

O. EILHAUER.  
 CONTRIVANCE FOR THE TENSION OF WEFT WIRE WITH WIRE GAGE LOOMS.  
 APPLICATION FILED AUG. 3, 1908.

964,150.

Patented July 12, 1910.

2 SHEETS—SHEET 1.

FIG. 1

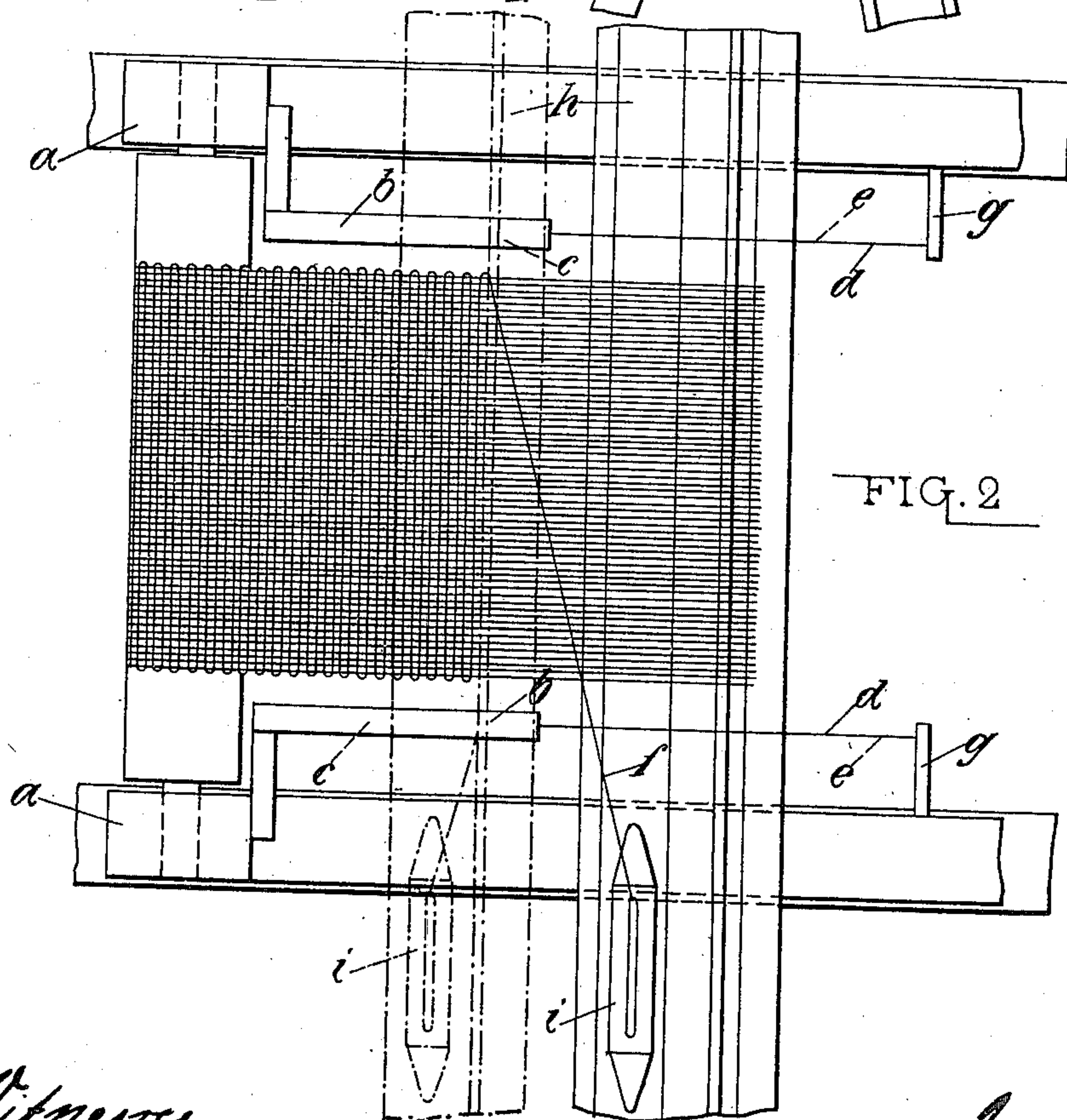
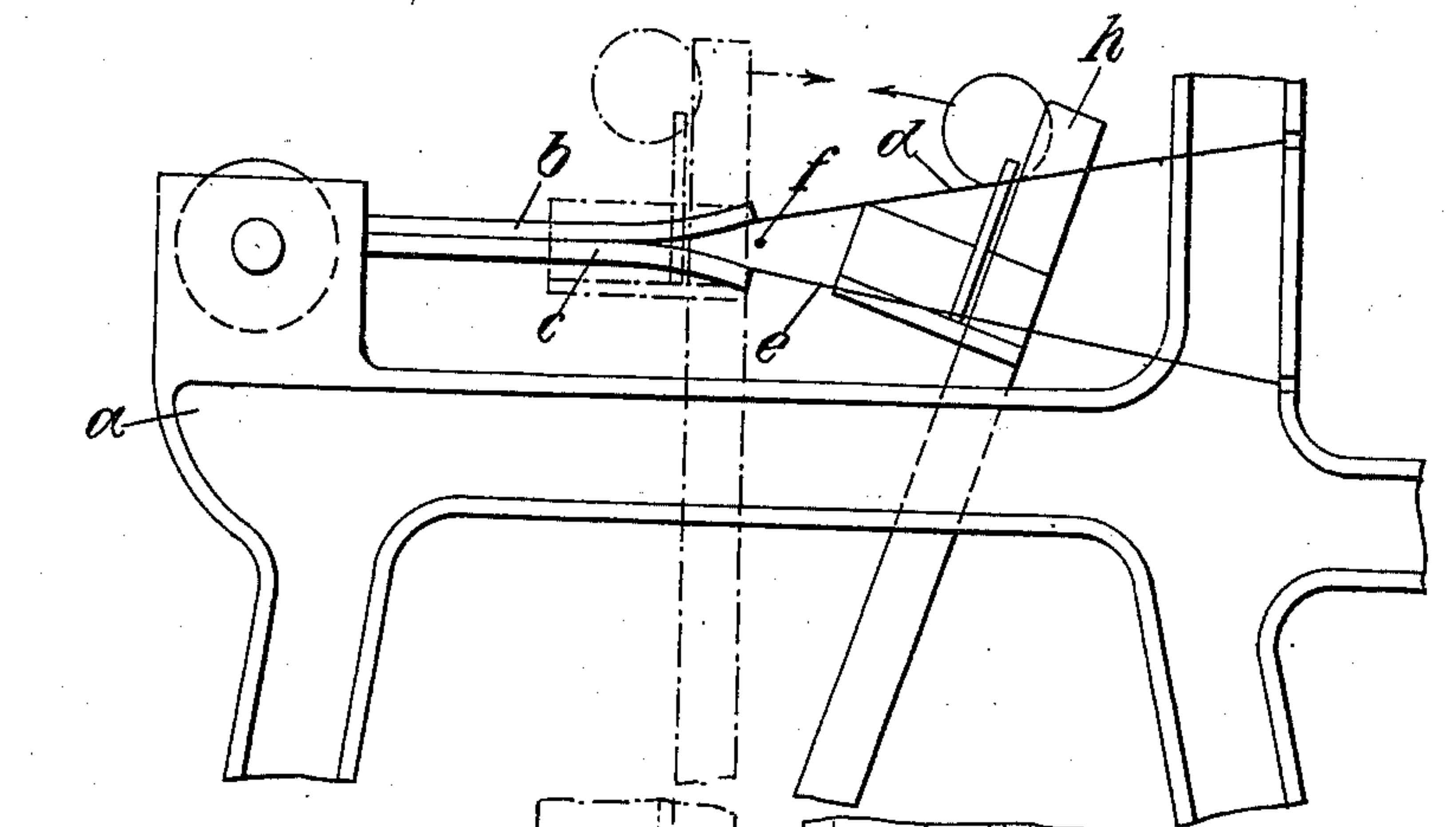


