

H. L. FREEMAN & S. D. EUBANKS.

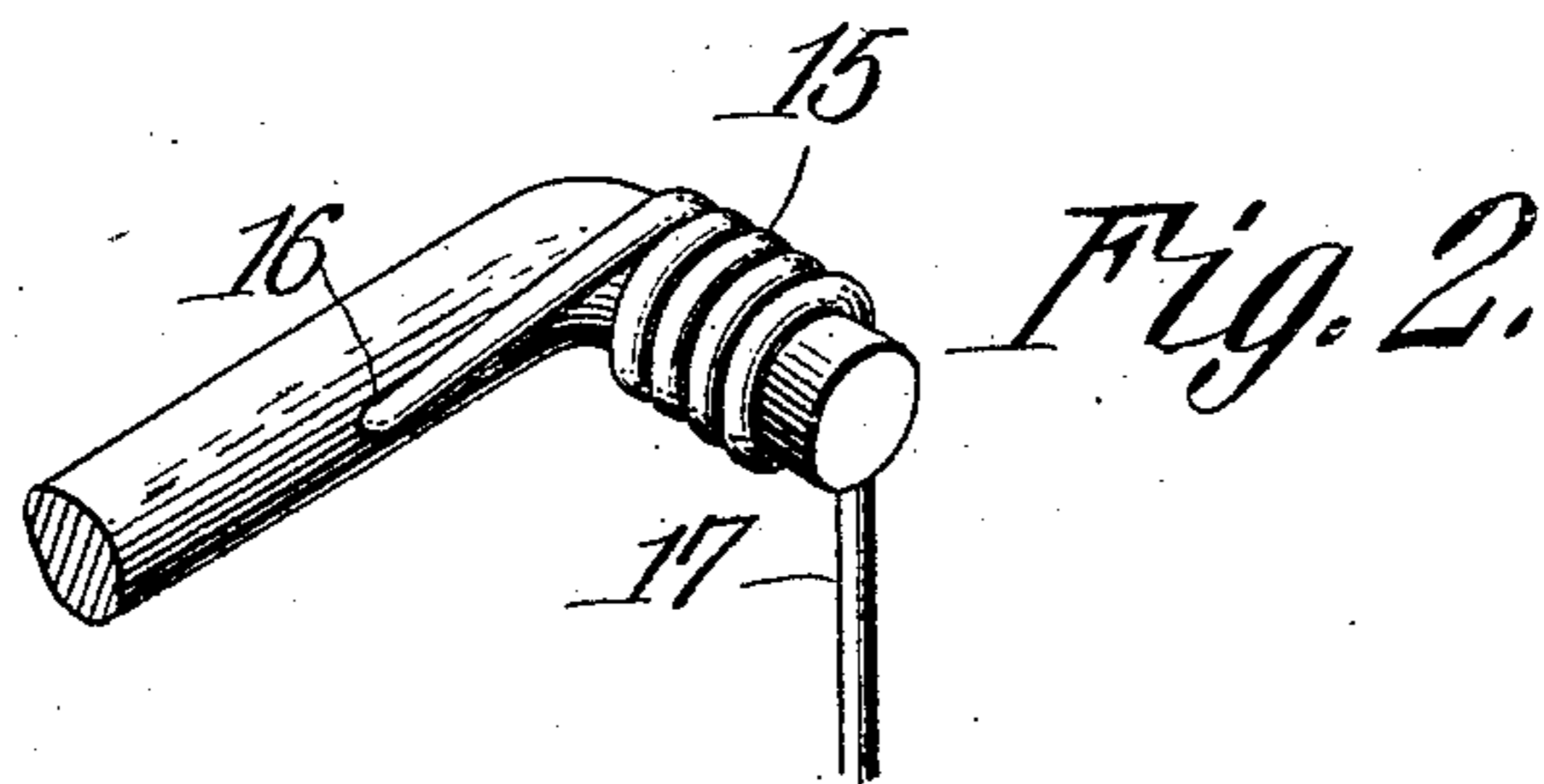
