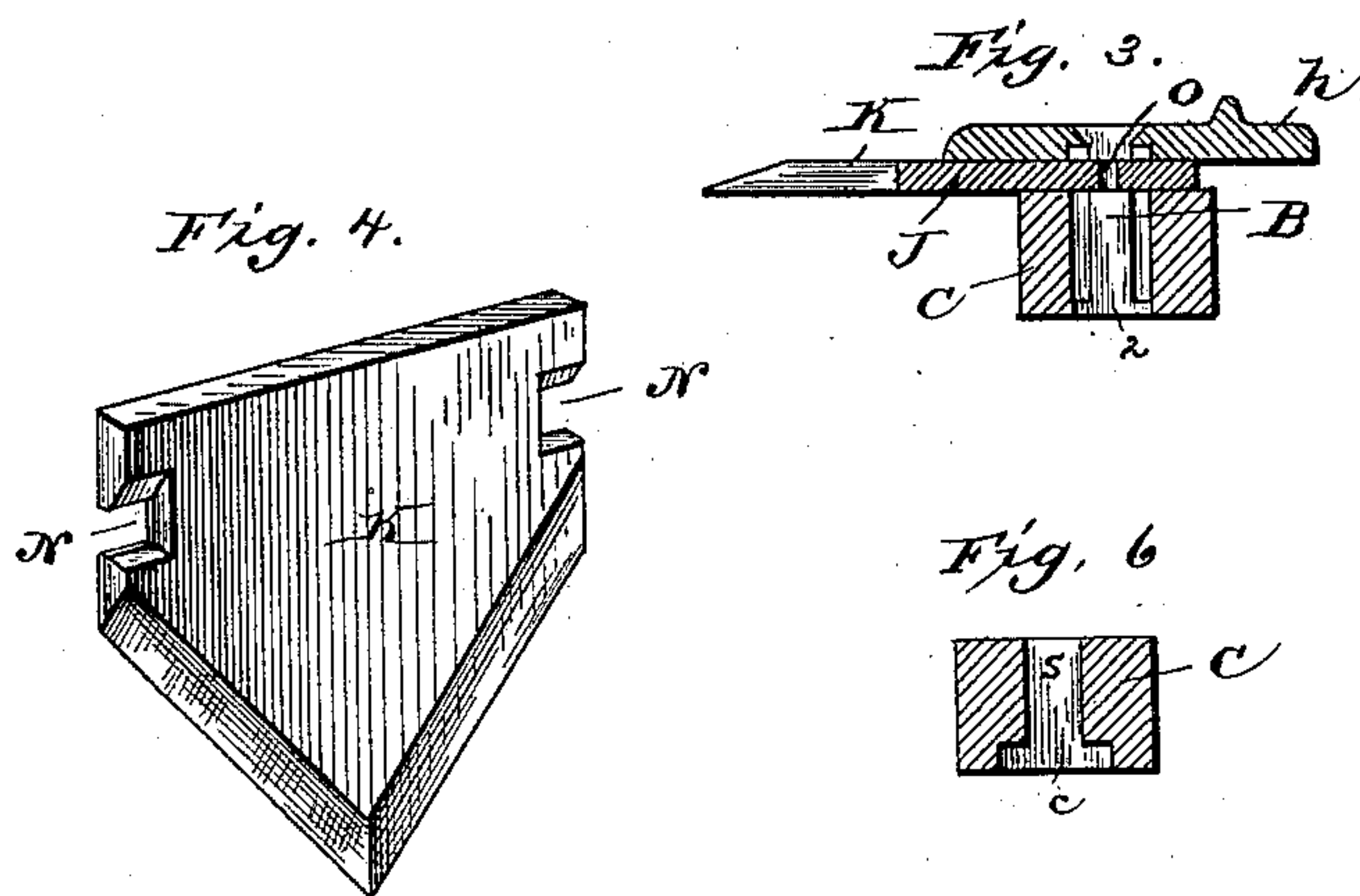
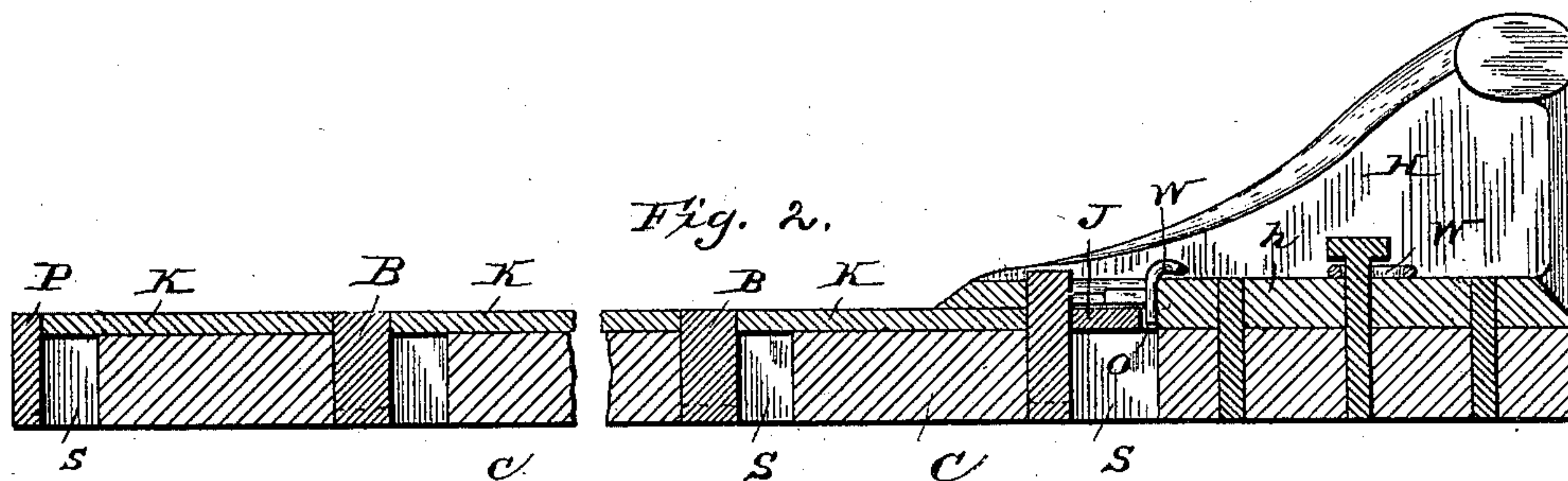
