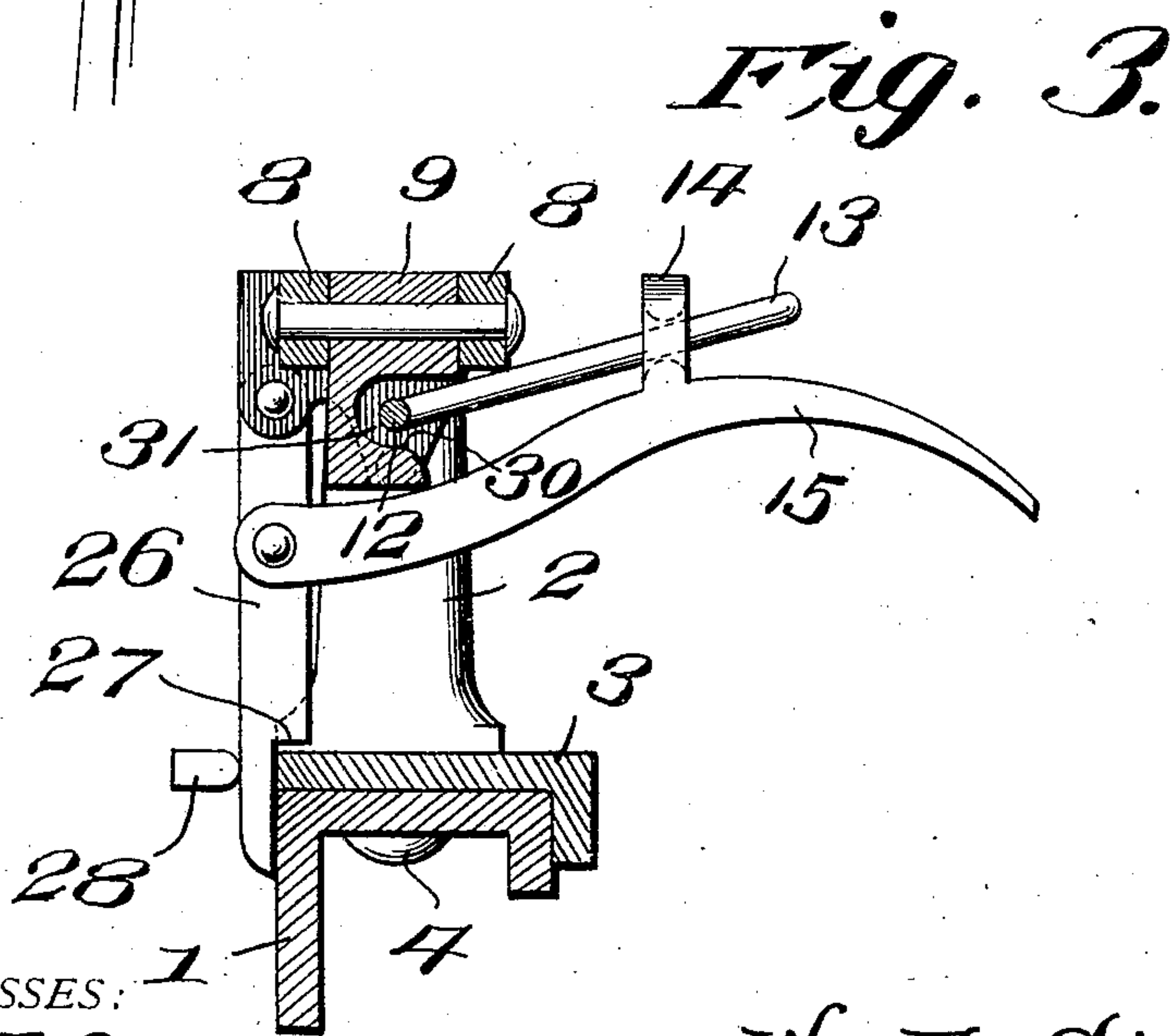