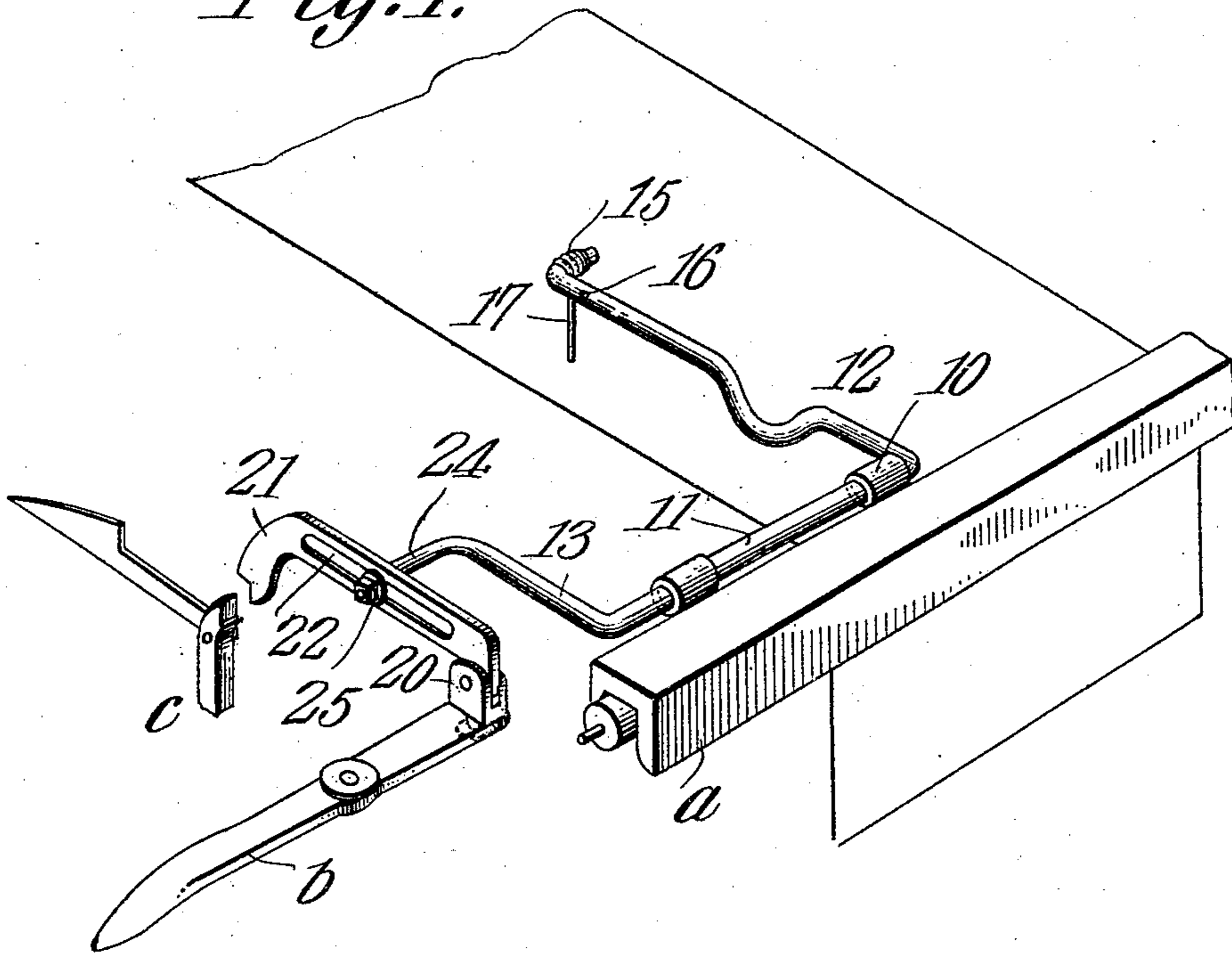
CLOTH THIN PLACE DETECTOR.