FIG. 2

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 Jack Pittman

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FIG. 3

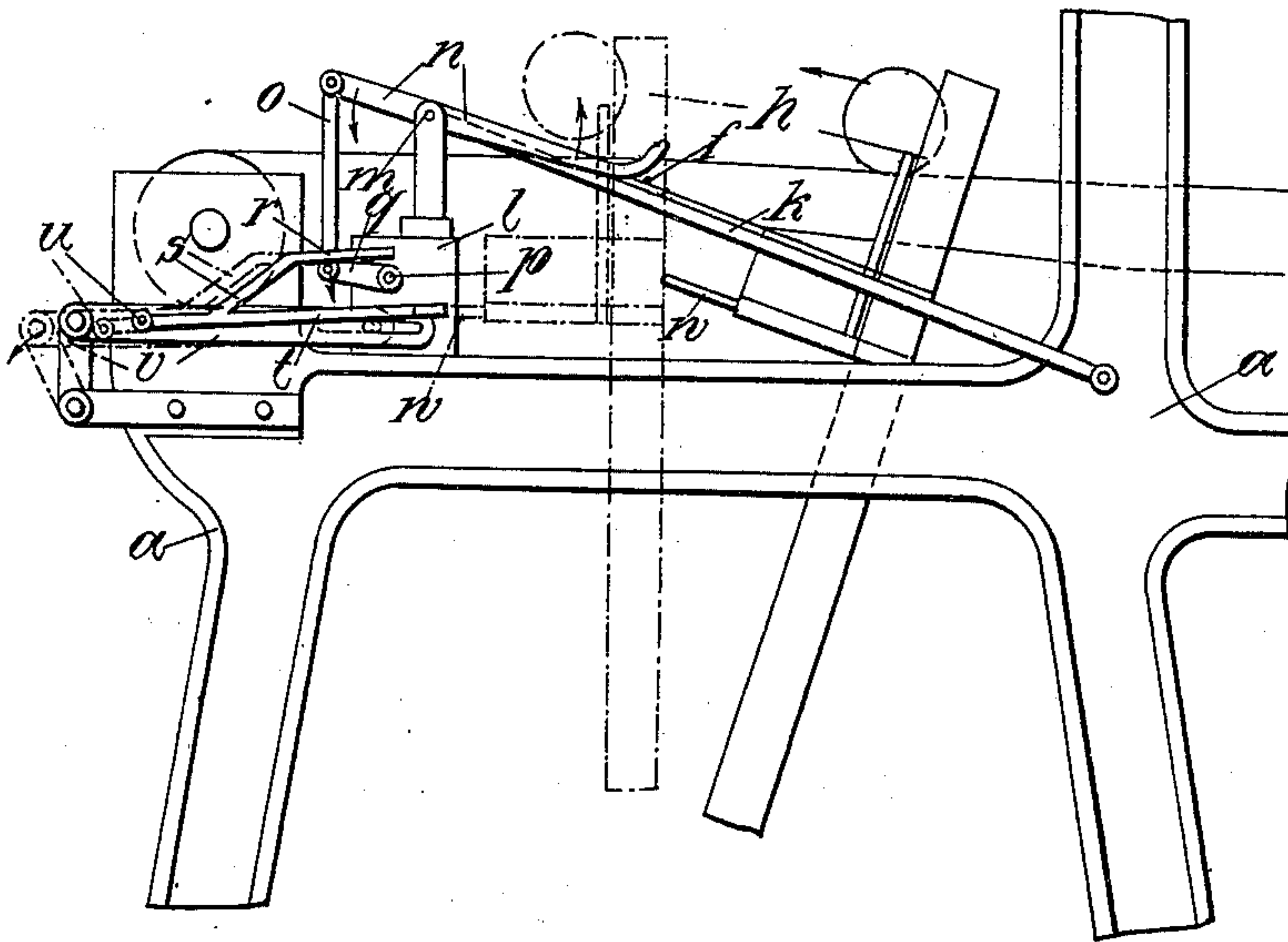
