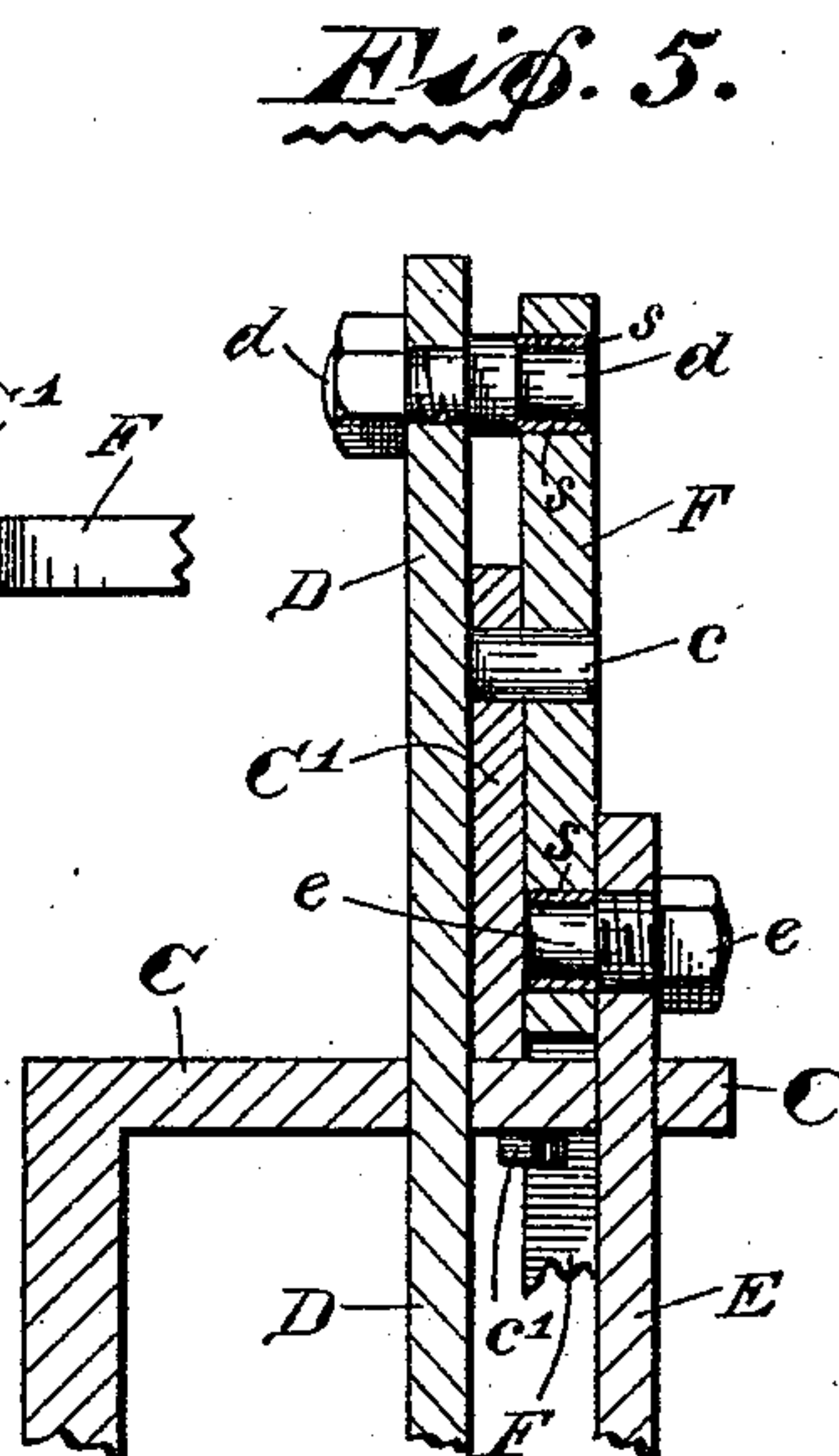
