

2 Sheets—Sheet 1.

No. 378,683.

Patented Feb. 28, 1888.

Fig. 1.

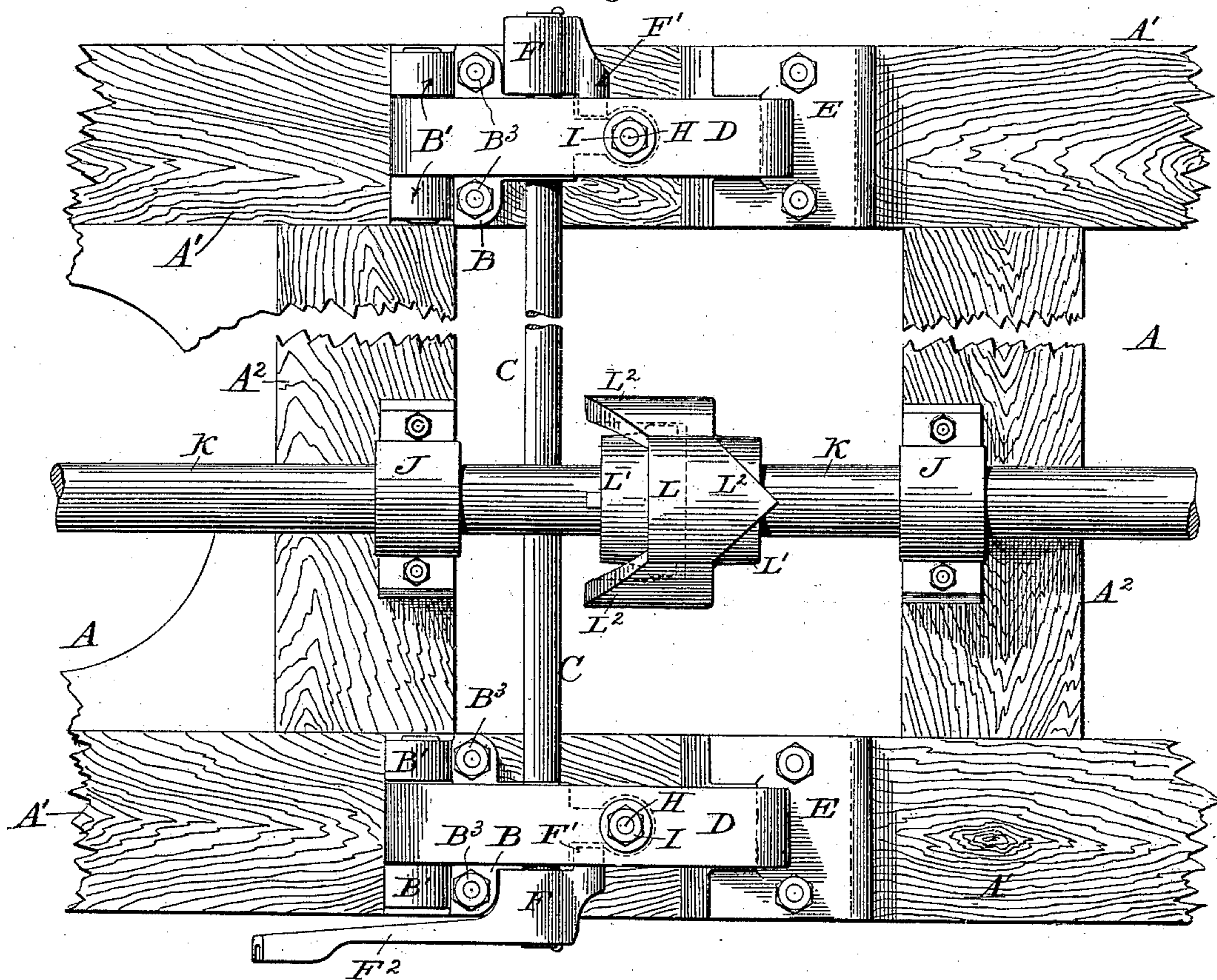
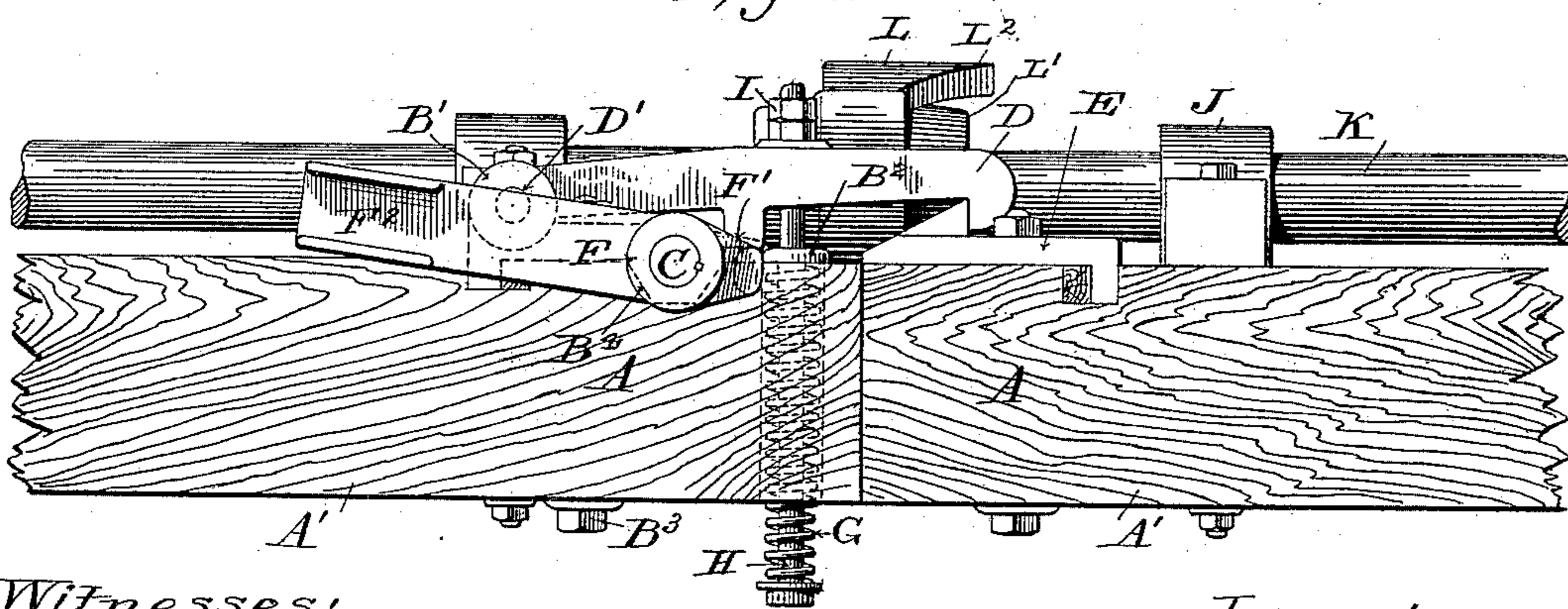