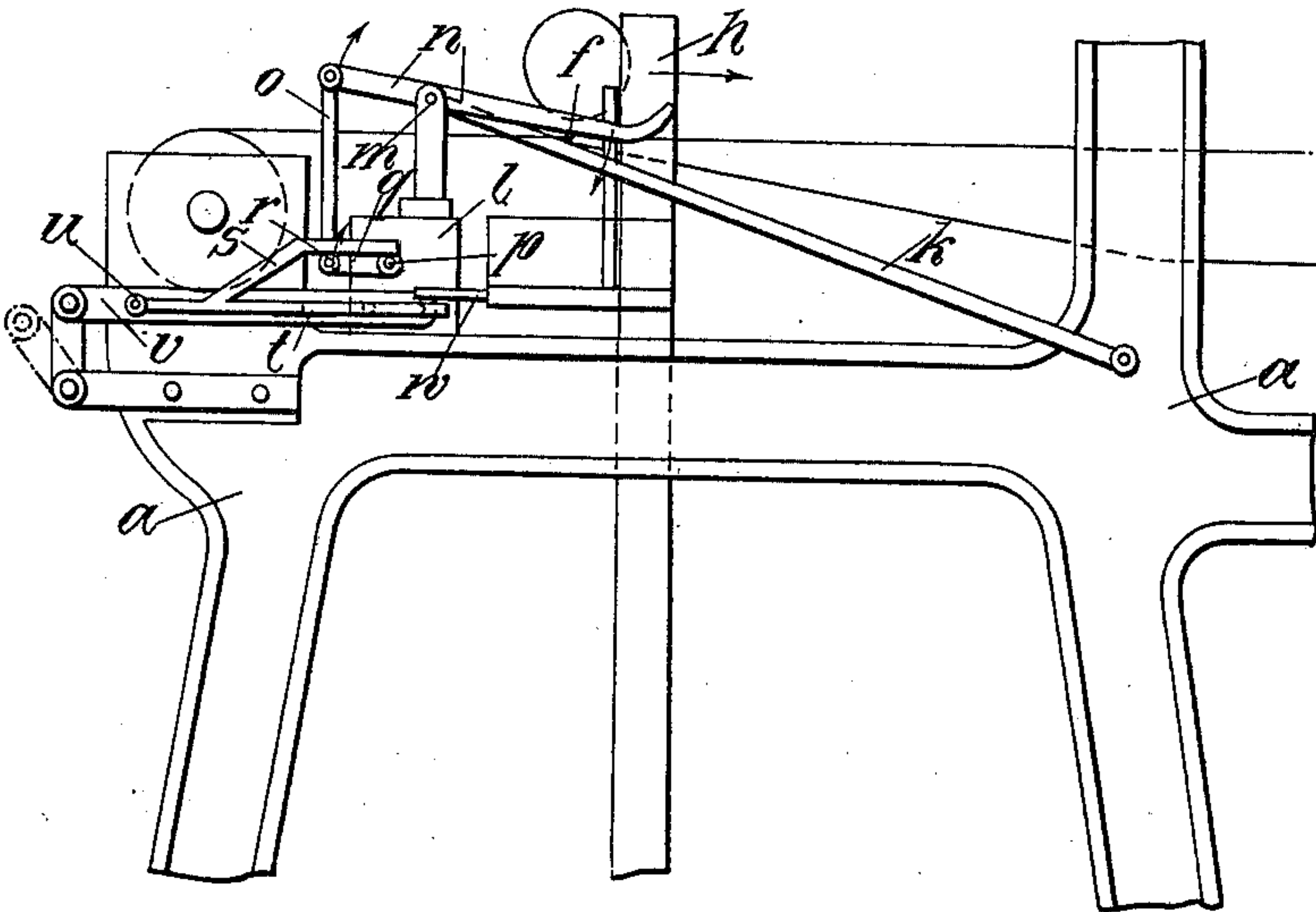


FIG. 4.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

OSKAR EILHAUER, OF NEUSTADT-ON-THE-ORLA, GERMANY.