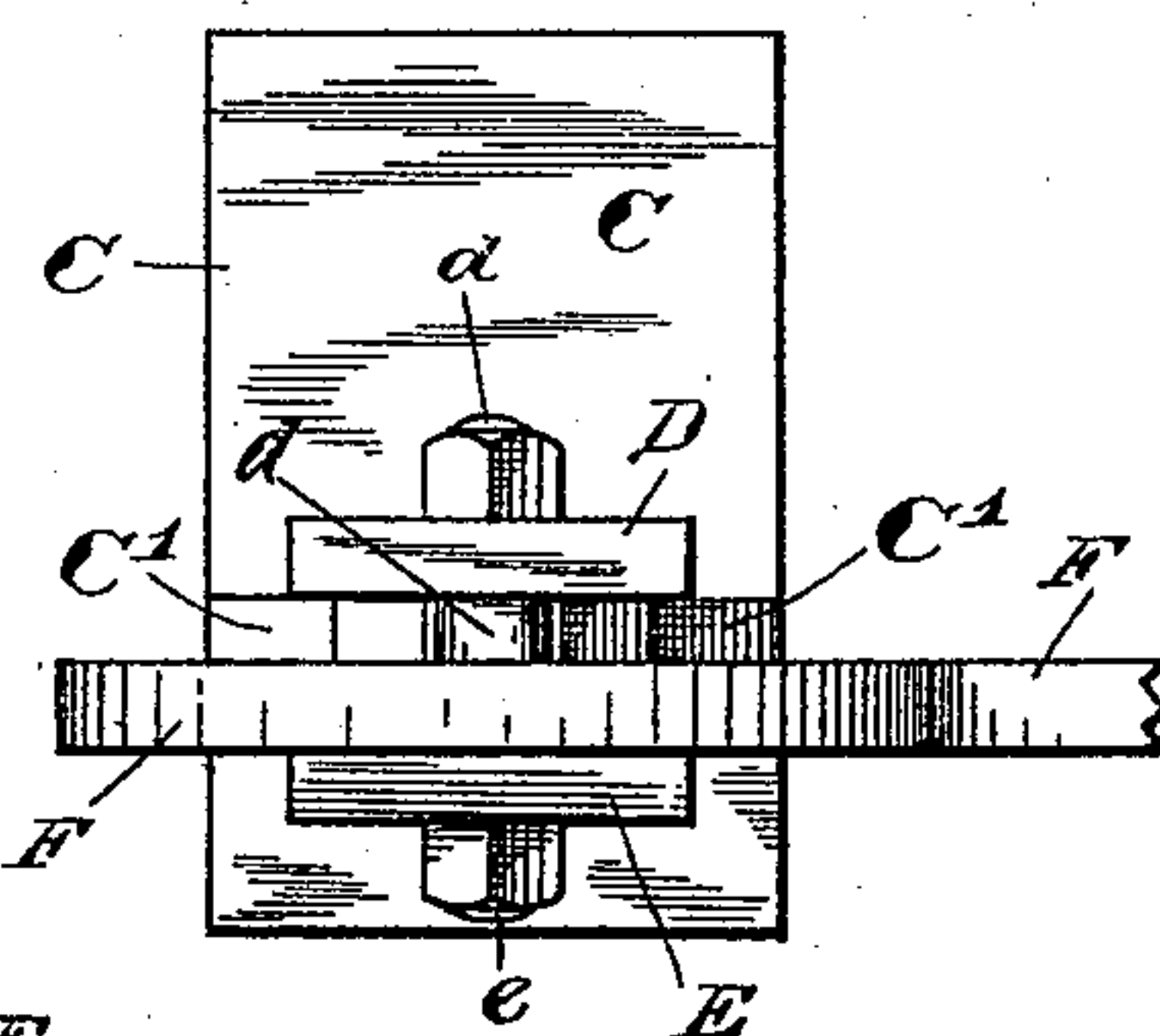
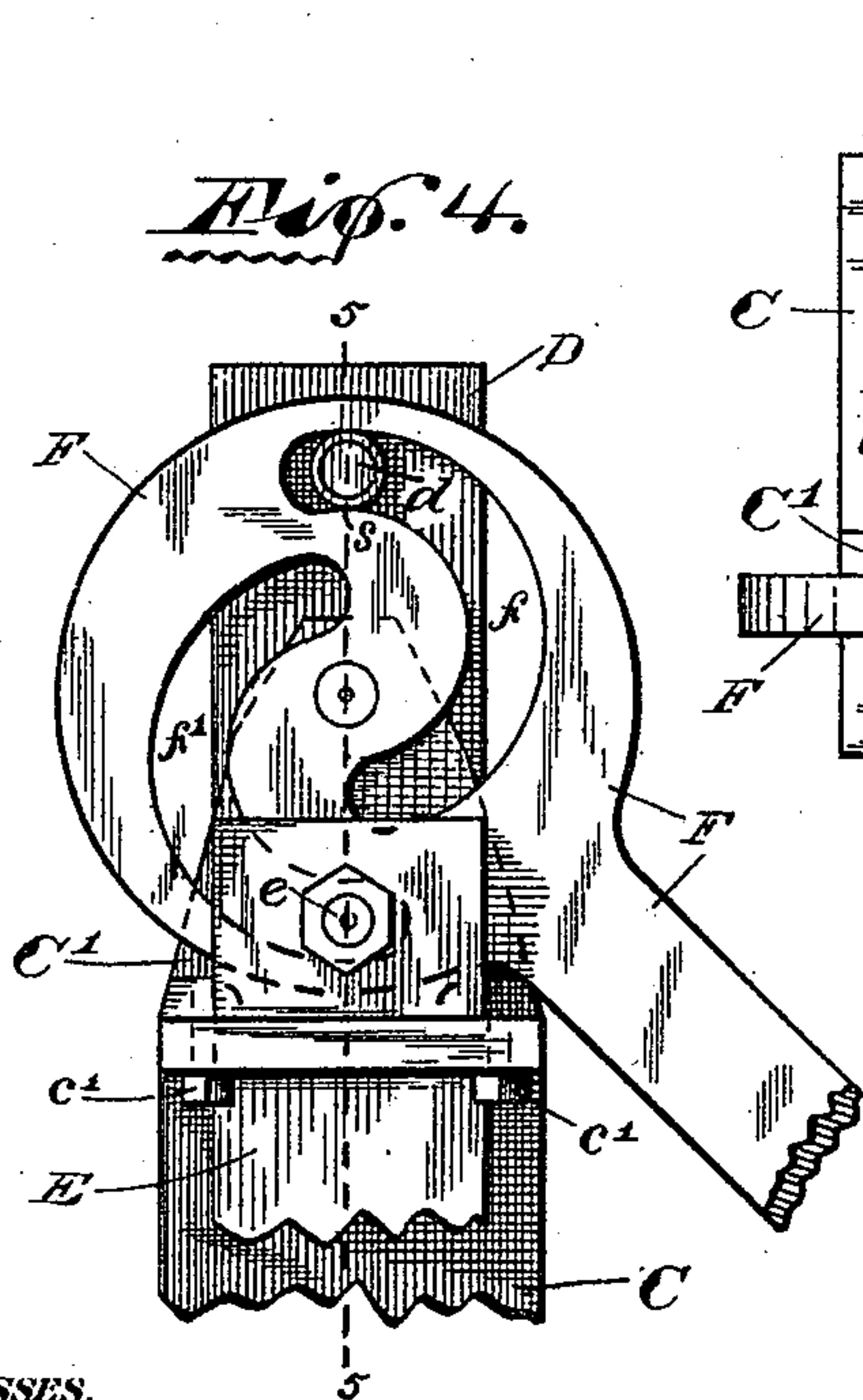
