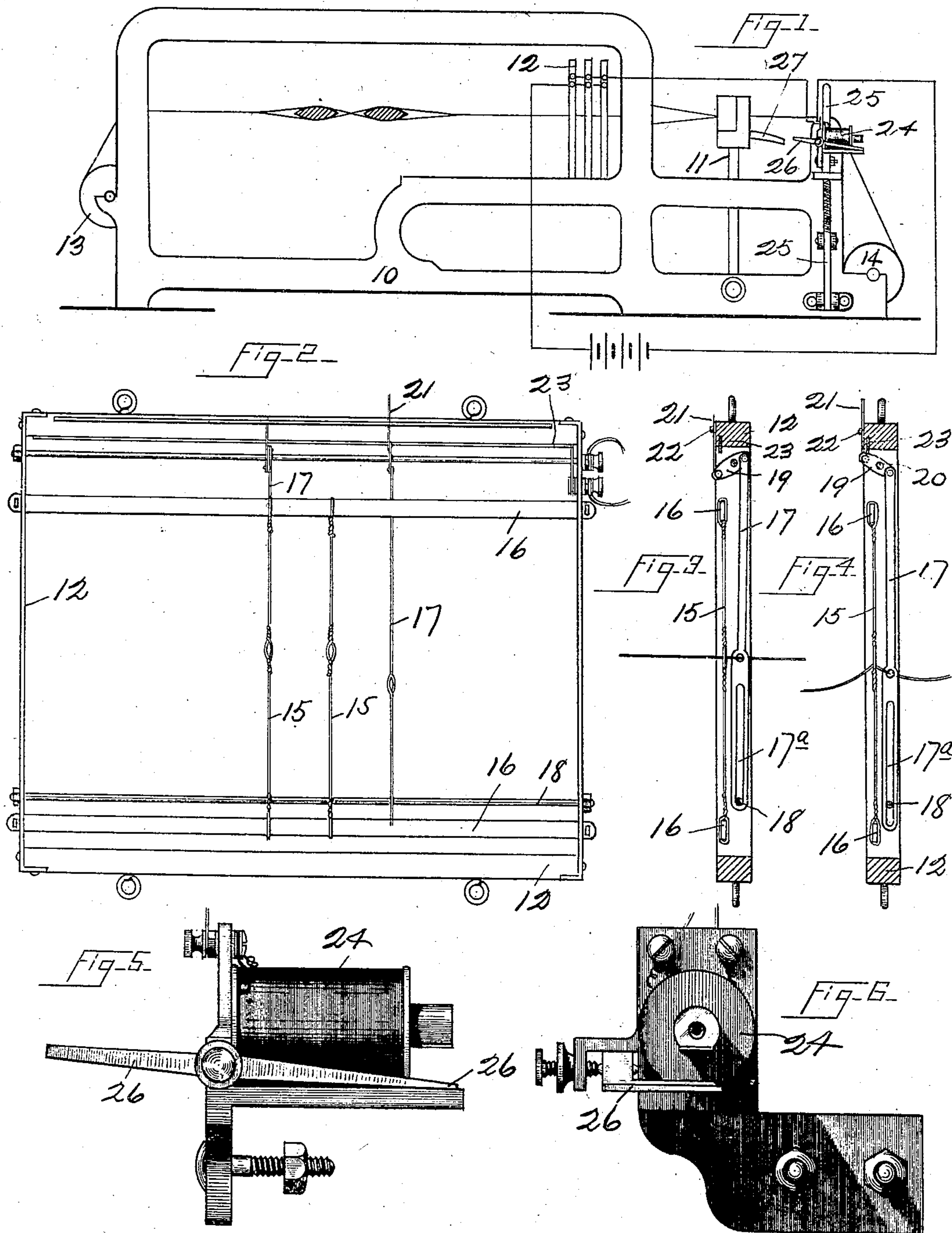


No. 886,769.

PATENTED MAY 5, 1908.

J. B. DERFINAK.
WARP STOP MOTION FOR LOOMS.

APPLICATION FILED SEPT. 16, 1907.



WITNESSES

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JOSEPH B. DERFINAK, OF MYSTIC, CONNECTICUT.