CONTRIVANCE FOR THE TENSION OF WEFT-WIRE WITH WIRE-GAGE LOOMS.

964,150.

Specification of Letters Patent. Patented July 12, 1910.

Application filed August 3, 1908. Serial No. 446,810.

*To all whom it may concern:*

Be it known that I, OSKAR EILHAUER, a subject of the Emperor of Germany, residing at Neustadt, Orla, Germany, have invented certain new and useful Improvements in Contrivances for the Tension of Weft-Wire with Wire-Gage Looms, of which the following is a specification.

This invention relates to certain new and useful improvements in looms and the novel features thereof will be particularly pointed out in the appended claims.

As is well-known, the weft-wire for wire-gage looms must be stretched before the stroke in order to obtain a tight texture and at the same time to avoid the formation of a loop in the weft. For this purpose, I employ a pinching device located adjacent the shuttle box on the frame. This pinching device consists of flat rails, wire hoops or the like located within each other or upon each other, from each of the free ends of which one wire or the other, serving for the introduction of the weft into the pinching device, extends toward the lathe supporting the warp. The shuttle passes, without hindrance, the stretching or pinching device and places the weft-wire before the latter so that the wire gets into the pincers a little before the stroke of the lathe and is tightened thereby. If the shuttle reverses its direction of motion while the lathe is going back, then the weft-wire remains stretched from the weave to the place of pinching during the time in which the shuttle passes about a third of its movement and cannot form loops which might cause the carrying of the weft even if the wire is set free afterward. The same object may be attained by the substitution for the firmly fixed pinching devices of a tightly placed brace and a lever lying on the brace and turning around a fixed point. This arrangement has the especial advantage that it can be connected in a convenient manner with a disengaging gear for the loom which operates, if, for any reason, no weft-wire is introduced into the lash. To render possible the employment of a device of this kind with the device for the tension of the weft-wire upon the disengaging gear, the lever, capable of being turned, is lengthened beyond its turning point and is connected by a bar with a small one-armed lever, the free end of which serves as a support for the upper leg of a fork fastened so as to turn at the disengag-

ing arm, while the lower leg corresponds with a pounder fixed to the lathe, so that the pounder may shove back the disengaging arm by a pressure upon the lower back leg while striking at the lathe, if the fork is located in its position of rest. The disengaging arm then stops the loom in a well-known manner which, however, can only happen if no weft-wire is introduced in the lash, because otherwise the weft struck from the reed lifts the fore-arm of the lever lying on the brace while sliding along on the firmly placed brace of the tension device. In this case, the third arm of the lever falls at the same time with the small one-armed lever, so that also the fork fastened to the disengaging arm assumes a lower position and, as a consequence, becomes engaged with the pounder which thus cannot influence the disengaging arm.

The invention is clearly illustrated in the accompanying drawings which illustrate two forms of mechanism for carrying out the invention.

In the drawings, Figure 1 is a side view illustrating one form of the invention. Fig. 2 is a top plan of the same. Fig. 3 is a side elevation of another form, and Fig. 4 is a similar view with the parts shown in different position.

Referring first to Figs. 1 and 2, *a* designates the frame of a wire-gage loom of usual construction, except as hereinafter specified. Fitted upon opposite sides of this frame are the pincers *c* carried by the supports *b* and comprising plate rails, wire hoops or the like facing each other and with an intermediate space widening toward the free ends, forming a tapered or wedge-shaped opening.