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

G. M. HINKLEY.
SAW MILL CARRIAGE.

No. 378,683.

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Fig. 3.

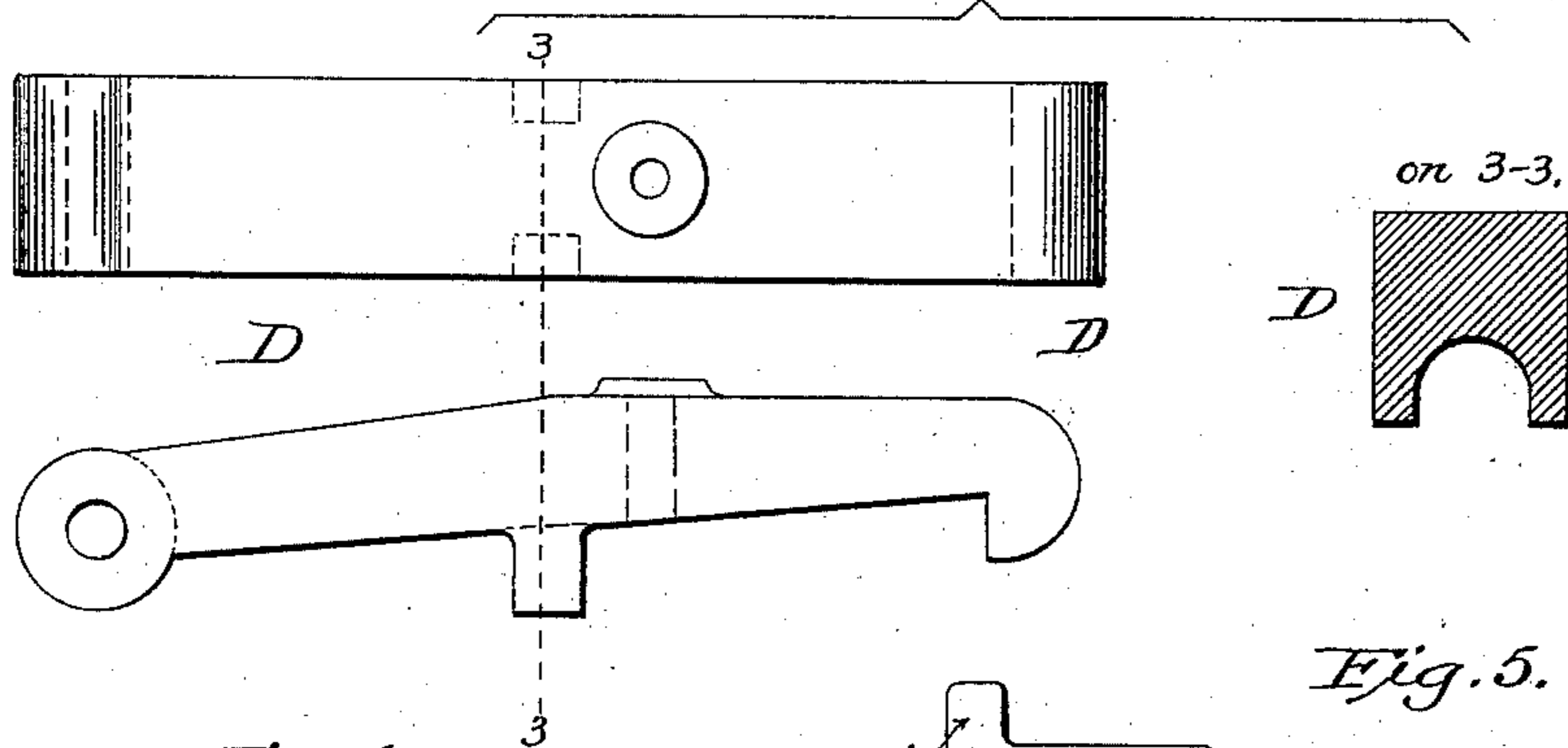


Fig. 4.

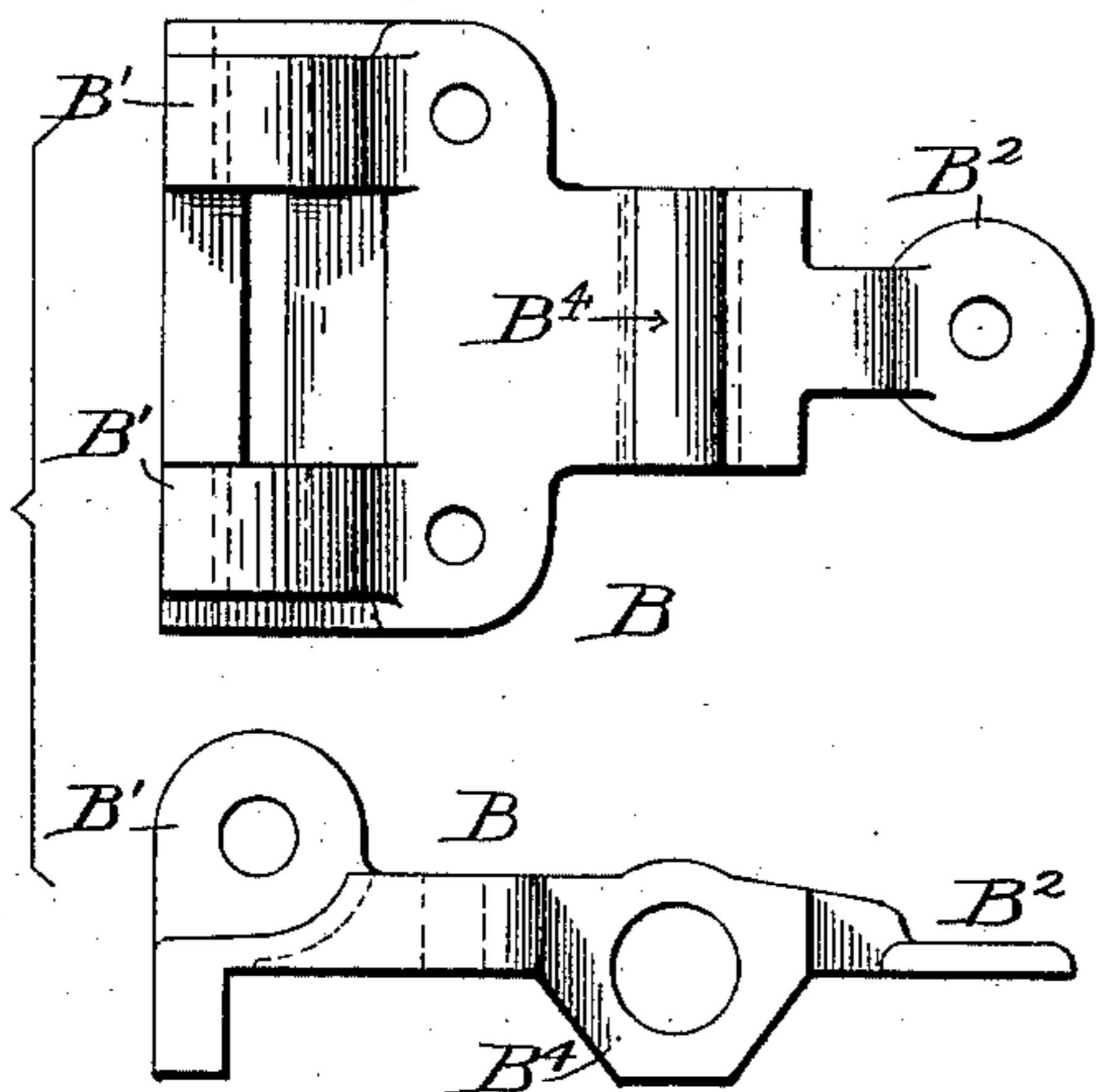


Fig. 5.