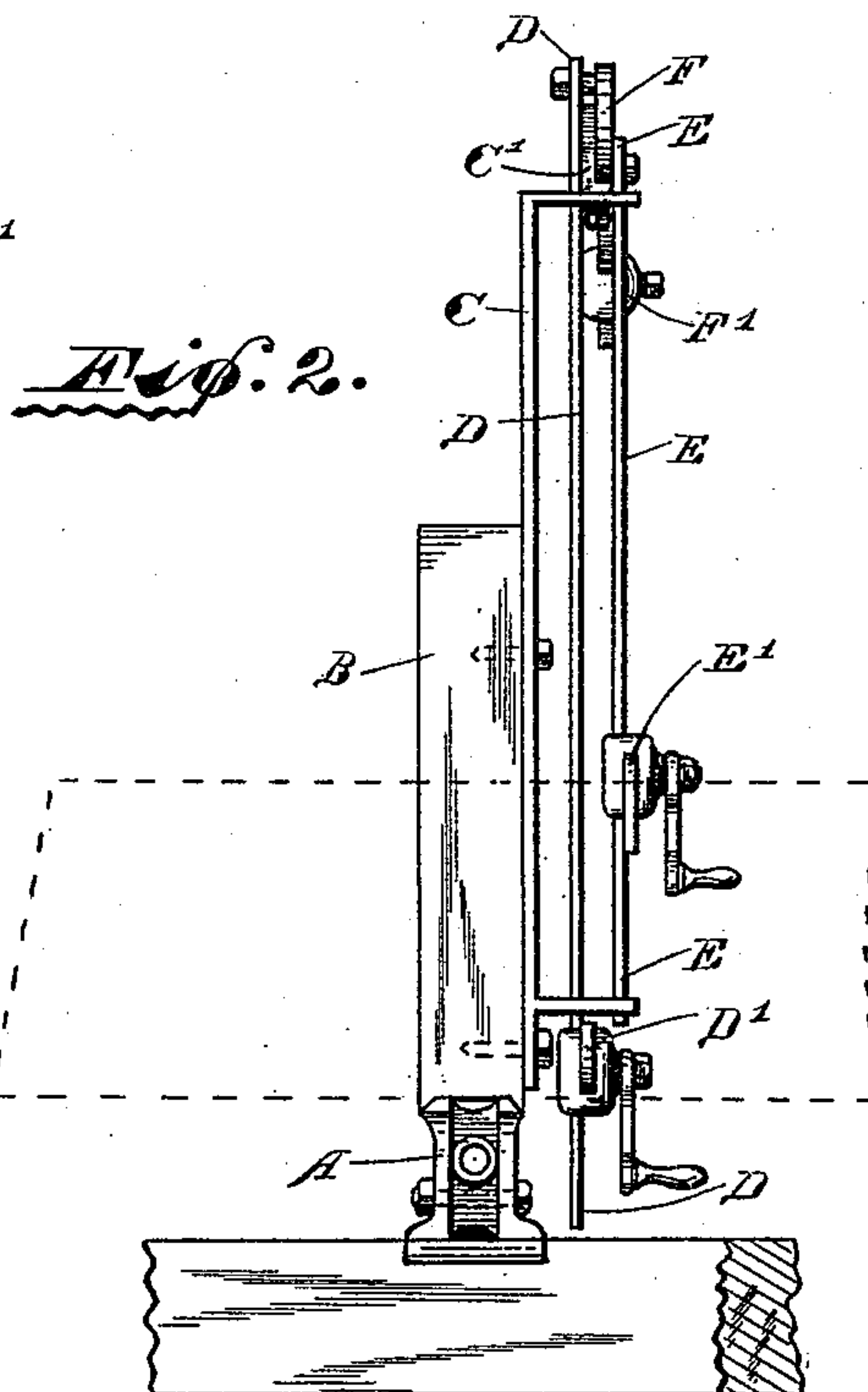
