

(No Model.)

S. A. DUDLEY.
LOOM SHUTTLE.

No. 255,953.

Patented Apr. 4, 1882.

FIG. 1.

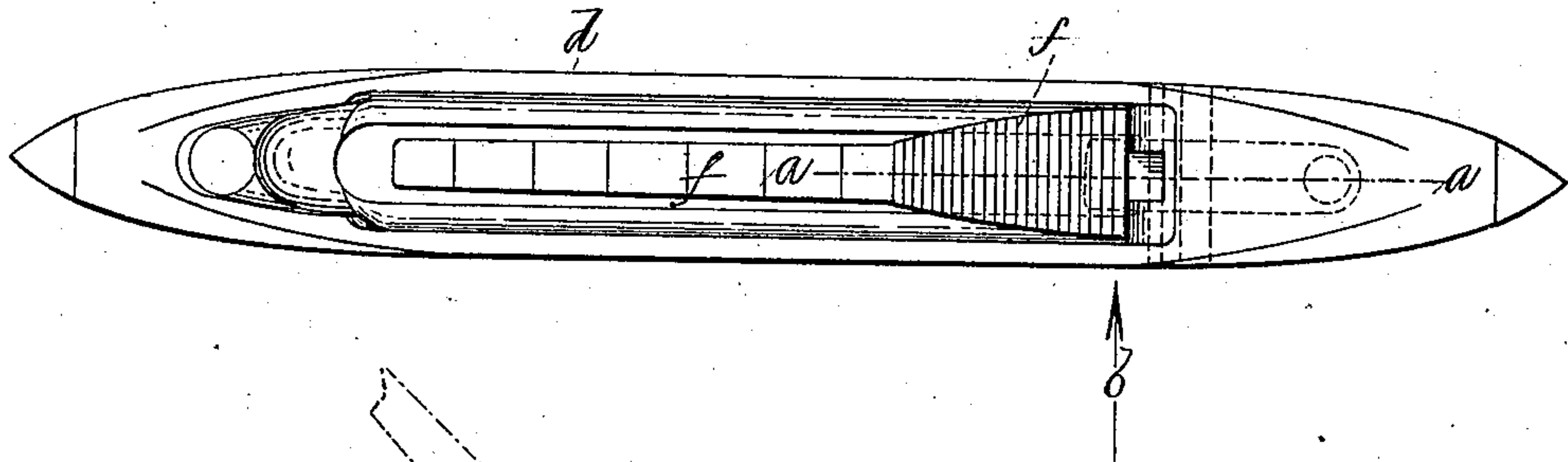


FIG. 2.