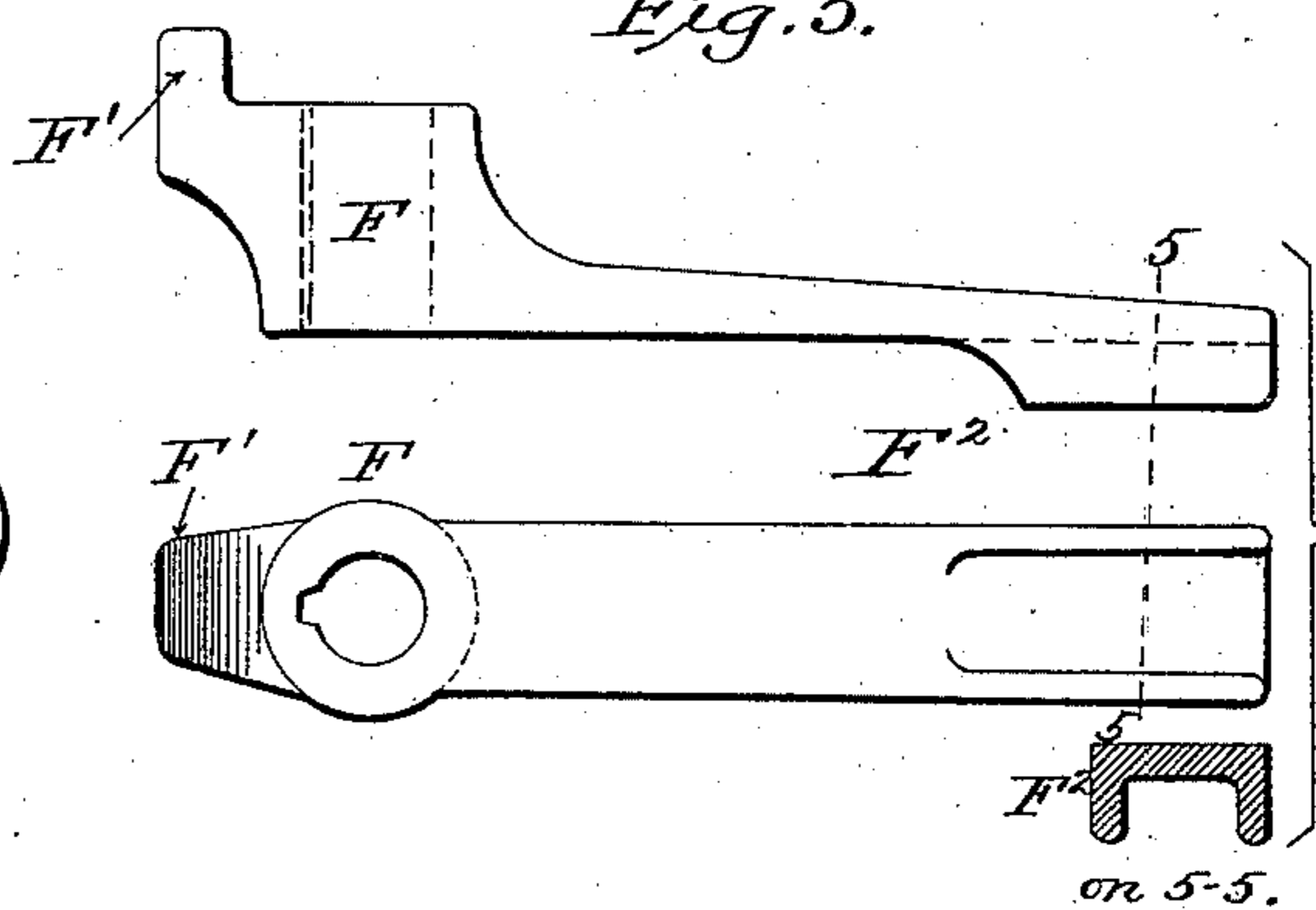


Fig. 7.

