

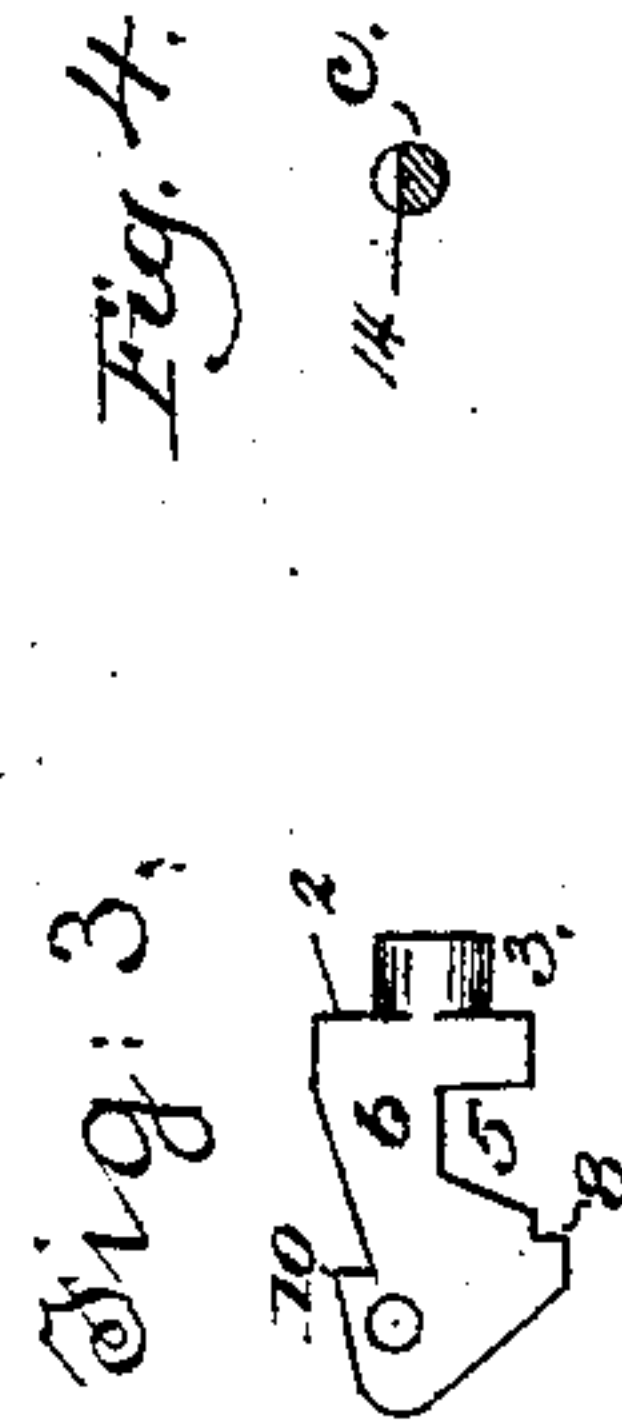
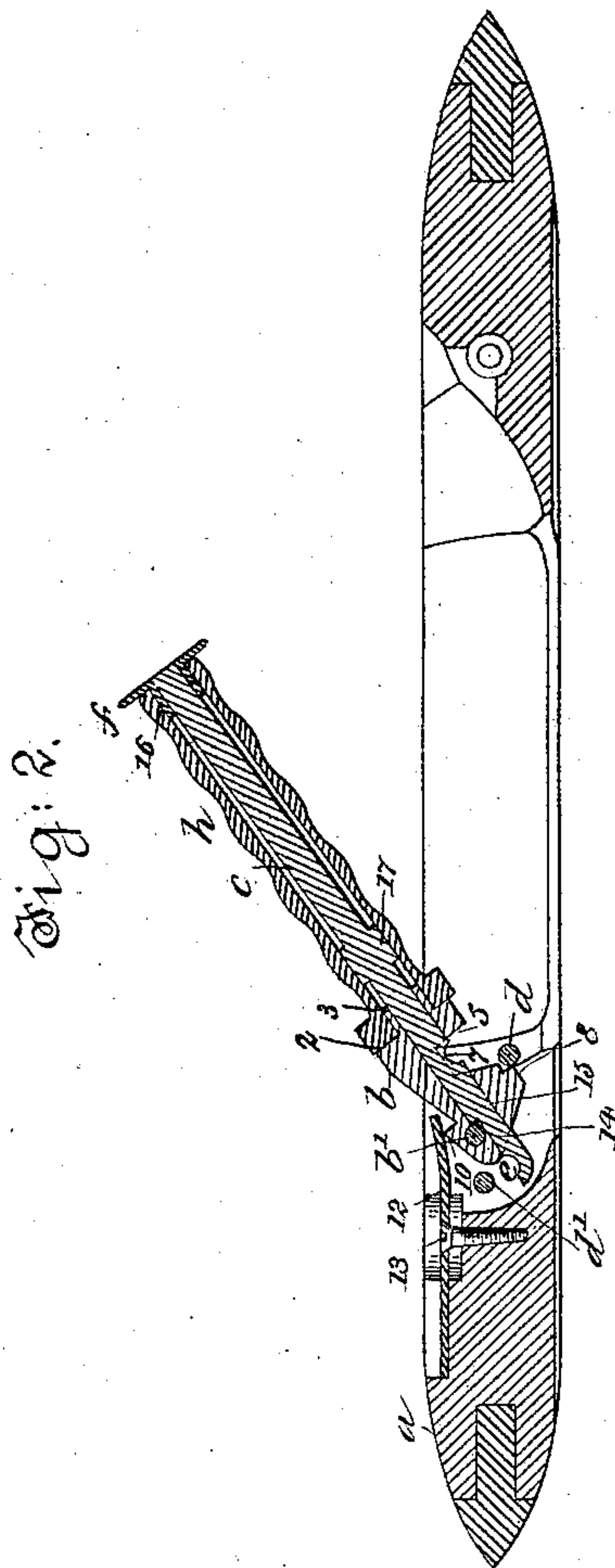
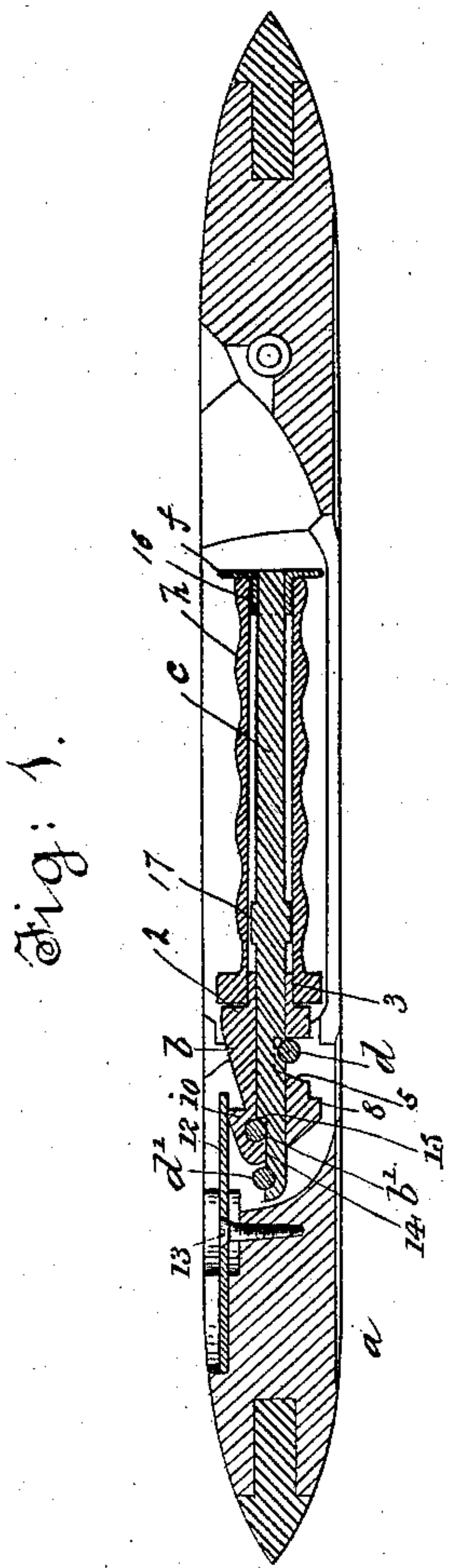
(No Model.)