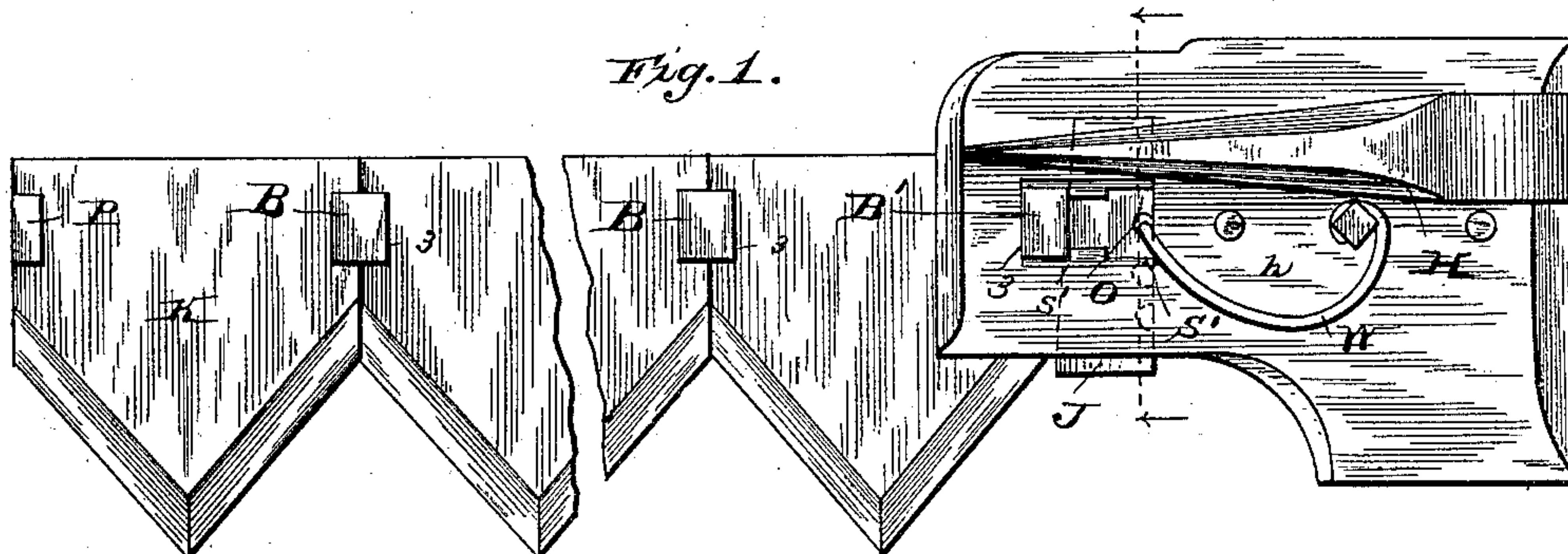