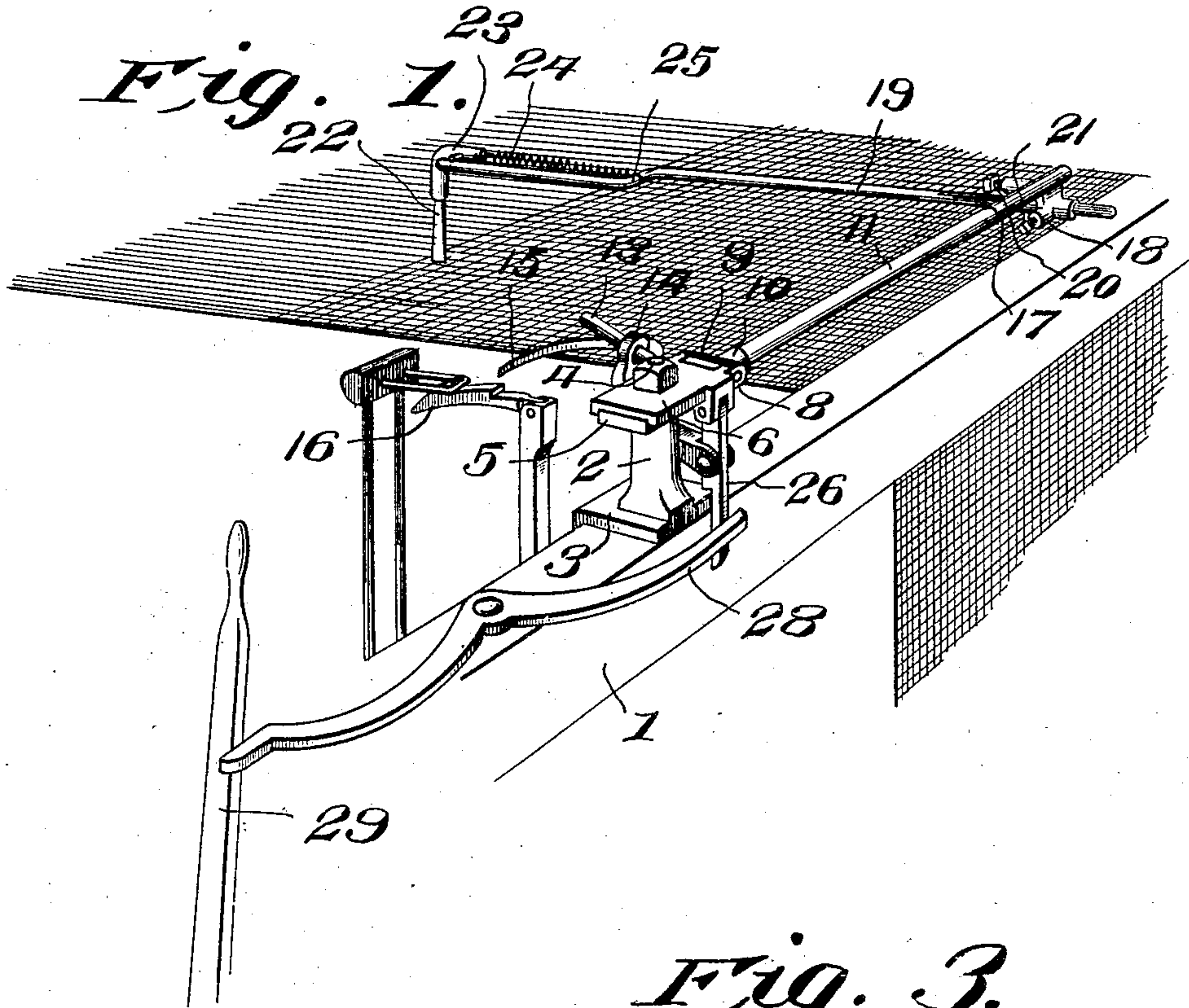