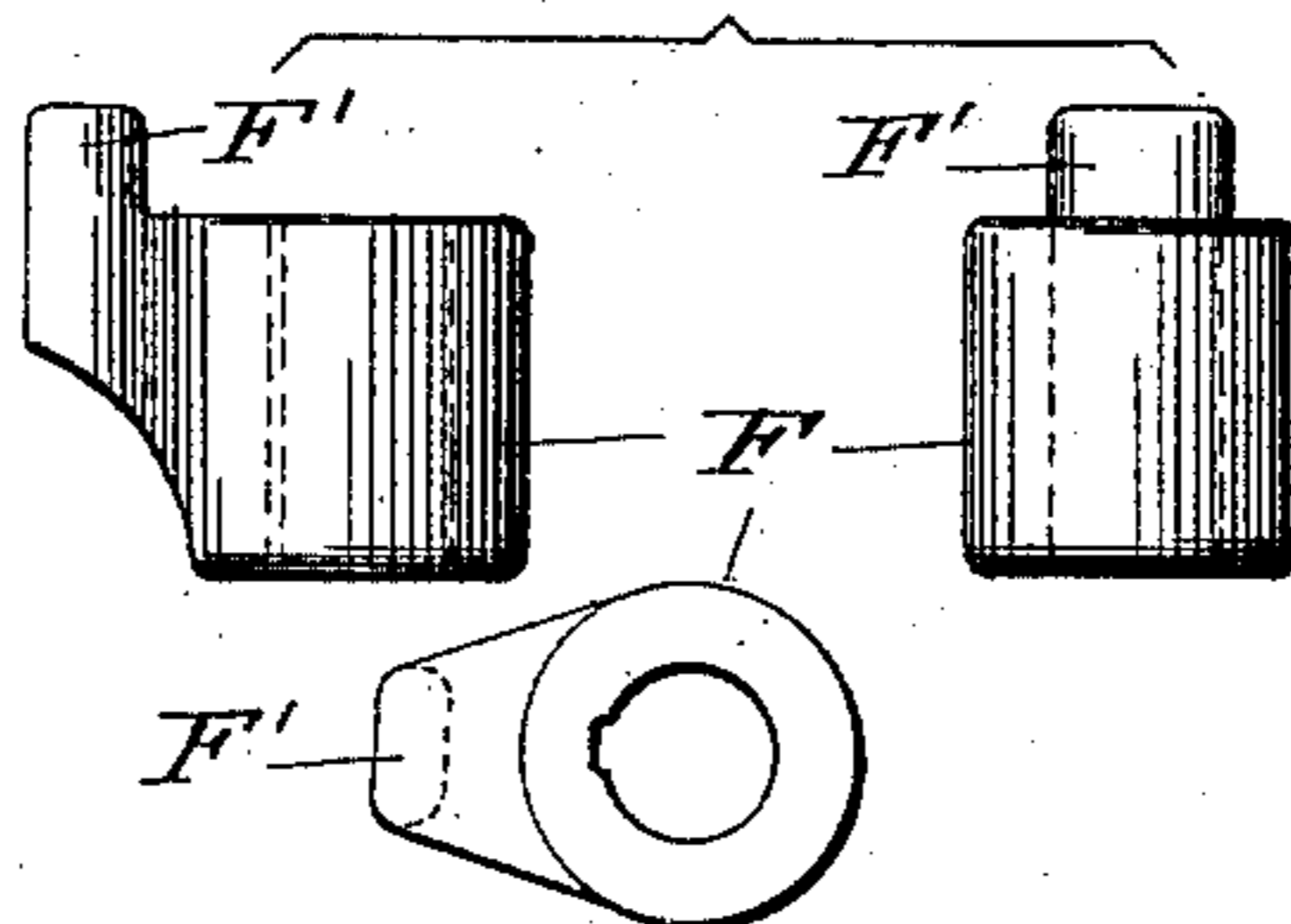


Fig. 8.