(No Model.)

E. T. SHEPPARD.  
CUTTER BAR.

No. 432,445.

Patented July 15, 1890.



Witnesses  
Harry L. Amer.

Inventor  
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*A. J. Gollamer.*

By his Attorneys

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# UNITED STATES PATENT OFFICE.

ELISHA THOMAS SHEPPARD, OF EXPERIMENT, VIRGINIA, ASSIGNOR OF  
ONE-THIRD TO DAVID S. TURNER, OF SAME PLACE.

## CUTTER-BAR.

SPECIFICATION forming part of Letters Patent No. 432,445, dated July 15, 1890.

Application filed March 28, 1890. Serial No. 345,732. (No model.)

*To all whom it may concern:*

Be it known that I, ELISHA THOMAS SHEPPARD, a citizen of the United States, residing at Experiment, in the county of Amherst and State of Virginia, have invented a new and useful Cutter-Bar, of which the following is a specification.

This invention relates to mowing-machines, and more particularly to the cutter-bars therefor; and the object of the invention is to provide improved means of attaching the knives or blades to said cutter-bar. This object I attain by my improved cutter-bar, which consists, essentially, of a slotted bar, bolts removably inserted through said slots therein, and notches cut in the edges of the knives, together with an improved means for locking the knife next the machine, and certain details of construction of these parts, all as more fully described hereinafter, and as are illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of this improved cutter-bar. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a transverse section through the locking-key. Fig. 4 is a perspective view of one of the knives detached. Fig. 5 is a perspective view of one of the bolts detached. Fig. 6 is a sectional detail view of one of the holes through the cutter-bar.

Referring to the drawings above referred to, the letter C designates the cutter-bar of a mowing-machine, and H is the head thereon, by which it is reciprocated by suitable mechanism, (not shown,) as well understood in the art. The said head has a tongue or projection *h* extending for a short distance over the bar, leaving a slot underneath, and to the upper face of this tongue is secured in any preferred manner a wire spring W, for a purpose to appear hereinafter.

S are square holes cut vertically through the bar, and *s* are smaller holes cut also there-through alongside the larger ones and communicating therewith. The lower ends of these smaller holes are countersunk, as shown at *c*.

S' is a similar hole cut through the tongue *h* directly above and in alignment with the innermost hole S, and *s'* is a smaller hole along-

side thereof, the latter being countersunk, as at *c'*, at its upper end, as shown.