C. G. PETZOLD.

LOOM SHUTTLE.

No. 349,284.

Patented Sept. 14, 1886.



Witnesses:

John A. Rennie
John F. C. Venable

Inventor,

Charles G. Petzold
By Crosby & Gregory
attys

UNITED STATES PATENT OFFICE.

CHARLES G. PETZOLD, OF LAWRENCE, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO WILLIAM D. HARTSHORNE, OF SAME PLACE.

LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 349,284, dated September 14, 1886.

Application filed February 8, 1886. Serial No. 191,263. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PETZOLD, of Lawrence, county of Essex, and State of Massachusetts, have invented an Improvement
5 in Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve
10 shuttles in such manner as to insure a firm retention of the bobbin on the spindle and enable checked or split bobbins to be employed, my present invention being an improvement on the shuttle described in my application Serial
15 No. 120,954, filed February 16, 1884.

In my invention the spindle is provided at its outer end with a head of a diameter sufficient to act as a race for the yarn and keep it from contact with the end of the bobbin, and
20 at its other end the said spindle is provided with two notches to engage two pins of the shuttle-body, the said notches being at opposite sides of the longitudinal center of the spindle and at opposite sides of the pivot of the spindle-receiver, the said spindle at its inner end
25 being slabbed off to form an aligning surface, which, co-operating with the pivot of the said receiver or with the receiver itself, insures the alignment of the holding-notches of the spindle with the pins to enter the said notches when
30 the spindle is turned into the shuttle-body in working position, the receiver being notched between its free end and its pivot to expose the spindle at one of its transverse notches.