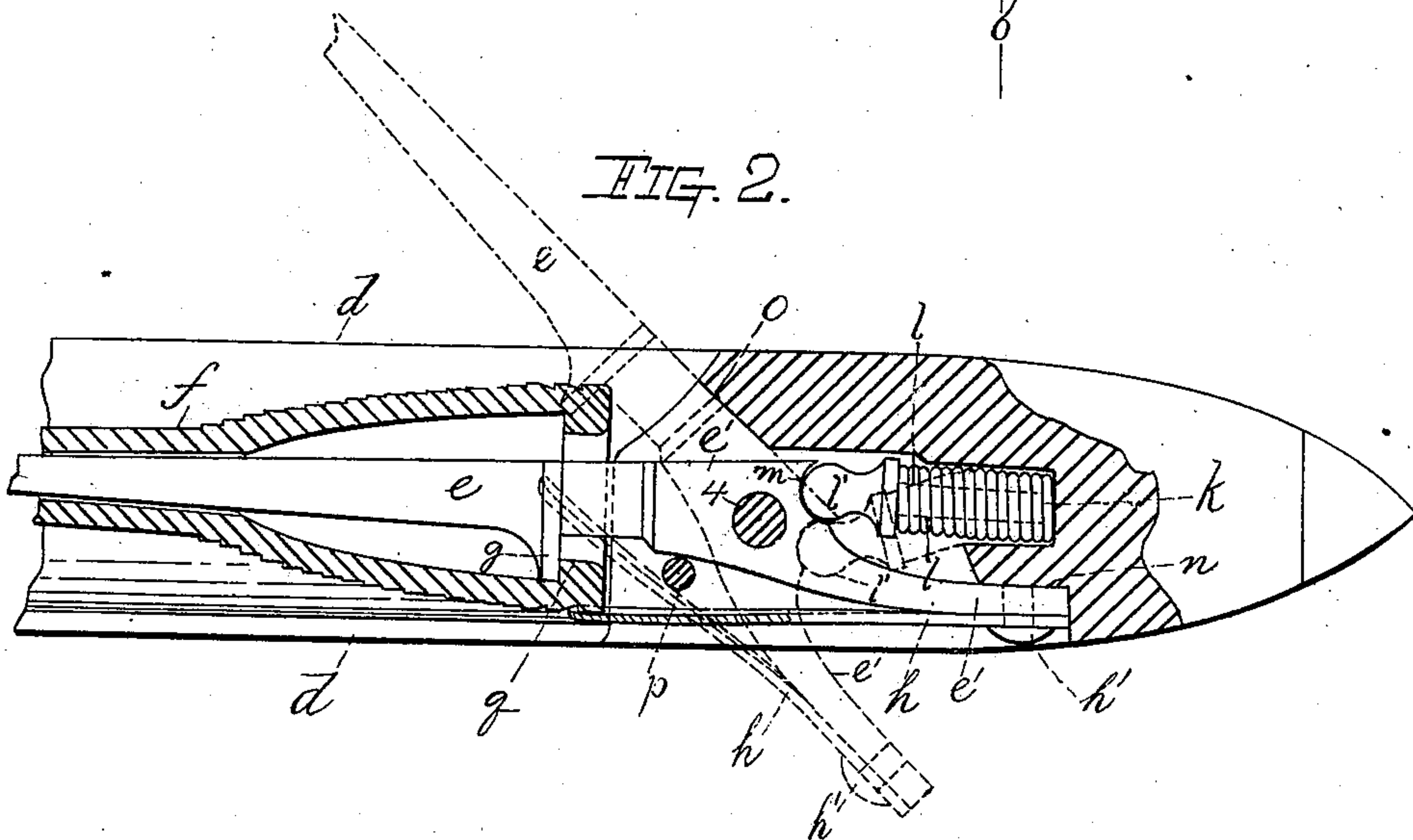


FIG. 3.

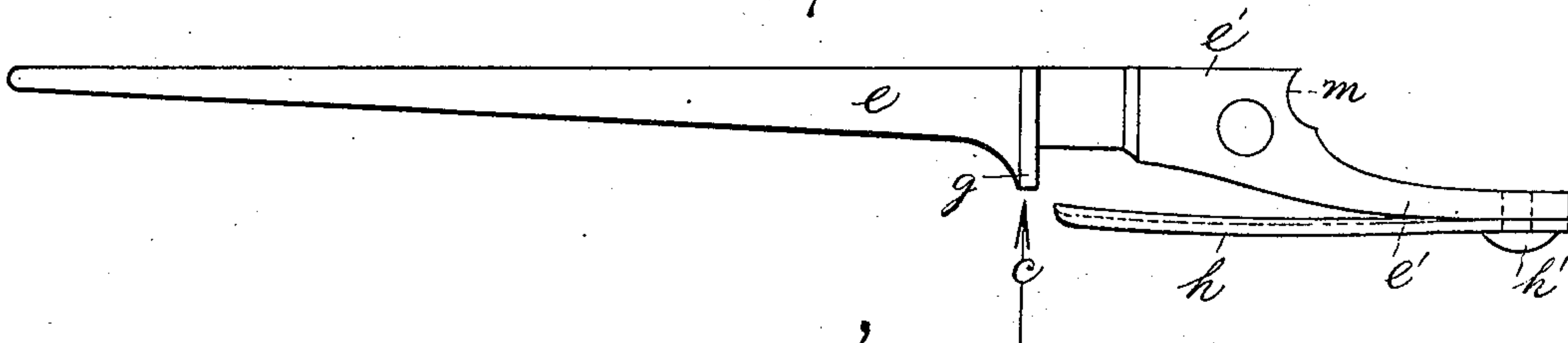
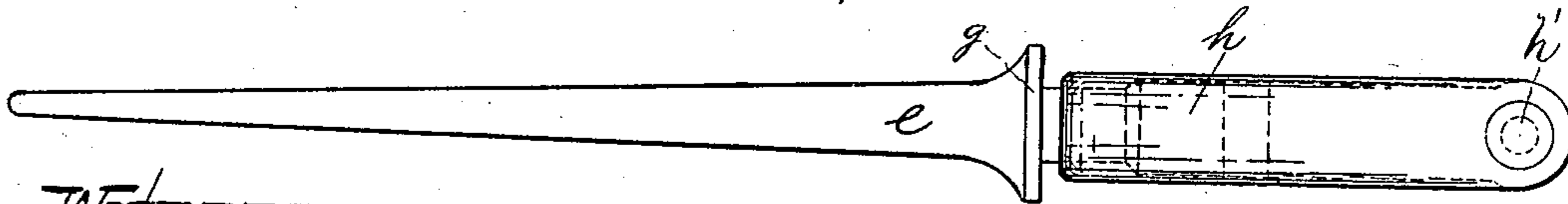


FIG. 4.



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LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 255,953, dated April 4, 1882.

Application filed June 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, SUMNER A. DUDLEY, of
Wilkinsonville, county of Worcester, and Com-
monwealth of Massachusetts, have invented
5 certain new and useful Improvements in Loom-
Shuttles; and I do hereby declare that the fol-
lowing, is a full, clear, and exact description
of the same, reference being had to the accom-
panying drawings, forming a part of this speci-
10 fication, and in which—

Figure 1 represents a top or plan view of an
ordinary shuttle and bobbin with my improve-
ments applied thereto. Fig. 2 represents, upon
an enlarged scale, a vertical central section
15 through a part of the shuttle shown in Fig. 1,
taken on line *a a* of said Fig. 1, looking in the
direction indicated by arrow *b*, showing a por-
tion of the shuttle-body and bobbin in section,
and a side view of the shuttle-spindle, as will
20 be hereinafter more fully described; and Figs.
3 and 4 represent, upon the same enlarged
scale as Fig. 2, a side and bottom view, respec-
tively, of the shuttle-spindle, the latter looking
in the direction indicated by arrow *c*, Fig. 3.

