

No. 725,327.

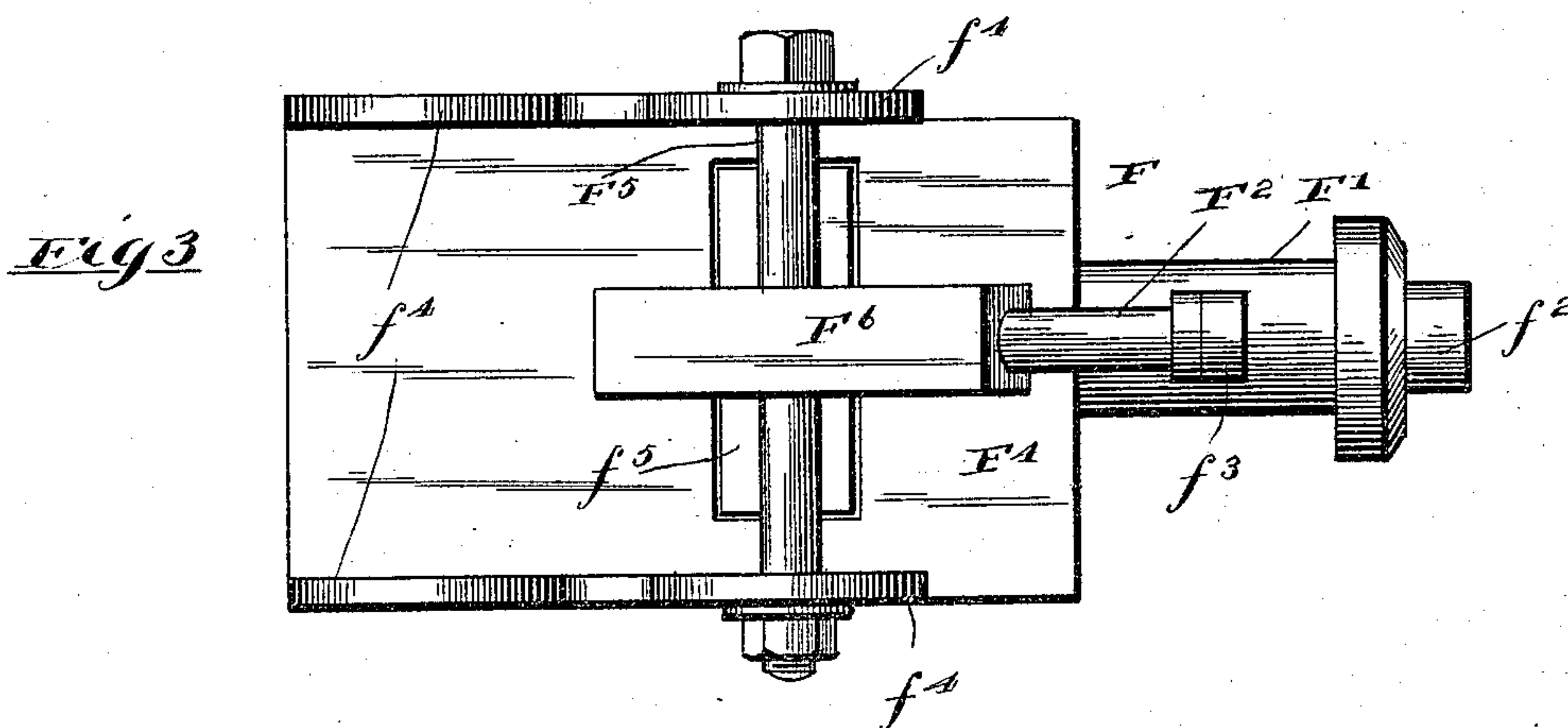