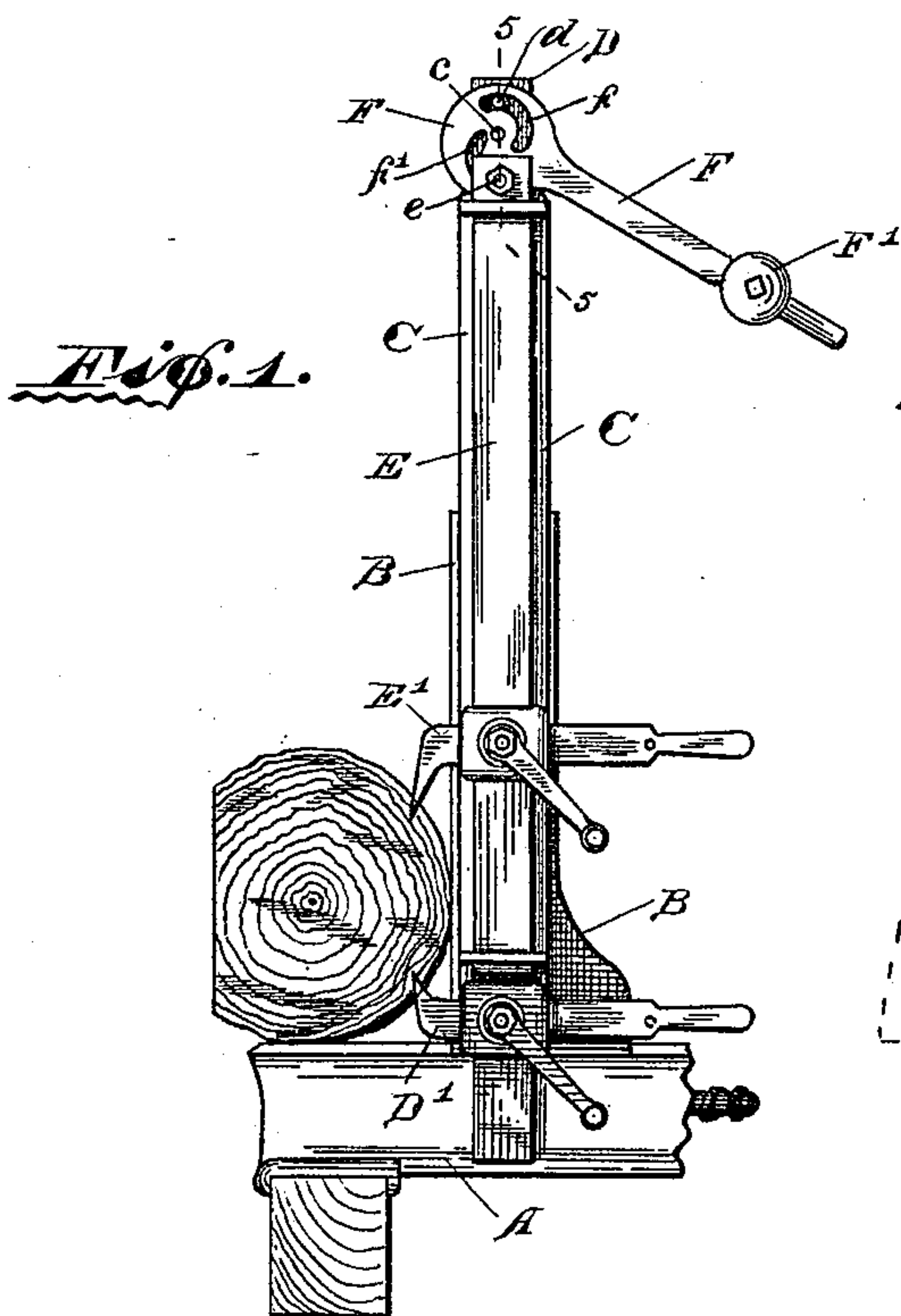


