

(No Model.)

A. PARTRIDGE.
LOOM SHUTTLE.

No. 430,037.

Patented June 10, 1890.

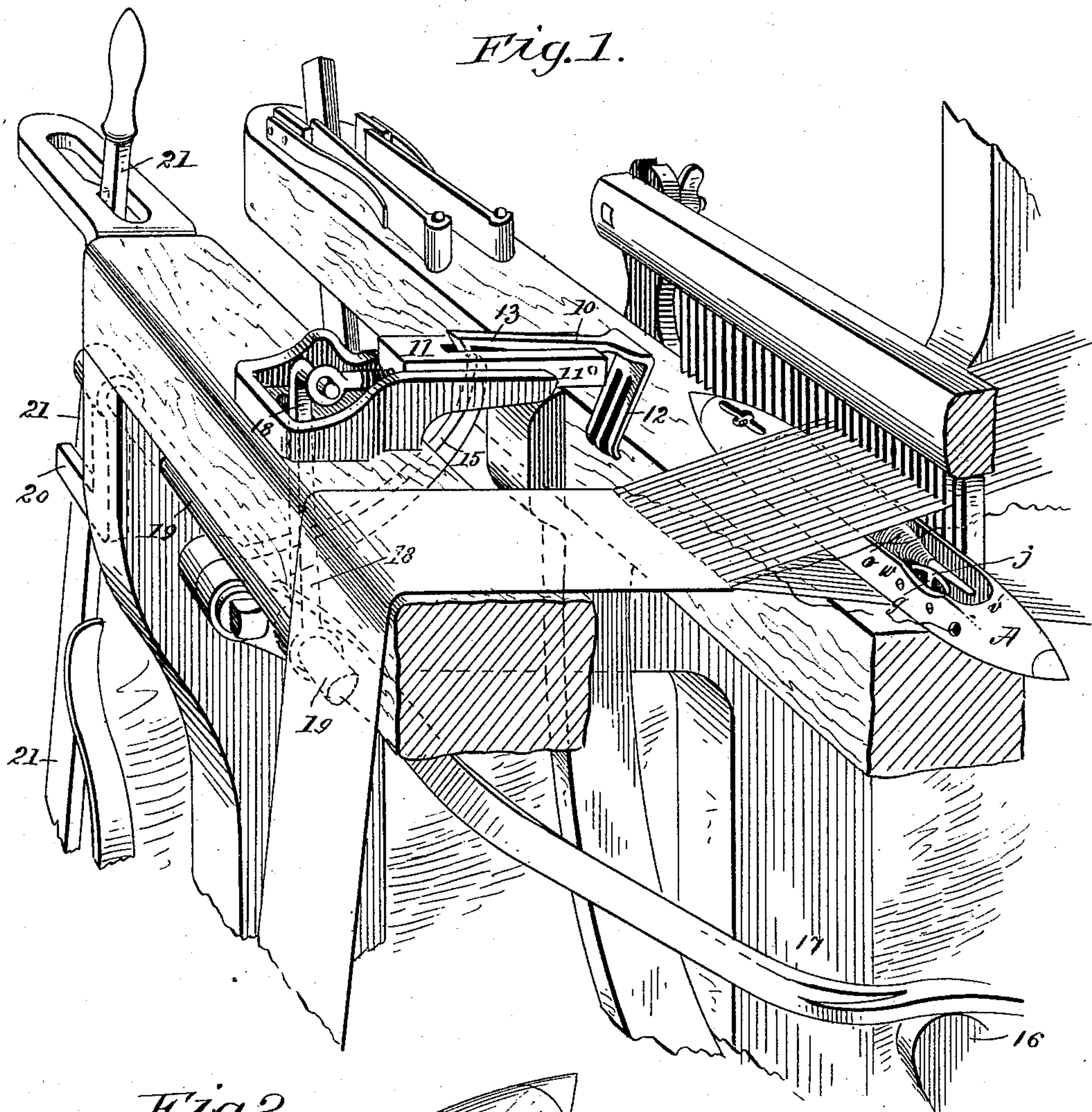
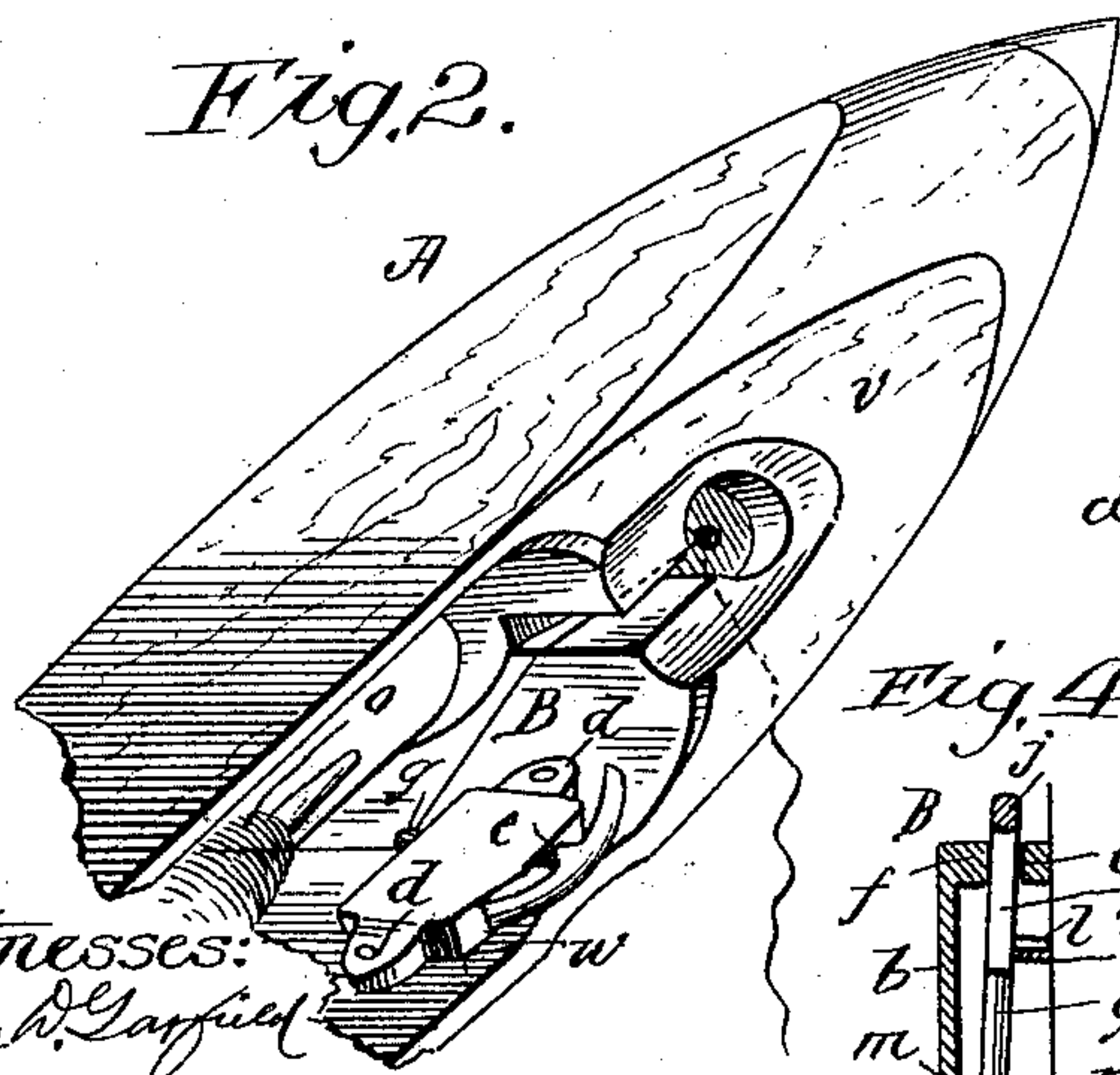