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908,459.

Patented Jan. 5, 1909.

Fig. 1.



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UNITED STATES PATENT OFFICE.

HORACE L. FREEMAN AND SAYERS D. EUBANKS, OF WEST DURHAM, NORTH CAROLINA.

CLOTH THIN-PLACE DETECTOR.

No. 908,459.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed November 6, 1907. Serial No. 400,952.

To all whom it may concern:

Be it known that we, HORACE L. FREEMAN and SAYERS D. EUBANKS, citizens of the United States, residing at West Durham, in the county of Durham, State of North Carolina, have invented a new and useful Cloth Thin-Place Detector, of which the following is a specification.

This invention relates to devices of that class employed on looms for detecting streaks or thin places which are formed from running out of the shuttle thread, and has for its principal object to provide a device of very simple construction which may be adjusted close to the fell of the cloth, and which will operate instantly and in the event of a thin place passing under it.

A further object of the invention is to provide a device of this type which will not interfere with the ordinary operation of the knock off lever and which may be readily thrown back over the breast beam when changing warps.

A still further object of the invention is to provide a novel form of detecting or feeling finger that is yieldably mounted at the end of the detector rod arm.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a cloth thin place detector constructed in accordance with the invention. Fig. 2 is a detail perspective view of the feeling finger.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

In the drawings, *a* represents the breast beam, *b* the knock off lever, and *c* the weft hammer, all of which are of the usual construction and operated in the usual manner.

On the inner face of the breast beam are secured bearings 10 for the reception of a detector rod 11 that is provided at one end with an arm 12, and at the opposite end with an arm 13, both of which extend at a right

angle to the length of the rod. The extreme inner end of the arm 12 is turned at a right angle and receives the coils 15 of a section of spring wire, one end of the wire being extended rearward and passed through an opening in the arm 12, and being riveted or otherwise firmly secured in place, as indicated at 16. The opposite end of the wire is bent downward forming a feeling or detecting finger 17 that is arranged to rest on the upper surface of the cloth at a point as close as possible to the fell. This point is very delicate and will instantly sink through any thin place or streak formed in the cloth through failure of the weft.

Swiveled to the inner end of the knock off lever is a bracket 20 on which is pivoted a pawl 21, the rear end of which is disposed in the path of movement of the weft hammer *c*. This pawl is provided with an elongated slot 22 through which extends the outward bent end 24 of the arm 13, the end portion being threaded for the reception of suitable nuts 25.

So long as the cloth passing under the detecting finger is perfect, the finger will be held up and the pawl 21 will be suspended in a position above the top of the weft hammer *c*. If the weft thread fails, the feeling or detector finger 17 will instantly sink between the warp threads and will allow the arm 13 to move downward, carrying with it the pawl 21, so that the latter is then disposed in the path of movement of the weft hammer, and on the next forward stroke of the weft hammer the knock off lever will be actuated to throw the shifter rod and stop the loom. The construction is such that the knock off lever *b* may be readily moved without throwing the pawl out of alinement with the weft hammer, owing to the slidable connection between the arm 24 and the pawl. The pawl and the two arms of the detector rod may further be swung forward out of the way of the operator when warps are to be changed.

The spring finger 17 permits of the most delicate and accurate adjustment and may be so positioned as to positively insure operation after one or two idle movements of the lay.

We claim:—

1. A cloth thin place detector, consisting of a hinged detector formed of a rod provided with an inner arm having a detector finger, and an outer arm having its end bent to form a lateral arm, a knock off lever having a bracket swiveled on one of its ends, and a

weft hammer engaging pawl pivoted to said bracket and provided with an elongated slot, the lateral arm of the detector being slidably mounted in said slot.

- 5 2. In a cloth thin place detector, a hinged detector arm, having its end bent at a right angle and provided with a yieldable detector finger, consisting of a wire spring coiled about said bent end and having one end secured to
10 the detector arm, and the other end of the wire extending downward from the coil, and

forming an elastic finger for engagement with the fabric.

In testimony that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses. 15

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SAYERS D. EUBANKS.

Witnesses:

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W. H. MUSE, Jr.