No. 879,523.

PATENTED FEB. 18, 1908.

W. F. CLAYTON.
THIN PLACE DETECTOR FOR LOOMS.
APPLICATION FILED JULY 26, 1907.

2 SHEETS—SHEET 1.



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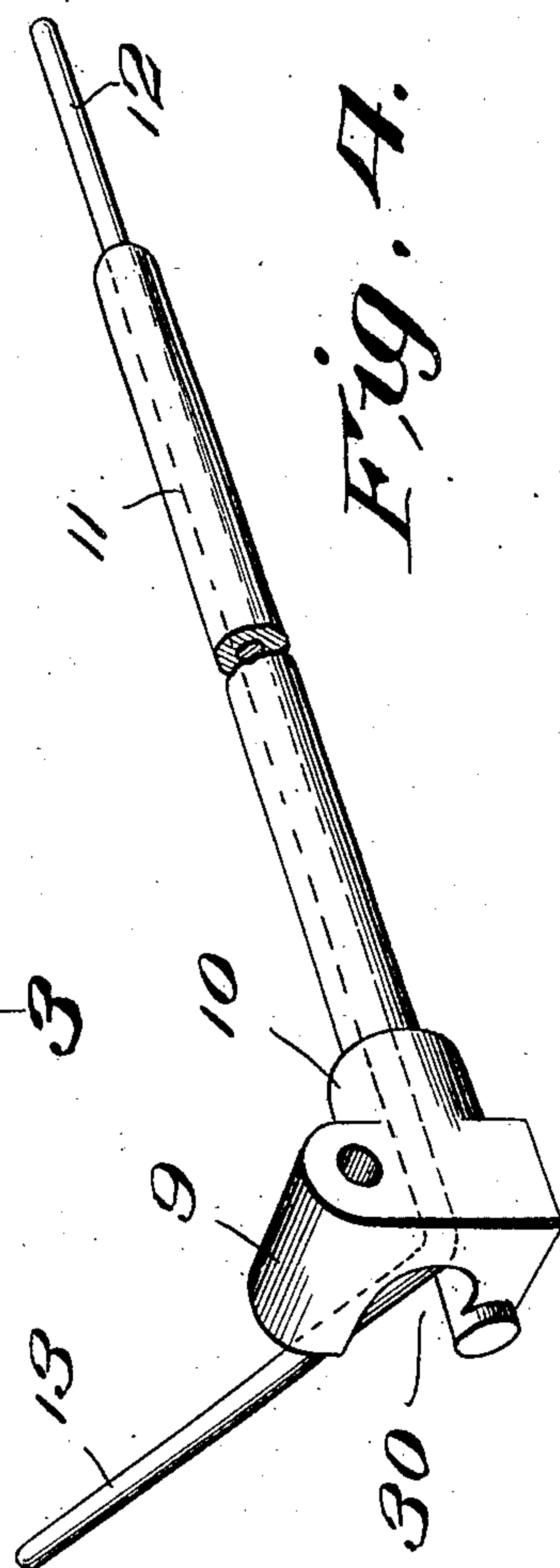
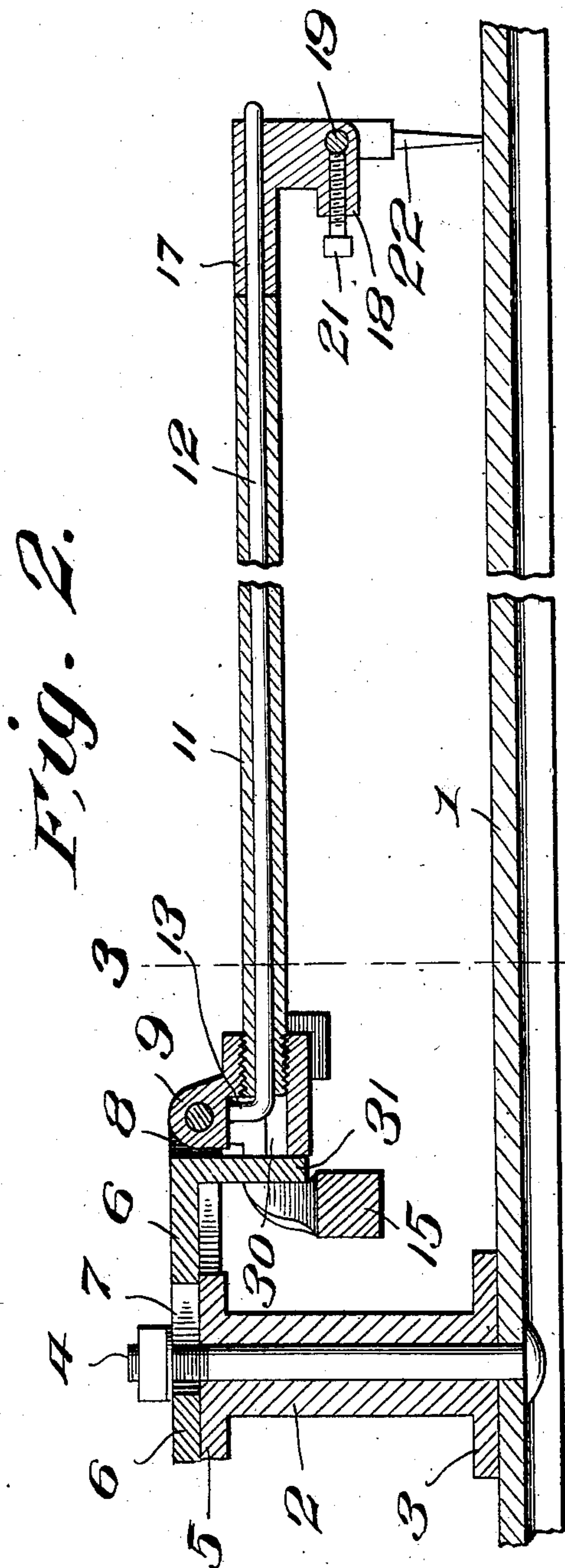
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM FRANKLIN CLAYTON, OF ATLANTA, GEORGIA, ASSIGNOR TO CLAYTON & BENTLEY CO., A CORPORATION OF GEORGIA.