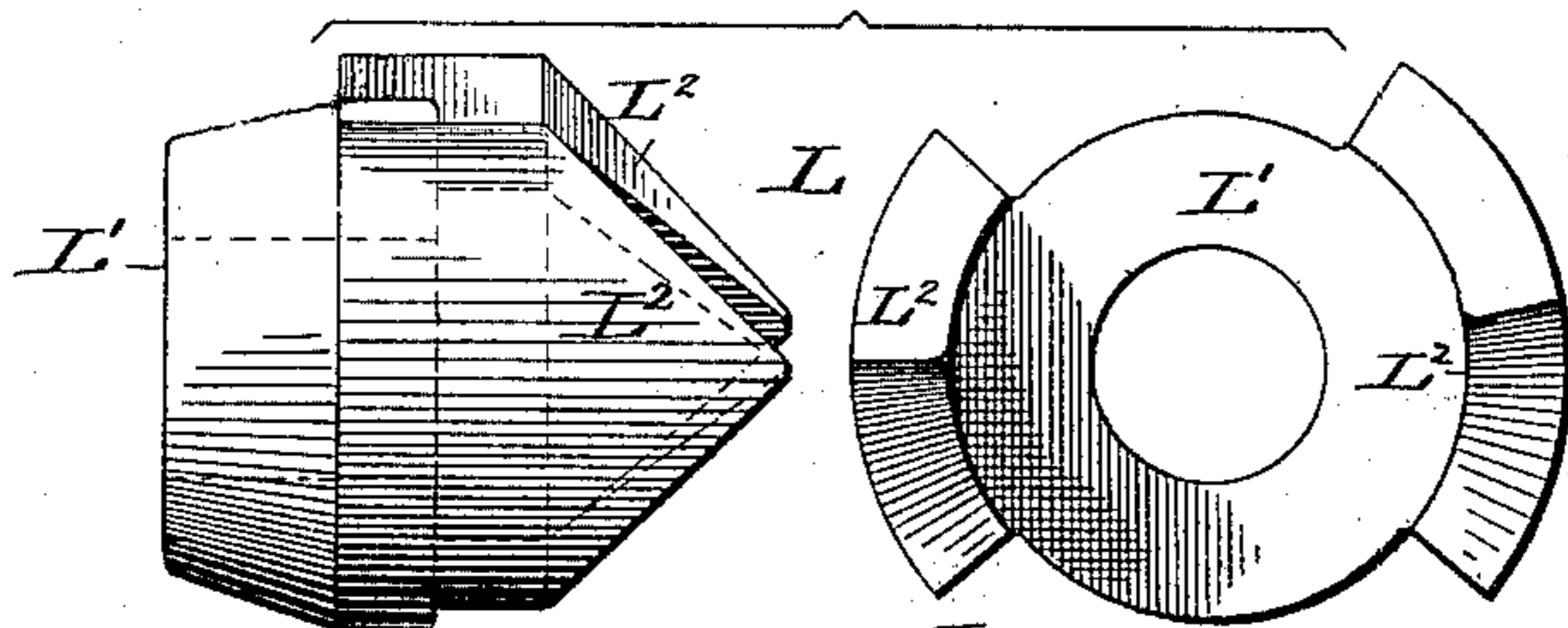
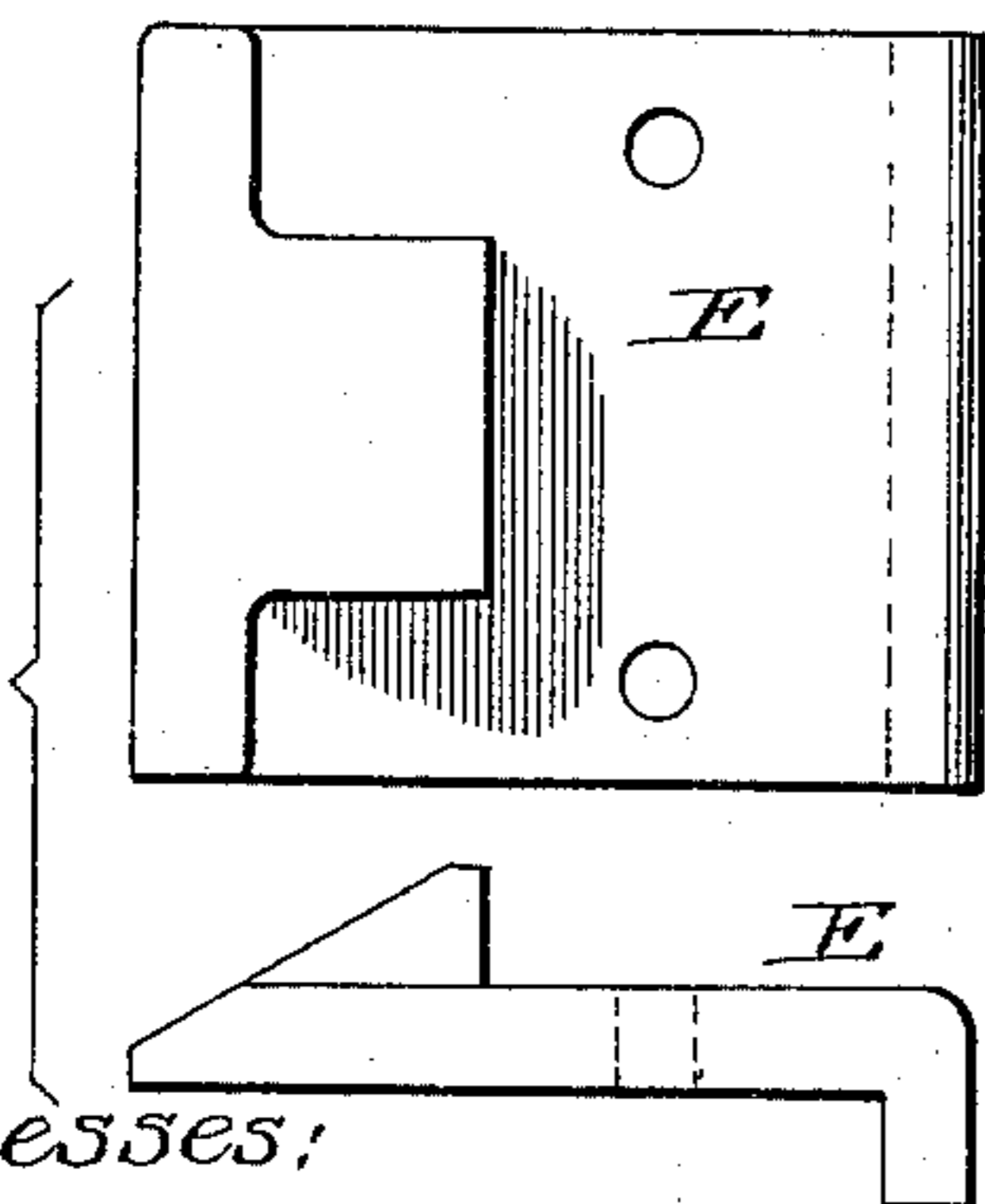