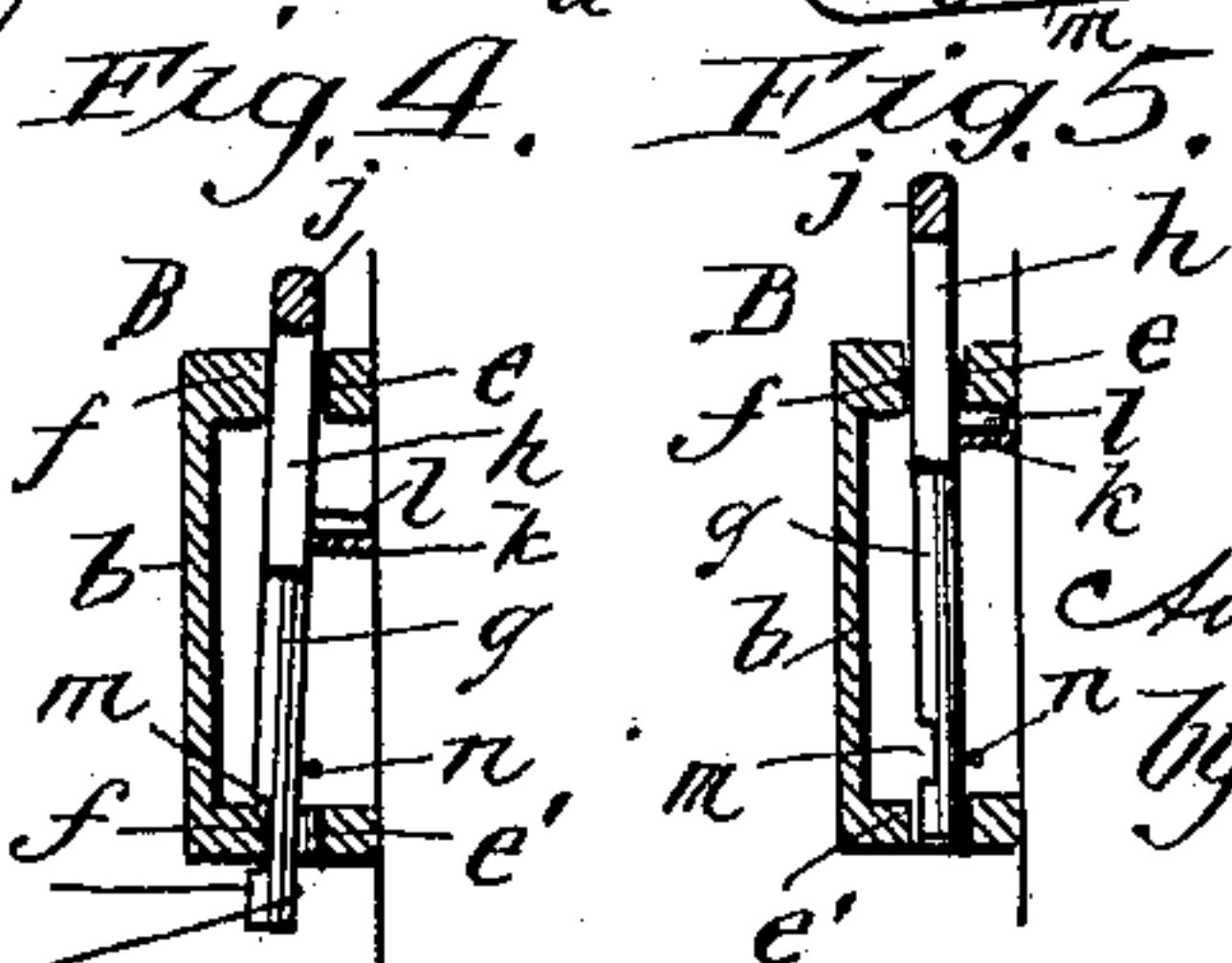
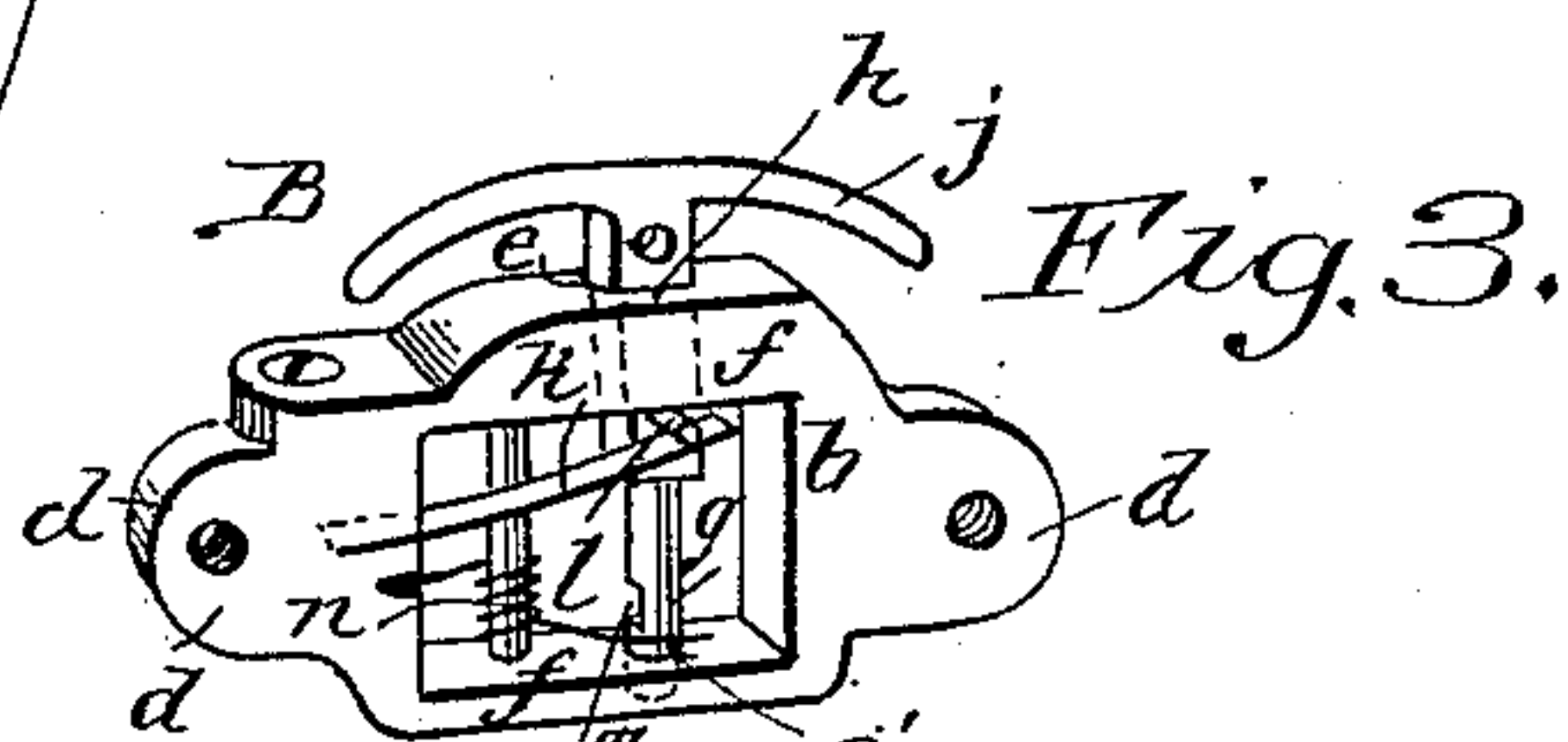