THIN-PLACE DETECTOR FOR LOOMS.

No. 879,523.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed July 26, 1907. Serial No. 385,660.

To all whom it may concern:

Be it known that I, WILLIAM FRANKLIN CLAYTON, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Thin-Place Detectors for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention, as will be hereinafter set forth in the following specification and accompanying drawings, relates to a loom attachment designed for stopping the loom when the filling thread becomes broken and the details of construction of my invention and the elements for coöperating therewith, will be illustrated in the accompanying drawings made a part of this application.

The main object of my invention, among others, is to provide an attachment of the character specified, which will automatically stop all further operation of the loom, to which it is attached when a thread carried by the shuttle becomes broken, until said thread has been again connected or tied, thereby insuring that the finished fabric will present no thin place or unfilled portion throughout its entire length, the result being that there will be no percentage of loss, which, heretofore, has been so common owing to the unfilled parts of the cloth, commonly designated thin places.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 shows a perspective view of a portion of a loom of any preferred construction, with my thin place detector applied to use thereon. Fig. 2 is a longitudinal section of parts of my invention. Fig. 3 is a sectional view of Fig. 2, on line 3—3, looking to the left in Fig. 2, and, Fig. 4 is a perspective detail view of a portion of my thin place detector attachment.

The various details and coöperating elements of my invention, will, for convenience, be designated by reference numerals, it being understood that the same numeral will be applied to similar parts in the several views. It is proper to state in this connection that my present invention is designed as a further

development or improvement upon my thin-place detector or loom-stopping appliance, as fully set forth and claimed by me in Letters Patent #828535, granted to me on the 14th day of August, 1906.

My loom attachment, as described in this application, will be found equally useful upon all varieties of looms, upon wood breast beam looms, as well as upon iron breast beams and upon magazine looms and other kinds, as above stated, and referring in detail to the various parts of my invention, as illustrated in the drawings, 1 indicates the breast beam, subject to such modifications as different varieties of looms will show and at a convenient point upon the breast beam, I mount the adjustable standard 2, having a flange or base member 3 of any preferred formation, said standard being held in position upon the breast beam by a suitable bolt 4, or equivalent means.