Fig. 6.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE M. HINKLEY, OF MILWAUKEE, WISCONSIN, ASSIGNOR OF ONE-HALF TO EDWARD P. ALLIS & CO., OF SAME PLACE.

SAW-MILL CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 378,683, dated February 28, 1888.

Application filed October 12, 1887. Serial No. 252,135. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. HINKLEY, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Saw-Mill Carriages, of which the following is a specification.

My invention relates to connecting devices for saw-mill carriages; and it consists in various features and details, hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a top plan view of the adjoining ends of two saw-mill carriages connected together in accordance with my invention; Fig. 2, a side view of the same; and Figs. 3, 4, 5, 6, 7, and 8, detail views.

Owing to the difference in the length of logs that are to be sawed, it is desirable to have the length of the saw-mill carriage approximately the same as the length of the log, in order that the knees may support the log at its ends as well as at a point between its ends. To provide for this it has been customary to make the carriage of a series of sections capable of being connected with or disconnected from one another.

The object of my invention is to provide means whereby this coupling may be automatically performed, while at the same time permitting the ready disconnection of the carriage-sections.

Another feature of my invention consists in the means for coupling the set-shafts of the various carriages, so as to operate the knees on each separate carriage or section of the carriage simultaneously and equally.

Referring again to the drawings, A A indicate two saw-mill carriages, A' A' the longitudinal timbers thereof, and A² A² the transverse timbers, as clearly shown in Figs. 1 and 2.

Secured to the upper sides of the timbers A', near their ends, are plates B, (shown in Figs. 1, 2, and 4,) said plates being provided at their inner ends with upwardly-extending perforated ears B', and at their outer ends with a flat perforated arm, B², as also shown in said figures. These plates B are secured to the carriage-timbers by means of bolts B³, as clearly shown in Figs. 1 and 2, and are each provided

with a box or bearing, B⁴, as shown in Fig. 4, to receive a shaft, C, extending transversely across the carriage, as shown in Fig. 1. The plates B are duplicates of each other, and each supports one end of the shaft C.

D represents a catch or hook, which is pivoted by means of a bolt or stem, D', to the inner end of the plate B, the said arm or bolt passing through the perforated ears B' and through the perforated end of the hook or catch, as shown in Figs. 1 and 2. The outer end of this hook D is adapted to engage with a plate or keeper, E, bolted or otherwise secured to the end of the side timbers of the adjacent carriage A, the plate being provided with a beveled nose, up which the end of the hook or catch D rides when the two sections of the carriage are brought together.

In order to raise the catches D out of engagement with the plates E, the shaft C is provided at each end with a hub or collar, F, each of which is in turn provided with a finger, F', which latter project inwardly toward each other beneath the catches D, as clearly shown in Fig. 1. At one end of the shaft the collar F is formed integral with a foot-lever, F², as shown in Figs. 1, 2, and 5, and as both the collars F are keyed or otherwise firmly secured to the shaft C, by pressing downward upon the foot-lever F² the shaft C will be rocked in its bearings, and the arms or fingers F, engaging the under side of the hooks or catches D, will raise or elevate the latter out of engagement with the plates E.

In order to keep the hooks or catches D in engagement with the plates E, I provide each of said hooks with a strong spiral spring, G, which passes through a hole in the longitudinal timbers of the carriage and bears at one end upon the under face of the arm B², while its other end rests upon a washer which is carried at the lower end of a rod, H. The stem or rod H projects upwardly through the arm B² and through the pivoted catch or hook D, where it is provided with nuts I, by turning or loosening which the tension of the spring may be varied.