*d*, *e* are wires connecting said pincers with fixed portions of the frame and are designed to secure proper introduction of the weft thread *f* into the wedge-shaped openings between the pincers. The other ends of the wires are connected with suitable supports *g*. The arrangement and connection of parts is such that the motion of the lathe *h* and the shuttle *i* is in no wise interfered with or hindered.

If a weft thread *f* is carried into the lash, it is just in advance of the free end of the pinching devices *c* and is firmly pushed and stretched at the stroke of the lathe, so that the weft-wire remains also firmly pinched with the then commencing reversal of the mo-



tion of the lathe *h* and the shuttle *i*, whereby the formation of a loop, which would cause a tearing of the wire, is prevented. The weft-wire remains so held until the shuttle  
 5 has passed again for a portion of its motion, say about one-third, and a loosening of the weft-wire takes place, so that it has no more unfavorable influence upon the operation and then the weft-wire, meanwhile  
 10 bent back, moves out of the pincers and is introduced into the lash.

Referring to Figs. 3 and 4, there will be seen a brace *k* on each side of the loom taking the place of the lower pinching rail of  
 15 the construction shown in Figs. 1 and 2, being shown on one side directly at the frame and on the other side at the beam *l*, and upon which latter is the two-armed lever *n* capable of being turned about the pivot point *m* and  
 20 serving in place of the pinching rail *b*. This lays itself. The rear arm of the lever *n* is connected by a bar *o* with a lever *q* pivoted at *p*. The leg *s* rests on the bolt *r* carried by said lever *q*. This leg *s* forms, together with  
 25 the part *t*, one piece and seizes the disengaging arm *v* at the point *u* in a flexible manner, so that the arm *v* rises or falls according to the motion of the lever *q* and in its highest position is opposite the pounder *w* or beater-  
 30 in fastened to the lathe *h*. The pounder *w* disengages the loom in a manner which will soon be set forth.

If a weft-wire *f* is carried into the lash and the lathe is then moving from the right  
 35 to the left, the wire will be tightened between the brace *k* and the lever *n*, at the same time elevating the latter. The lever *q* then assumes the position shown in Fig. 4, so that the pounder *w* cannot shove back the fork *s t*  
 40 which has, consequently, been lowered. Consequently, the loom continues to run in the normal way. If, however, for any reason, there be no weft-wire in the lash, then the  
 45 lever *u* remains, subsequent to the stroke of the lathe, in the position shown in Fig. 3,

and the pounder *w* pushes back the disengaging arm *v* by means of the fork *s t* and the loom is stopped.

If finer wires are used, which may tear while being suddenly taken out of the pinch- 50 ing device, it is advisable to make one of the pinching rails, for instance the upper one, elastic in the direction of the wire transmission, so that the drawing of the wire out of the pinching devices is not effected by a 55 short jerk but is brought about softly and without shocks, in consequence of the pliability of said rails.

It is evident that the fork *s t* may be formed of a single bar correspondingly bent. 60

What is claimed as new is:—

1. In a device of the character described, pinching devices embodying members with a tapered space therebetween into which the weft-wire is introduced and held, one mem- 65 ber of the pinching devices being elastic.

2. In a device of the character described, pinching devices embodying members with a tapered space therebetween into which the weft-wire is introduced and held, one mem- 70 ber of the pinching devices being elastic in the direction of the wire-transmission.

3. In a device for the purpose described, the combination with the lathe and the frame, of pinching devices mounted on the 75 frame and having tapered spaces therebetween, and means for forcing the weft thread into said pinching devices.

4. In a device for the purpose described, the combination with the lathe and the frame, 80 of pinching devices mounted on the frame and having tapered spaces therebetween, means for forcing the weft thread into said pinching devices, and means coöperating with the lathe for stopping the loom. 85

In testimony whereof I affix my signature.

OSKAR EILHAUER.

In the presence of—

J. C. ALPHAN,  
 CHARLES NEUER.