The standard, it will be observed, is provided with a cross head 5, upon which is seated the body portion or table plate 6, of my holding appliance, said body portion having a slot 7 to permit adjustment of said body portion upon the head 5.

The inner end of the body portion 6 is provided with a pair of ears 8, between which I pivotally mount the socket member 9, having a threaded extension or socket 10 to receive the threaded end of the tubular member or sleeve 11, within which is disposed the rod 12, having the angular extension or finger 13 designed to pass through the eye 14 formed upon the detent 15, the latter being normally supported above the notches in the weft-hammer 16 by said finger and in order to show how said finger and detent are controlled, attention is called to the fact that adjacent to the end of the tubular member 11, I secure the holder or head 17, having the socket member or extension 18, the bore of which is disposed at right angles to the plane of the sleeve 11 and is designed to receive the feeler arm 19. By thus pivotally mounting the socket 10 in position, the sleeve 11 and parts carried thereby may be bodily raised upward and folded outward out of the way, affording ready and convenient accessibility to that portion of the loom or cloth normally covered by said parts. It will also be observed that I have provided a set screw 20, designed to be turned home tightly against a contiguous part of the rod 12 and thereby

hold said rod against rotation within the member 17, but permitting it to rotate freely within the sleeve. I also provide a set screw or equivalent locking device 21, to bear
 5 against a contiguous part of the arm 19, within the socket member 18, insuring that the arm and the finger or extension 13 upon the rod 12 will move simultaneously up and down, it being obvious that the members 17
 10 and 18 simply form a rigid joint between the rod 12 and the arm 19, permitting great adjustability of said parts, so that the feeler arm may be lengthened or shortened and moved laterally according to the judgment
 15 of the operator placing it in its operative position. I, therefore, call particular attention to this possibility of adjustment, inasmuch as the feeler point 22 may thereby be placed very close to the edge of the filled or
 20 completed portion of the cloth, the preferred distance being ordinarily two picks, a little more or less back from the edge.

Upon the free end of the arm 19, I pivotally secure the angular member or elbow 23, said
 25 pivotal union being attained in any desired manner, as by providing a suitable aperture in the elbow and passing the laterally bent end of the arm therethrough.

The finger 22 mounted in the lower end of the elbow 23 is held in a normally vertical position by the controlling spring 24 connected to the upper end of the elbow at one end, while the other is attached to the lateral bend 25 formed at this point in the arm 19.

35 By providing the lateral bend 25, it will be observed that the extreme outer end of the arm 19 is disposed to one side of the plane of said arm, thus affording a very convenient seat for the controlling spring 24, the latter
 40 occupying an extension of the same plane as the arm proper.

In order to utilize the simultaneous movement of the arm 19 and finger 13, carrying the detent 15, I pivotally connect the detent
 45 15 to the depending lever 26, which is preferably provided on its inner edge and lower end with a notch or recess 27 to fit around a contiguous part of the base member 3 and the breast beam and thus dispose its extreme
 50 lower end in engagement with the end of the knock-off lever 28, operatively mounted in the usual manner, so that the opposite end of said knock-off lever will be brought into coöperation with a controlling part of the
 55 loom designated, in this instance, by the numeral 29, though it will be understood that any other suitable mechanism than the parts illustrated are comprehended by me in this application.

60 By reference to Fig. 3, it will be seen that the finger 13 is provided with a clearance seat 30, whereby said finger may rise and fall incident to the operation of the feeler arm 19.

By referring to Fig. 2, it will be seen that
 65 the body or table 6 is provided on its under

side with the stop member or lug 31, designed to prevent the member 9 from passing downward only sufficiently to dispose the sleeve or tubular member 11 in a horizontal plane and thus insure that said sleeve will
 70 serve as a reliably efficient seat for the rod 12.