Fig. 2.



Witnesses:

J. W. Garfield
Wm. S. Bellows



Inventor,
Andrew Partridge,
by Chapin & Co. Attys.

UNITED STATES PATENT OFFICE.

ANDREW PARTRIDGE, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO BENJAMIN F. PEET, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 430,037, dated June 10, 1890.

Application filed March 3, 1890. Serial No. 342,361. (No model.)

To all whom it may concern:

Be it known that I, ANDREW PARTRIDGE, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Loom-Shuttles, of which the following is a specification.

This invention relates to improvements in loom-shuttles, the object thereof being to provide in the shuttle a device which is operative on the occasion of the breaking of a warp-thread to consequently cause the severing of the filling or bobbin thread, and insure, as usual, on the severing of said bobbin-thread the actuation of the stop mechanism; and the invention consists in the combination, with the shuttle, of a device for the purpose stated consisting of parts, all substantially as will hereinafter more fully appear, and be set forth in the claim.

Reference is to be had to the accompanying drawings, in which similar characters of reference indicate corresponding parts in all the views, and in which the present invention and the operation thereof are illustrated.

Figure 1 is a perspective view of one corner portion of the loom to show the operation of the improved shuttle in relation to a usual stop mechanism, as will be hereinafter concisely explained. Fig. 2 is a perspective view of the end portion of the shuttle, as in an overturned position, whereby the improved appliance of this invention is most clearly shown. Fig. 3 is a perspective view of the shuttle appliance, the same being shown as removed from the shuttle; and Figs. 4 and 5 are vertical cross-sections of the said appliance with the movable parts shown, as in the different positions occupied thereby, in use under different conditions.