My invention consists, essentially, of a shuttle-body having two pins or stops and a pivoted notched or open spindle-receiver, combined with a spindle having at one end an enlarged head or disk, the opposite end of the
40 spindle being provided with an aligning surface and with two notches at its opposite sides to engage the said pins or stops and securely retain the spindle in place, substantially as will be described.

45 Figure 1 is a longitudinal section of a shuttle embodying my invention, the spindle and bobbin being in working position. Fig. 2 is a like section with the spindle and bobbin turned partially out of the shuttle-body. Fig. 3 shows

the spindle-receiver by itself, and Fig. 4 a
50 cross-section of the spindle at its inner end.

The shuttle-body *a* is and may be of usual shape and material. The spindle-receiver *b* consists of a metal block mounted loosely on the pivot *b'*. The receiver *b* at one end has a
55 shoulder, 2, and a sleeve, 3. The receiver, bored from end to end for the reception of the headed spindle *c*, is notched or cut away at its under side, as at 5, the said notch being deep enough to intersect the spindle-receiving bore
60 and expose the notch 7 at the lower side of the spindle, so as to enable it to be entered by the pin or stop *d*, fixed in the shuttle-body at one side of the pivot *b'*. The receiver has a shoulder, 8, to meet the pin or stop *d* and arrest the
65 outward movement of the receiver, the latter also having a shoulder, 10, and adjacent flat surface for the co-operation with it of the spring 12, made adjustable by the screw 13, the spring serving to keep the spindle-receiver in the
70 shuttle-body, as in Fig. 1. Just beyond the inner end of the receiver the shuttle-body is provided with a second pin or stop, *d'*, which is embraced by the notch *e* at the upper side of the spindle and at the rear of the pivot *b'*,
75 the spindle *c*, when turned into the shuttle-body, engaging by its notched parts 7 and *e* both the pins *d* and *d'*, as in Fig. 1, which pins so hold the spindle that it is impossible to withdraw the same from the receiver until after
80 the receiver is partially turned out of the shuttle-body, as in Fig. 2. If that part of the spindle within the receiver was round it would be necessary for the operator to use very considerable care when inserting the spindle into the
85 receiver to see that the two notches 7 and *e* were in correct position to co-operate with and fit over the pins or stops *d* *d'*, for otherwise the spindle and receiver could not be moved centrally into the shuttle-body, as in Fig. 1. To
90 obviate this difficulty and enable the spindle to be inserted quickly and unerringly, I have removed or slabbed off a portion of it at its inner end, as at 14, (see Fig. 4,) leaving a
95 shoulder, 15. Slabbing off the inner end of the spindle leaves an end irregular or other than round in cross-section, and to enable the inner end of the said spindle to be passed un-

der the pivot *b'* and through the receiver the
 slabbed part of the spindle must be in a cer-
 tain definite position, and so whenever the in-
 ner end of the spindle passes the pivot *b'* and
 5 the shoulder 15 meets the said pivot, the two
 notches 7 and *e* will be in alignment with the
 two pins or stops *d d'*. The operator has only
 to push the spindle into the receiver and turn
 it in one or the other direction until it finds its
 10 way into the space under and beyond the pivot
b', which is quickly done and by the sense of
 feeling. The spindle at its outer end has a
 button-like head, *f*, which overlaps the deliv-
 ery end of the bobbin, keeping the bobbin on
 15 the spindle and also guarding its delivery end,
 so that checks or splits in the end of the bob-
 bin cannot serve to catch or detain the yarn.
 The spindle has upon it two bearings, 16 17,
 which form bearings for the bobbin *h*, which
 20 may be of any usual construction. The lower
 end of the bobbin is shown as resting against
 the shoulder 2 and surrounding the sleeve 3.
 With a receiver and spindle such as shown

bobbins of different length may be used on the
 spindle.

25

I do not broadly claim a spindle with a but-
 ton or head upon its outer end; nor do I herein
 claim, broadly, a spindle having an aligning
 surface and a single notch, as such features
 form the subject-matter of another application,
 Serial No. 120,954, filed February 16, 1884. 30

I claim—

The shuttle-body and pins *d d'* therein, the
 spring-held spindle-receiver pivoted in said
 shuttle-body between its said pins and having 35
 the notch 5 on its lower side, combined with
 the headed spindle having the notches *e* and
 7, and an aligning surface, substantially as
 shown and described.

In testimony whereof I have signed my name 40
 to this specification in the presence of two sub-
 scribing witnesses.

CHARLES G. PETZOLD.

Witnesses:

FRANK L. PORTER,
 ARETAS R. SANBORN.