It is thought from the foregoing description that the construction and operation of my improved loom attachment will be made clearly apparent, though it may be stated
 75 that the operation thereof is as follows: The several elements of my invention are constructed and assembled substantially in the manner hereinbefore stated and when thus assembled, a proper adjustment of the set
 80 screw 21 relative to the arm 19 is made, which will dispose the point of the finger 22 at the proper place upon the edge of the finished part of the cloth. A proper adjustment of the parts will dispose the end of the
 85 detent 15 slightly above the weft hammer of the loom, with which it is designed to coöperate and it, therefore, follows that if a thread breaks in the shuttle, there will be no filling in the cloth, which, being gradually
 90 rolled up by action of the machinery, will cause the point of the finger to drop down as soon as the finger passes the edge of the filled portion. The result, therefore, will be
 95 that the arm 19 will be lowered and as it is rigidly connected to the rod 12, through the mediation of the set screws 20 and 21, and the parts 17 and 18, the finger 13 will be simultaneously depressed and incidentally
 100 drop the detent 15, into engagement with the weft hammer the impact of the weft hammer upon the detent being communicated to the depending lever or arm 26, and the knock-off lever 28 operated to stop the
 105 loom.

Obviously my improved loom stopping appliance may be easily modified to adapt it for every variety of loom, and, believing that the advantages, construction and operation of my loom attachment have thus been
 110 made clear, further description is deemed unnecessary.

While I have described the preferred combination and construction, I desire to comprehend all substantial equivalents or substitutes which may fall fairly in the scope of my invention.

What I claim is:

1. The herein described loom stopping device, or thin place preventer, comprising an
 120 adjustable standard, a table plate, or body carried by said standard, a socket pivotally mounted upon the end of said table, a seat carried by said socket, a rod disposed in said seat, a feeler arm having a spring controlled
 125 yielding finger, means to rigidly connect said rod and arm and a detent carried by an extension of said rod, whereby, when said detent is lowered to be struck by a moving part of the
 130 loom, the force of the blow will be communi-

cated to a controlling part of the loom and the loom stopped.

2. The herein described loom attachment comprising the combination with a beam, a standard on said beam, a cross head at the upper end of said standard, a base at the lower end of said standard and means to secure the standard to the beam; of a plate having a slot extending longitudinally of the plate, means to adjustably secure the plate on the cross head, a socket member pivotally secured to one end of said plate, a threaded extension on said socket member, a tubular sleeve secured in the threaded extension, means to limit the downward movement of said threaded extension, a rod rotatably mounted in said tubular sleeve, a feeler point, means to adjustably and fixedly secure the feeler point to one end of said rod and means at the opposite end of the rod to support a detent, whereby when the feeler point is lowered, the detent will be engaged with parts of the loom and said loom stopped.

3. The herein described loom attachment, comprising the combination with a beam, a knock-off lever and a weft hammer; of a standard on said beam, means to secure the standard, a cross head at the upper end of the standard, a plate having a slot extending longitudinally thereof, means to adjustably secure the plate on the cross head, a socket member pivotally secured to said plate, a threaded extension on said socket member, said socket member having a seat therein, means to limit the downward swinging movement of the socket member, a tubular sleeve

secured to said threaded extension, a rod extending through said sleeve, a feeler point, means to fixedly and adjustably mount said feeler point on one end of the rod, a finger on said rod, a lever pivotally secured to one edge of said plate, the lower end of which is in the path of the knock-off lever, a detent pivotally secured to said lever, an eye on said detent adapted to receive said finger and normally support the detent above the weft hammer and dispose the detent in engagement with the weft hammer to operate the knock-off lever when the feeler point is lowered.

4. The herein described attachment for looms, comprising the combination with a beam, a standard on said beam, a tubular sleeve and means to adjustably and pivotally mount the tubular sleeve to the standard; of a rod extending through said sleeve, a holder engaging the extended end of said rod, a set-screw carried by the holder adapted to adjustably secure the holder to the rod, a socket member depending from said holder, a feeler arm extending through said socket member, a locking device carried by the socket member adapted to engage and secure the feeler arm in its adjusted position and a feeler point at the outer end of said feeler arm.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM FRANKLIN CLAYTON.

Witnesses:

P. H. JONES,

P. W. JACKSON.