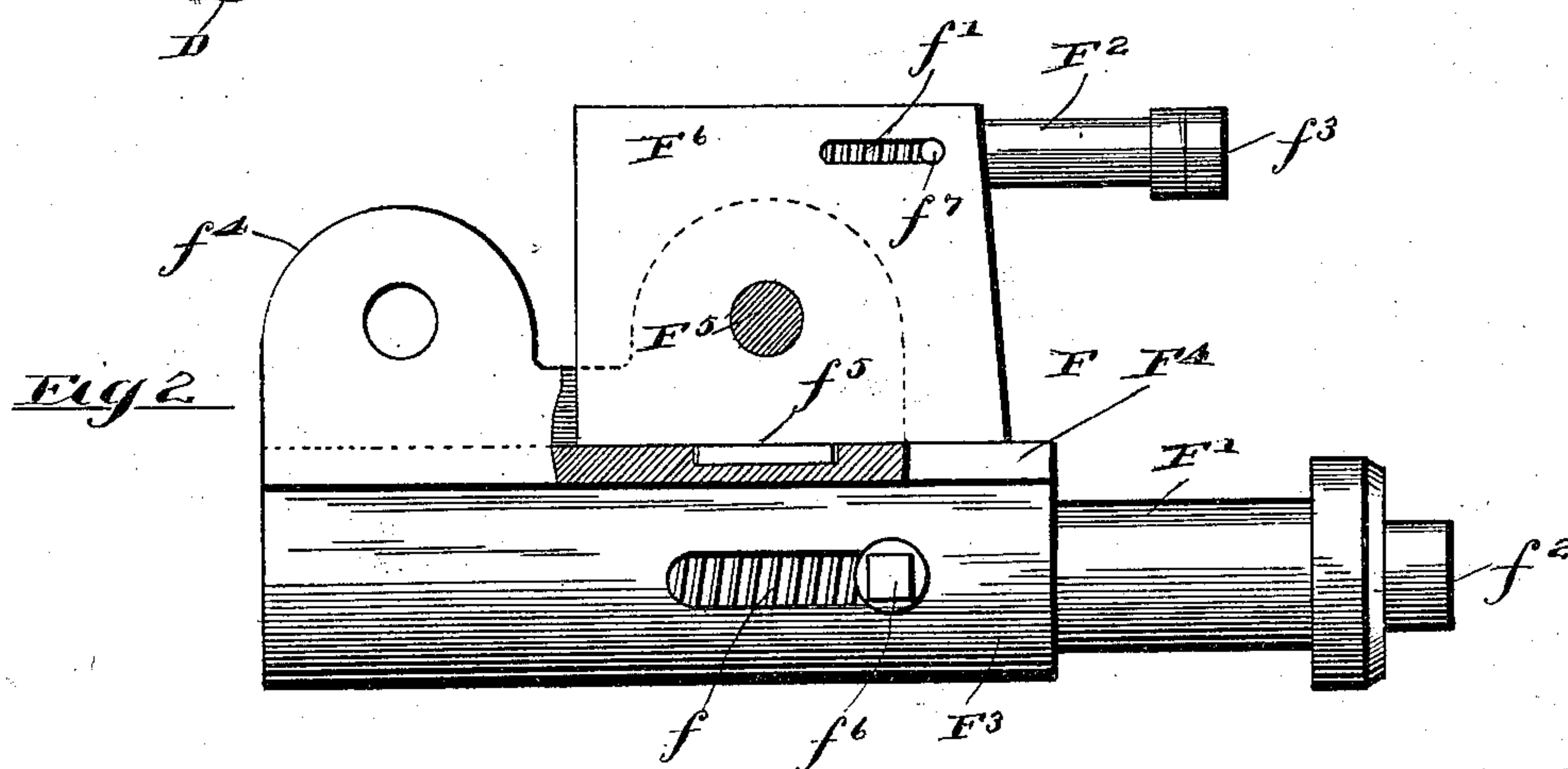
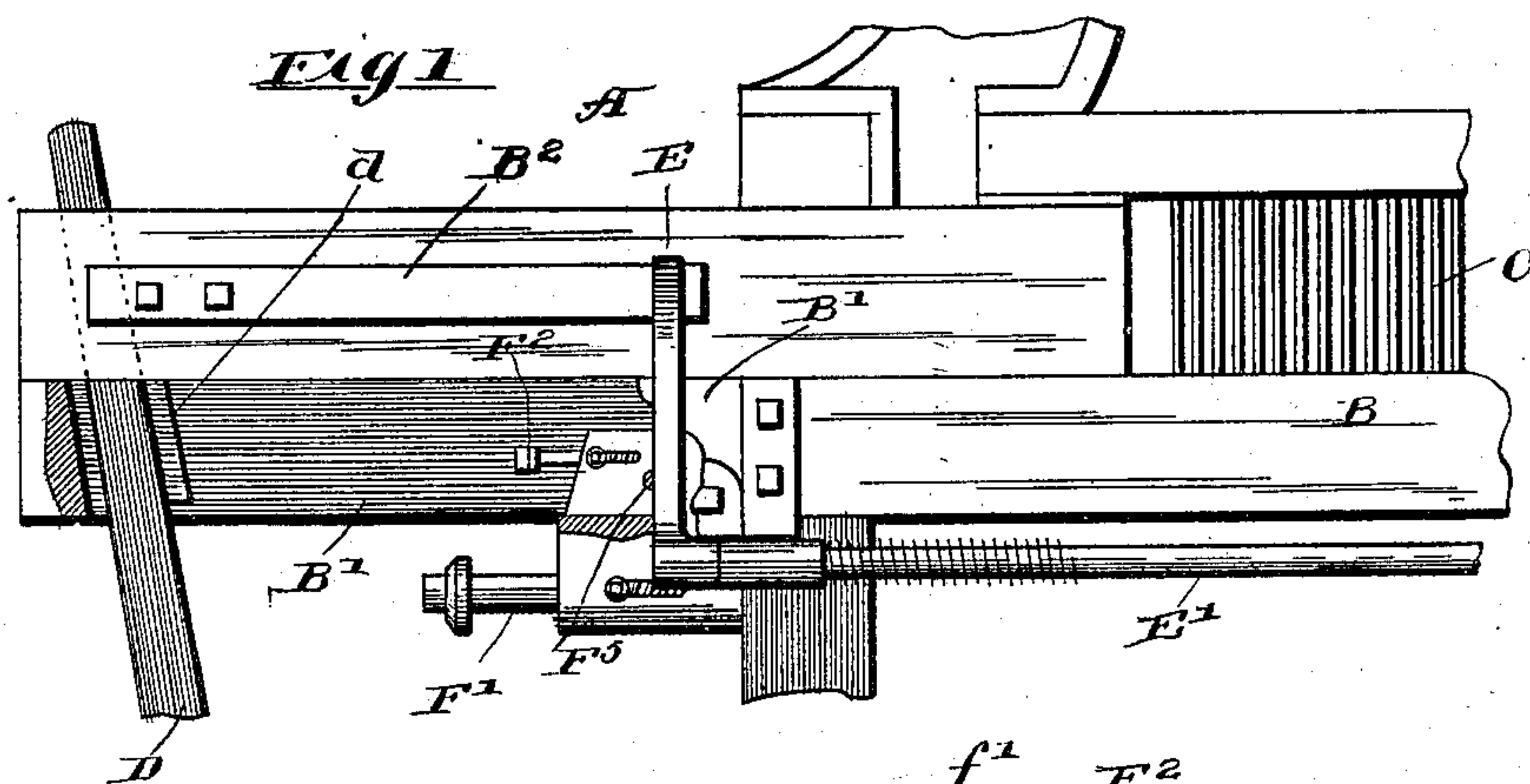
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M. DUMONT.