The device of this invention comprises, essentially, a spring-supported part or catch B, adapted to be placed inside of the side wall of the shuttle A, with its top portion standing normally above the portion of the top edge of the shuttle-wall, at which such catch B is placed, the bottom thereof being adapted for such downward projection at the time the device should become operative as to constitute an abutment against which the unwind-

ing bobbin-thread may engage, and thereby the breaking of said thread is assured.

Referring to the drawings, *v* represents the top of the shuttle, and *w* the front side wall thereof.

b represents a metallic frame adapted to be secured on the inside of said front wall, the lug-extensions *d d* affording proper stock through which to screw said frame. Vertical holes *e e'* for guideways are formed in the upper and lower horizontal portions *f f* of the frame, through which the vertical spindle-like member *g* of the catch B passes and bears. The upper portion *h* of the said spindle is squared to fit the correspondingly-shaped hole *e*, whereby the spindle is prevented from turning, so that its cross-head *j* will always remain in its plane alongside the wall *w*. A spring *k* is applied to exert an upward pressure on the spindle *g*. The one shown is a plate-spring, which by one end is secured to said frame and by its other end bears upwardly on the lateral pin *l*, affixed on the spindle. Of course any other kind of spring may be applied to effect the same result. The spindle *g* toward its lower end just above the portion thereof which normally lies within the guiding-hole *e'* is provided with a notch *m*, and a second spring *n* is applied to bear with a lateral pressure on the spindle. Thus when the catch B is in operation forced downwardly the spring *n* will force the spindle laterally, so that its notched part will engage the solid part of the frame adjacent the said hole *e'*, (see Fig. 4,) and the depressed catch will be automatically held against assuming its normal and upper position. The lower end of the spindle *g* when depressed, as shown in Figs. 2 and 4, is in such a position that the thread, rapidly unwinding from the bobbin *o*, when the shuttle is shot, as it flies outwardly with centrifugal force against the walls of the shuttle, passing behind the lower end of said spindle, becomes engaged therewith, and the tension occasioned by such engagement insures the severing of the bobbin-yarn. The depression of the catch B is insured by the breaking of a warp-thread, which broken warp-thread causes an entanglement therewith of other of the warp-threads, so that

at the time a new shed is made the warp-threads adjacent said broken one and entangled therewith are not permitted to be separated, but are held about in the median plane of the warp-shed, and as the shuttle is shot the top or cross head *j* of the catch is impinged upon by the so-constrained warp-threads and the spindle is depressed.

The stop mechanism (here shown in part) comprises the angular lever 10, which is pivotally hung and delicately adjusted on the slide-block 11, so as to present its arm 12 in the plane which is intersected by the bobbin-yarn when the shuttle is in the shuttle-box to one end of the lay and the battening of the filling is taking place. The bobbin-yarn, periodically pressing against the said arm 12, swings the lever 10, so that the other hooked arm 13 is moved out of the line of movement of the lever-arm 15, the motion of which is regularly imparted thereto by the cam 16, engaging with the other lever-arm 17. When the bobbin-thread becomes severed, of course at the time the battening takes place there is no impingement by said thread upon the

lever-arm 12, the lever remaining unswung, and then the thrust by the cam-operated lever effects the forward drawing of said lever 10 and its carrying-block 11. The said block 11, being connected with a radial arm 18 of a rocker-shaft 19, rocks said shaft, and the swinging of the other radial arm 20 on said rocker-shaft causes such movement of the power-shipping lever 21 as to secure the stoppage of the loom.

What I claim as my invention is—

A shuttle provided upon its inner wall with a frame or casing, as *b*, having vertical ways therein, a catch movable in said ways, and spring-supported whereby its upper portion is normally in an elevated position relative to the adjacent edge of the shuttle-wall, said catch having in its lower portion a catch-notch *m*, and the spring *n*, applied to bear laterally upon the vertical part of the said catch, substantially as and for the purpose set forth.

ANDREW PARTRIDGE.

Witnesses:

WM. S. BELLOWS,
H. A. CHAPIN.