, and the free ends of the sections E are then swung over the lower sections, D, to permit the inclined ends  $e$  thereof to be brought into close contact with the inclined faces  $d^2$  of the lug  $d$  of the section D, after which the binding-nuts are screwed home to clamp the sections D E and the belt very firmly together. The threaded rods G and G' are now passed through the clamps A B and the traveling nuts H, and their operating-levers I fitted on the free ends of the said rods, so that the nuts will be caused to move in either direction under the action of the pawl of the levers.

The clamps A B can be rapidly and easily applied or adjusted upon the belt for use, and the levers I can be quickly operated to draw the clamps together, and thus bring the ends of the belt C into such relation with each other that they can be easily connected by lacing or other well-known appliances.

My invention is simple, strong, and durable in construction, cheap and inexpensive of manufacture, and readily and easily handled and operated by one man. The clamps of the sections have strengthening-ribs  $m$  on their outer faces.

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

In a belt-tightener, the clamps A B, each consisting of a lower section provided at its ends with the enlarged perforated lugs, one of said lugs having the inclined inner side,  $d^2$ , the threaded studs F F', affixed to the lower section and arranged in close proximity to the inner sides of the enlarged lugs thereof, the upper section permanently connected at one end to one of the studs, F', and having the inclined free end  $e e'$ , adapted to come in contact with the inclined side  $d^2$  of one of the lugs and the stud F, and the binding-nuts fitted on the studs and having the integral handles, and adapted to impinge upon the upper sec-

tion and clamp the sections upon one end of  
a belt, in combination with the threaded rods  
passing through and connecting the clamps,  
the threaded toothed nuts traveling on the  
5 rods, and the levers carrying the pawls for  
feeding the nuts, substantially as described,  
for the purpose set forth.

In testimony that I claim the foregoing as  
my own I have hereto affixed my signature in  
presence of two witnesses.

JOHN W. P. JOHNSON.

Witnesses:

FRANK CUSICK,  
FRANK V. COX.