WARP STOP-MOTION FOR LOOMS.

No. 886,769.

Specification of Letters Patent.

Patented May 5, 1908.

Application filed September 16, 1907 Serial No. 392,967.

To all whom it may concern:

Be it known that I, JOSEPH B. DERFINAK, a citizen of the United States, residing at Mystic, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Warp Stop-Motions for Looms, of which the following is a specification.

This invention relates to that class of stop-motions in which metallic drop wires are suspended upon the warp threads in such relation to an open electric circuit that, immediately upon the breaking of any one of the warp threads, the wire suspended thereupon will drop by gravity and close the circuit, thus inciting to action suitable mechanism by means of which the belt-shipper is operated and the loom is thus automatically stopped.

This invention has for its particular object the improvement of the said drop-wires, to the end that they may be readily suspended upon the warp-threads and I also provide with each drop-wire an indicator whereby the breaking of a warp-thread will be visibly noted.

In order to aid in explaining my said invention I have provided the accompanying drawings in which

Figure 1 is a side elevation of a loom-frame having mounted therein stop mechanism including my present improvements. Fig. 2 is a relatively enlarged view of one of the harnesses, or heddle frames, having two heddle wires and two drop-wires mounted therein. Figs. 3 and 4 are cross-sectional views of said heddle frame, the former showing the warp thread intact and under tension and the latter showing said thread as broken and the drop-wire in proper position to close the circuit and stop the loom. Figs. 5 and 6 are, respectively, side and end views of a convenient form of magnet for use in connection with the belt-shipping mechanism.

Referring to these drawings, the numeral 10 indicates the end frame of a loom, 11 the lathe or batten, 12 the harness, 13 the warp beam and 14 the take-up beam at the front of the loom; only those parts of the loom being illustrated that have special relation to my present invention.

Heddle wires 15, of ordinary form, are mounted upon bars 16 extending from end to

end of the harness 12 and for each of said heddle wires I provide a drop-wire 17; each heddle and its companion drop-wire being formed with guide eyes that register with each other so long as the warp threads are unbroken and under tension (see Fig. 3 and also the left-hand heddle and its drop-wire in Fig. 2).

The lower end portion of each drop-wire 17 is slotted as at 17^a and straddles a wire 18 fixed in the lower part of the harness, while the upper end of each drop-wire is pivoted to a short lever 19 that is fulcrumed on a wire 20 near the upper portion of the harness. The other end of lever 19 has pivoted thereto a short wire 21 that extends upwardly through a guide-eye 22. The reference numeral 23 denotes a metallic wire or plate extending from end to end of the harness in such relation to the lever 19 that when the wire 17 drops, because of a broken thread, the lever 19 will rock upwardly into engagement with the said wire 23 (see Fig. 4) and the short wire 21 will be correspondingly raised. This brings the wire 21 into the view of the operator of the loom and said wire then serves as a visible indicator to call particular attention to the broken threads.

The wires 20 and 23 are included in an electric circuit and the lever 19 serves as the circuit maker and breaker, that is to say, when the warp threads are unbroken, as seen in Fig. 3, the lever 19 is held out of engagement with wire 23 and the circuit is kept open but, so soon as a thread breaks and the wire 17 drops, as seen in Fig. 4, the lever 19 engages wire 23 and thus closes the circuit and energizes a magnet 24 secured to a shipper rod 25 of ordinary construction located at the front of the loom. When the magnet is thus energized the oppositely extending end of the armature 26 is rocked downwardly into the path of a stud or other projection 27 carried by the batten and the shipper rod 25 is released and the belt shifted so as to stop the loom.

Having thus described my invention I claim:—

1. In a warp stop-motion, in combination with a normally open electrical circuit, a heddle wire, a drop-wire slidably supported at one end, a lever hinged to the other end of said drop-wire; said lever operating to close

the said circuit upon the dropping of the said drop-wire.

2. In a warp stop-motion, in combination, a normally open electrical circuit, a drop-
5 wire slidably supported at one end, a lever hinged to the other end of said drop-wire and an indicator connected to said lever; the said

lever operating to close the circuit upon the dropping of the said drop-wire.

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