J J represent boxes or bearings secured to the transverse timbers A², and K K represent set-shafts of the carriages, which are journaled

in the boxes or bearings J J. Secured upon the end of each shaft K is a clutch-hub, L, of the form shown in Figs. 1, 2, and 8. Upon reference to these figures it will be seen that
 5 each section L comprises a hub, L', and two arms, L², of the form shown in Figs. 1, 2, and 8. The arms L² of each hub or clutch are separated from each other a distance greater than or in excess of the diameter of the hub
 10 L, and it will also be noticed that the greatest circumferential measurement of the arms L² is about one-fourth of the circle described by their circumference. It will also be noticed that the arms L² each terminate in a point,
 15 and are beveled each way from said point toward their main body or hub. From this construction it follows that as soon as the two sections of the set-shaft are brought together the beveled faces of the arms L² on one section of
 20 the shaft will strike against the correspondingly-beveled faces of the arms L² of the other section K, and as the carriages or carriage-sections are brought closer together the action of these inclined faces of the arms L² is such
 25 as to cause the arms of one clutch to pass between the arms of the other clutch, the arms of each clutch-section riding over the hub of the other clutch-section. An advantage of this construction lies in the fact that as the
 30 two sections, or two separate set-shafts K K, are thus connected the set-shafts are each rotated or turned a slight distance one way or the other, so as to bring all the knees on the connected carriages or connected sections of
 35 carriages into alignment.

It is obvious that in lieu of using the foot-lever for releasing the hooks or catches D a hand-lever might be substituted. It is also obvious that only one hook D and plate E could
 40 be used; but I prefer the arrangement shown, for the reason that it holds the ends of the carriages close together and prevents any strain upon the set-shafts.

A flat spring or weight may be substituted
 45 for the spiral spring, if desired; but I prefer the construction shown.

Having thus described my invention, what I claim is—

1. In combination with two saw-mill carriages or two sections of a carriage, each provided with suitable set-works, a coupling device for connecting the two carriages or the two carriage-sections, and a coupling device for connecting the set-shafts of the different
 55 carriages.

2. In combination with two saw-mill carriages or carriage-sections, hooks, as D D, pivoted to one of said carriages on its front and rear sides, and plates or keepers E E, secured upon the other carriage in position to
 60 be engaged by the hooks, all substantially as shown, whereby the ends of the carriage when brought together are prevented from moving relatively to each other.

3. In combination with two saw-mill carriages or carriage-sections, hooks, as D D, pivoted to the longitudinal timbers of one of the carriages, plates or keepers, as E E, secured upon the other carriage in position to be engaged by the hooks, a rock-shaft extending transversely across one of the carriages
 70 beneath the hooks and there provided with arms F' F', and a lever, F², secured upon the shaft, all combined and arranged for operation substantially in the manner explained. 75

4. In combination with two saw-mill carriages or carriage-sections, hooks, as D D, pivoted to one of the carriages, plates E E, secured to the other carriage in position to be engaged by the hooks, a rock-shaft, C, journaled in the carriage carrying the hooks, a hub secured upon one end of the shaft and provided with a finger or arm, F', to project beneath one of the hooks, and a second hub secured to the opposite end of the shaft and
 80 provided with a similar finger, F', to project beneath the other hook, and provided, also, with a lever or extension, as F². 85

5. In combination with two saw-mill carriages or carriage-sections adapted to abut
 90 squarely against each other, a coupling device for the carriages or sections applied to the longitudinal timbers of the latter at both sides of the center of the carriages, whereby the two sections are prevented from swinging or moving independently of each other. 95

6. In combination with two saw-mill carriages or carriage-sections, plates or keepers E E, secured to one of said carriages, hooks D D, pivoted in the other carriage and adapted
 100 to engage the keepers, a shaft, C, journaled upon the carriage and provided with arms F', to extend beneath the hooks, and a lever, F², secured to said shaft C and adapted to rock the shaft. 105

7. In combination with carriages A A, provided with pivoted hooks or catches D D, and plates or keepers E E, a rod or stem, H, carried by each hook or catch, a stud or projection upon the lower end of the rod, a spring
 110 encircling the rod, bearing at opposite ends against the stud and a fixed part of the carriage, and nuts I, mounted upon the rod H and serving to adjust the spring, all substantially as shown. 115

8. In combination with two saw-mill carriages or carriage-sections provided, respectively, with hooks D D and plates E E, a rod, H, carried by each hook, and a spring, G, encircling each rod and bearing at opposite ends
 120 against a fixed part of the carriage, and a shoulder or nut upon the rod.

In witness whereof I hereunto set my hand in the presence of two witnesses.

GEORGE M. HINKLEY.

Witnesses:

F. C. ILLING,
 E. F. BYRON.