(No Model.)

N. C. BUCH.  
SAW MILL DOG.

No. 441,743.

Patented Dec. 2, 1890.



WITNESSES.

F. Dean Rhodes.  
James A. Walsh.

PER

Nelson C. Buch,  
Ct. E. W. Bradford,  
INVENTOR.  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

NELSON C. BUCH, OF INDIANAPOLIS, INDIANA.

## SAW-MILL DOG.

SPECIFICATION forming part of Letters Patent No. 441,743, dated December 2, 1890.

Application filed May 10, 1890. Serial No. 351,267. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON C. BUCH, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Saw-Mill Dogs, of which the following is a specification.

My said invention relates to that class of devices for securing logs on the carriages of saw-mills while being sawed into lumber, known as "saw-mill dogs;" and it consists in certain improvements in the means for operating the bars carrying the dogs proper, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts, Figure 1 is a side elevation of a saw-mill dog and immediately adjacent parts, including a log in position for sawing, in the position they occupy when in operation embodying my said invention; Fig. 2, a front elevation of the same, the position of the log being indicated by dotted lines; Fig. 3, a top or plan view of the upper end of the device, on an enlarged scale; Fig. 4, a fragmentary side elevation similar to a portion of Fig. 1, also on an enlarged scale; and Fig. 5, a detail sectional view looking toward the right from the dotted line 5 5 in Figs. 1 and 4.