25 The nature of my invention consists in the
combination, with a shuttle-body, of a spindle
provided with a shoulder upon one side there-
of, a spring secured to the rear end of said
spindle and adapted to press upon the outer
30 periphery of a bobbin, opposite the shoulder
upon the spindle, a transverse pin secured to
the shuttle-body between the spindle and its
spring, and a knuckle provided with a spring
and adapted to press into a curved recess in
35 the rear of the shuttle-spindle, as will be here-
inafter described, and fully pointed out in the
claims.

To enable those skilled in the art to which
my invention belongs to make and use the
40 same, I will proceed to describe it more in de-
tail.

In the drawings, *d* represents an ordinary
shuttle-body; *e*, one of my improved shuttle-
spindles, and *f* a bobbin applied to the same.
45 The shuttle-spindle *e* is hinged to the shuttle-
body *d* by means of a pin, 4, passed through
said shuttle-body and the base end *e'* of the
spindle *e*. Upon the base end *e'* of shuttle-
spindle *e* is secured, at *h'*, a flat spring, *h*, by
50 means of which the bobbin is held upon the
spindle *e*, as will be hereinafter more fully ex-

plained. The shuttle-spindle is held in posi-
tion when swung up or out, as represented by
dotted lines in Fig. 2, and when sprung down
into the slot of the shuttle-body, as represented 55
by full lines in Figs. 1 and 2, by means of a
spiral spring, *k*, and knuckle *l*, (over which said
spring is arranged,) the latter being provided
with a rounded head, *l'*, that fits into the curved
part *m* of the shuttle-iron. Said curved part 60
or recess *m* is formed at the proper point above
the pivotal bearing of the shuttle-spindle to
firmly hold the same in the position shown by
full lines, with its base end bearing against the
surface *n* of the shuttle-body, and in its ele- 65
vated position, as shown by dotted lines, after
having been sprung up by hand, by bearing
below its pivotal bearing with the upper side
of the iron bearing against the surface *o* of the
shuttle-body. 70

In springing the spindle *e* out, as represented
by dotted lines in Fig. 2, the spring *h* is forced
and held back away from said spindle by bear-
ing upon a stationary pin, *p*, secured in the
shuttle-body, thereby enabling the bobbin to 75
be applied to or removed from the spindle in
an easy and convenient manner. After a
bobbin has been applied to the spindle with
the shoulder *g* back of the shoulder *q* of the
bobbin the spindle, with the bobbin upon it, is 80
sprung down into the position represented by
full lines in the drawings, thus allowing the
spring *h* to bear upon the outer side of the head
of the bobbin, which holds the latter firmly in
position between shoulder *g* upon the inside 85
of the barrel of the bobbin and spring *h*, which
presses against the outer surface of the bobbin-
barrel and opposite shoulder, *g*, thereby obvi-
ating and remedying the serious objections to
the old internal bobbin-holding devices, which 90
have tended to split the bobbins, there being
no outward resisting pressure device to pre-
vent the strain coming upon the interior of the
cylinder or barrel of the bobbin from spread-
ing or splitting the bobbin apart. 95

The shoulder *g* (shown upon one side of the
spindle) in this instance is formed with the
spindle; but it may be made separate and then
attached in any proper manner, and a bobbin,
such as shown in Fig. 2, without a front cor- 100
responding to shoulder *q*, is held just as firmly
as though both of said shoulders were used.

Those skilled in the art to which my invention belongs will readily see and understand that the invention simplifies the construction of shuttles, while at the same time the constant splitting of the bobbins incident to the old internal outwardly-pressing holding devices will result in a great saving of bobbins and yarn—two items of great importance to manufacturers.

It will be understood by those skilled in the art to which my invention belongs that the bobbin pressing and holding spring *h* may be differently applied and still perform the function of holding the bobbin in combination with the shoulder *g* on the base of the spindle *e*, and therefore I do not limit myself to the particular mode shown.

Having described my improvements in loom-shuttles, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination, with shuttle-body *d*, of shuttle-spindle *e*, provided with shoulder *g* on one side thereof, spring *h*, adapted to press

upon the outer periphery of a bobbin, and stationary pin *p*, inserted in the shuttle-body between the shuttle-spindle and its spring, substantially as and for the purposes set forth.

2. The combination of a bobbin pressing and binding spring, *h*, constructed to bear against the outside of a bobbin, and the shuttle-spindle *e*, provided with the bobbin-holding shoulder *g*, and curved recess *m*, with spring *k* and knuckle *l* *l'*, substantially as and for the purposes set forth.

3. The combination of a shuttle-spindle provided with a shoulder, *g*, and a bobbin-holding spring adapted to press against the outside of a bobbin provided with an internal shoulder and hold the same in engagement with the shoulder *g* upon the spindle, with means for relieving the pressure of the spring, substantially as set forth.

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Witnesses:

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