The letter K designates one of the knives usually used upon mowing-machines, and this knife is of the ordinary construction, except that it has a notch N in each side near its rear end, the sides of the notch preferably diverging upward, as shown in Fig. 4. These knives are adapted to be applied to the upper face of the bar C, and are held there by the bolts B, which will now be described. Each of said bolts comprises a body 1, of a size to fit within one of the smaller holes *s*, a head 2 at its lower end, adapted to pass through the larger hole S, but to fit closely within the countersunk lower end of the smaller hole *s*, and a head 3 at its upper end, too large to pass through either hole, but of a shape and size to fit into the notch N in the side of the knife. Said notches in two knives, when the latter are brought together, are just deep enough to permit the edges of the knives to touch in front and in rear of the bolt, and the beveled faces of the notches take closely under those of the head 3 of the bolt, all as shown in the drawings. At the outer end of the bar C is a post or stationary bolt P, beneath the head of which the notch in the outermost knife fits, as will be understood.

For the innermost hole S through the cutter-bar a longer bolt B' is provided. This bolt also has a body 1 and heads 2 and 3, the same as the others, except that the body is slightly longer to permit its passing through the tongue *h*, as appears in Fig. 3.

The centers of the smaller holes throughout the length of the bar C stand just beneath the meeting edges of the knives. Between the inner end of the slot beneath the tongue *h* and the bolt B' when in place a wedge J may be inserted, which forces all the knives on the bar outward and secures them in proper position beneath the heads of their several bolts. The wedge has holes or notches O cut therein, and into them, or one of them, the free end of the wire spring W rests when the parts are assembled, thereby preventing the dislocation of the wedge and hence the displacement of any of the knives. When it is desired to remove or replace one of the lat-



ter, the wedge is first removed, and then each of the knives moved inwardly upon the bar until the one in question is reached, when it can be detached, as will be understood.

5 This invention possesses great simplicity of construction, yet durability and rigidity of parts, and it avoids the use of bolts with nuts, which are liable to come loose in the act of moving, and thereby cause great inconvenience and trouble to the user.

I claim as the salient points of my invention—

1. The combination, with the cutter-bar having holes therethrough, one side of said holes 15 being reduced in size, of the knives having notches in their adjacent edges and headed bolts, their shanks fitting said notches and the reduced portions of the holes, substantially as described.

2. The combination, with the cutter-bar having holes therethrough, one side of said holes being reduced in size and countersunk at its lower end, of the knives having notches in their adjacent edges, and bolts having shanks 25 fitting in said reduced portions and notches, heads at their lower ends adapted to pass through the larger portions of said holes and fit within said countersinks, and larger heads at their upper ends, substantially as described.

3. The combination, with the cutter-bar having vertical holes therethrough, the outer side of said holes being reduced in size and provided with countersinks at their lower ends of the size of the larger portions of said holes, 35 of the knives having upwardly-flaring notches in their adjacent edges, and bolts having shanks fitting in said reduced portions and notches, heads at their lower ends of the size of said larger portions, and larger heads at their upper ends having beveled under faces, the whole adapted for use substantially as 40 described.

4. The combination, with the cutter-bar hav-

ing holes therethrough, the outer side of said holes being reduced in size, and a post at the 45 outer end of said bar, of the knives having notches in their adjacent edges, headed bolts, their shanks fitting said notches and reduced portions, and means, substantially as described, for pressing the knives outwardly on 50 the bar, as set forth.

5. The combination, with the cutter-bar having holes therethrough, the outer side of said holes being reduced in size, and a post at the 55 outer end of said bar, of the knives having notches in their adjacent edges, headed bolts, their shanks fitting said notches and reduced portions, a head on said bar having a tongue provided with a hole above and registering with the innermost hole in the bar, a similar 60 bolt therein, and a wedge between said bolt and the inner end of the notch below said tongue, substantially as described.

6. The combination, with the cutter-bar having holes therethrough, the outer side of said 65 holes being reduced in size, and a post at the outer end of said bar, of the knives having notches in their adjacent edges, headed bolts, their shanks fitting said notches and reduced portions, a head on said bar having a tongue 70 provided with a hole above and registering with the innermost hole in the bar, a similar bolt therein, a wedge between said bolt and the inner end of the notch below said tongue, and a spring carried by said head and engag- 75 ing openings in said wedge, the whole adapted to operate substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 80 presence of two witnesses.

ELISHA THOMAS SHEPPARD.

Witnesses:

W. C. BERRY,

M. D. RAY.