In said drawings, the portions marked A represent the sill of a saw-mill head-block; B, the knee mounted on said sill; C, the dog-frame secured to said knee; D, a vertical bar carrying the lower dog and mounted in said frame; E, a similar bar carrying the upper dog, and F a handle or lever, by which said two bars, or either of them, may be operated when the apparatus is in use.

My present invention relates particularly to the construction and operation of the handle or lever F and its connection with the bars D and E. The other parts are shown mainly for the purposes of illustration, as they do not in themselves embody my present invention. Their operation and relative arrangement will be understood from the drawings.

The operating lever or handle F is mounted upon a central pivot or stud-shaft *c*, which extends out horizontally from an upright

plate *C'*, secured on the frame C (preferably by bolts *c'*) for the purpose of carrying said stud-shaft, and rotates thereon. When used with a double dog, as shown in the drawings, it has two cam-slots *f* and *f'*, which engage, respectively, with studs or pins *d* and *e* on the bars D and E. Where a single dog is used there would of course be but one bar, one slot, and one stud or pin. As will be noticed, the arrangement is such that the horizontal stud-shaft and the studs or pins on the vertically-moving bar are substantially in the same vertical plane.

One particular advantage of my arrangement is that the connection to the bars is such that they are operated directly vertically by a powerful cam, and in the case of the double dog, the head of the lever (or cam-plate) being comparatively thin, the two bars are relatively quite close together and the dogs operate substantially opposite to each other. This also enables both dogs to be located upon one side of the head-block. It also enables the apparatus to be constructed at a less cost than where the bars are farther apart, necessitating increased size and strength of the supporting-frame, thus taking up more room, which is undesirable.

To facilitate the operation of my improved device, I prefer to case-harden the faces of the cam-slots and place upon the studs or pins *d* and *e* small hardened anti-friction sleeves *s*, as illustrated most plainly in Figs. 4 and 5. To assist in holding the dogs firmly into engagement with the log when the device is in operation, as shown in Fig. 1, I prefer to place upon the outer end of the lever or handle F a weight *F'*, with the obvious result.

My invention as a whole is of simple and durable construction, easily operated, and efficient. The frame C can be easily and quickly forged out of wide bar-iron, and the vertical bars D and E are plain bars of such iron of somewhat less width, passing through slots in said frame and provided only with the studs or pins *d* and *e*. To them are secured in any desired manner the dogs *D'* and *E'*.

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



1. The combination, in a saw-mill dog, of a vertical frame-work, a vertically-moving bar or bars mounted in ways on said frame-work, a horizontal stud-shaft on said frame-work, a horizontal pin on each of the vertically-moving bar or bars, arranged in substantially the same vertical plane as said stud-shaft, and a handle or lever F, mounted on said stud-shaft and having a cam slot or slots which engage with said pin or pins on said vertically-moving bar or bars, which bar or bars carry the dog or dogs, substantially as set forth.

2. The combination, in a saw-mill dog, of a suitable frame, two vertical bars carrying the dogs proper, mounted in ways or bearings in said frame and provided at their upper ends with horizontal studs or pins, a handle or lever mounted on a horizontal stud-shaft on a part of said frame and between said vertical bars and provided with two cam-slots, one upon each side of its bearing, which engage with the studs or pins on said vertical bars, whereby they are operated simultaneously and the dogs forced toward or from each other, substantially as set forth.

3. The combination, in a saw-mill dog, of the vertical frame-work C, the two vertically-moving dog-carrying bars D and E, mounted in bearings in said frame-work, a horizontal stud-shaft upon the upper portion of said frame-work, horizontal pins or studs upon the upper ends of said vertically-moving dog-carrying bars, and a handle or lever F, having a large flat head, mounted centrally upon said horizontal stud-shaft and provided with cam-slots formed in its head upon opposite sides of the central hole forming the bearing for said stud-shaft, and adapted to engage with the studs or pins on the bars, said several parts being arranged and operating substantially as shown and described.

In witness whereof I have hereunto set my hand and seal at Indianapolis, Indiana, this 7th day of May, A. D. 1890.

NELSON C. BUCH. [L. S.]

Witnesses:

CHESTER BRADFORD,  
E. W. BRADFORD.