BUFFER FOR PICKER STICKS OF LOOMS.

APPLICATION FILED OCT. 26, 1901.

NO MODEL.



Witnesses:

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UNITED STATES PATENT OFFICE.

MAURICE DUMONT, OF AURORA, ILLINOIS.

BUFFER FOR PICKER-STICKS OF LOOMS.

SPECIFICATION forming part of Letters Patent No. 725,327, dated April 14, 1903.

Application filed October 26, 1901. Serial No. 80,033. (No model.)

To all whom it may concern:

Be it known that I, MAURICE DUMONT, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful
5 Improvements in Buffers for Picker-Sticks of Looms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of
10 this specification.

This invention relates to improvements in looms, and relates more particularly to improved devices for arresting the movement
15 and absorbing the blow of the picker-stick at the inward limit of its throw.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

20 In the drawings, Figure 1 is a fragmentary view of one side of the lay of a loom, illustrating the upper end of the picker-stick and my improved buffer. Fig. 2 is a side elevation of the buffer removed from the machine
25 with parts broken away. Fig. 3 is a top plan view thereof.

As shown in said drawings, A designates as a whole parts of the lay of a loom embracing a shuttle-race B, reed C, and a picker-stick
30 D, which latter carries at its upper end on its inner face the usual picker *d*. The upper end of said picker-stick extends through a slot formed between guide-boards B' B' at the ends of the shuttle-race, as shown in
35 Fig. 1.

B² designates a binder constituting part of the shuttle-box, which is located at the end of the shuttle-race. Said binder is held in place by means of an arm E on the end of a
40 horizontal rotative spring-pressed protector-shaft E', journaled in bearings on the lay-frame in the manner shown in Fig. 1. The upper end of said arm acts against the binder to hold the same in place and swings out-
45 wardly when the binder is moved outwardly by the entrance of the shuttle to the box, and the spring *e* of the protector-shaft acts to hold the shuttle in proper position when said shuttle is in the shuttle-box in a familiar manner.

50 So far as the mechanism thus far described is concerned such mechanism may be of any form peculiar to the various types of looms

in use, it being understood that the improvements constituting my invention are capable of adaptation to all of the various forms of
55 looms embodying as a part of the construction thereof picker-sticks for imparting a to-and-fro movement to the shuttle. It will be understood, furthermore, that the parts illustrated in Fig. 1 are for one side of the loom
60 only and that such parts are duplicated on the opposite side of the complete loom.

Referring now to the improvements constituting my invention, these parts are made as follows: F designates as a whole a buffer,
65 which is attached to the lay-frame and is located in position to receive the blow or impact of the picker-stick when the same is swung inwardly to throw the shuttle through the shed or between the upper and lower
70 parts of the warp. The buffer F is shown in detail in Figs. 2 and 3 and embraces in the instance shown two parallel spring-pressed plungers F' F², located in the path of the
75 picker-stick in position for contact with said stick when the latter is swung inwardly to throw the shuttle through the shed. Said plungers F' F² act against the tension of spiral expansion-springs *f f'*, located in rear
80 of the plungers. That one of said plungers (the lower one F') located nearest the axis of vibration of the picker-stick is made of greater strength than the other plunger and extends toward the picker-stick in advance
85 of the upper one. The picker-stick, therefore, is first brought into contact with the lower spring-pressed plunger, which latter receives the first blow of the picker-stick and partially arrests the movement and partially
90 absorbs the blow thereof and thereafter is brought into contact with the upper spring-pressed plunger, which latter acts, in conjunction with the lower plunger, to fully arrest the movement of the said picker-stick. The
95 spring *f*, against which the lower plunger F' acts, is made stronger than the spring *f'* of the upper plunger F². The outer ends of said plungers are desirably provided with yielding tips or contact-pieces *f*² or *f*³ to prevent the picker and picker-stick being marred by
100 contact with said parts.

The lower plunger and its spring *f* are confined in a barrel or axially-cored casting F³, formed integral with a cast plate F⁴, by means

of which the buffer is attached to the lay-frame. In the present instance the cast plate F^4 is attached to the guide-boards $B' B'$ of the said frame, said plate being provided at its side margins with vertical lugs f^4 , which fit against the side faces of the said boards and are attached thereto by means of bolts F^5 , (one of which is shown in Figs. 2 and 3,) extending through the said boards and the lugs.

The plunger F^2 and its spring f' are shown as being confined in an axial recess formed in a cast-metal block F^6 , which is detachably secured to the upper face of the plate F^4 . In the present instance said block is provided on its lower margin with a short base-flange f^5 , which enters an upwardly-opening recess in the upper face of the plate F^4 , and said block is provided with a transverse opening through which one of the bolts F^5 extends.

The said block F^6 extends upwardly into the slot between the guide-boards B' , as most clearly shown in Fig. 1, and fits closely in said slot, and the plunger F^2 thereof is elevated sufficiently for contact with the picker d .

Said plungers are provided with transverse stop-pins $f^6 f^7$, Fig. 2, which engage slots in the barrel F^3 and block F^6 at the sides of the plungers and act against the outer ends of the slots to limit the outward movement of the plungers.

By the use of the buffing device described the blow of the picker-stick when swung inwardly to throw the shuttle through the shed is gradually absorbed, thereby preventing sudden jars or concussions coming against said picker-stick and the associated parts, which would otherwise tend to rack and break the same. The arrangement whereby the picker-stick strikes one of the plungers in advance of the other is an advantageous one, as it serves to more gradually absorb the blow and renders it unnecessary to use a spring of such strength as to be insufficiently resilient.

The relative arrangement and proportion of the parts may be varied to suit looms of different types, as best practice may dictate, and the structural details may be varied without departing from the spirit of my invention. I do not wish to be limited to the specific details and arrangement shown except as hereinafter made the subject of special claims.

I claim as my invention—

1. In a loom, the combination with the vibratory picker-stick, of a buffer for limiting the inward throw of said picker-stick comprising two spring-pressed plungers, both located in the path of said stick, the plunger located nearest the axis of vibration of the picker-stick extending toward the picker-stick in advance of the other plunger, and adapted to receive the first impact of the

stick, and the spring associated with the advance plunger being stronger than the other spring.

2. In a loom, the combination with the lay-frame and the picker-stick, said frame being provided at the end of the shuttle-race with a slot in which said picker-stick vibrates, of a buffer for limiting the inward throw of the picker-stick comprising two spring-pressed plungers one located above the other, the upper one of said plungers being located in said slot of the lay-frame and the lower plunger extending toward the picker-stick in advance of the upper plunger.

3. A buffer for looms, comprising a cored barrel, a plunger, one end of which enters said barrel, a spring interposed between said plunger and the end of the barrel, a part above said barrel having a socket or recess, a plunger in said recess, a spring weaker than the first-mentioned spring interposed between the end of the recess and the plunger, said first plunger extending at its outer end in advance of the plunger above the same, and means for attaching the buffer to a loom.

4. A buffer for looms comprising a cored barrel, a plunger, one end of which enters the barrel, a spring interposed between said plunger and the end of the barrel, a block detachably connected with said barrel and located above the same and provided with a socket or recess, a plunger entering said socket or recess, a spring interposed between the end of said recess and the plunger, said first plunger extending at its outer end in advance of the plunger above the same, and means for attaching the buffer to a loom.

5. A buffer for looms comprising a casting having a cored barrel, a plunger, one end of which enters said barrel, a spring interposed between said plunger and the end of the barrel, a block which has interlocking connection with said casting and located above the same and provided with a socket or recess, a plunger entering said recess, a spring interposed between the end of said recess and the plunger, said plungers extending beyond the barrel and recess for engagement with the picker-stick, and attaching-lugs on said casting, said lugs and the block being provided with registered apertures through which extends the attaching-bolt for the buffer.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 19th day of October, A. D. 1901.

MAURICE DUMONT.

Witnesses:

TAYLOR E. BROWN,
WILLIAM W. HALL.