

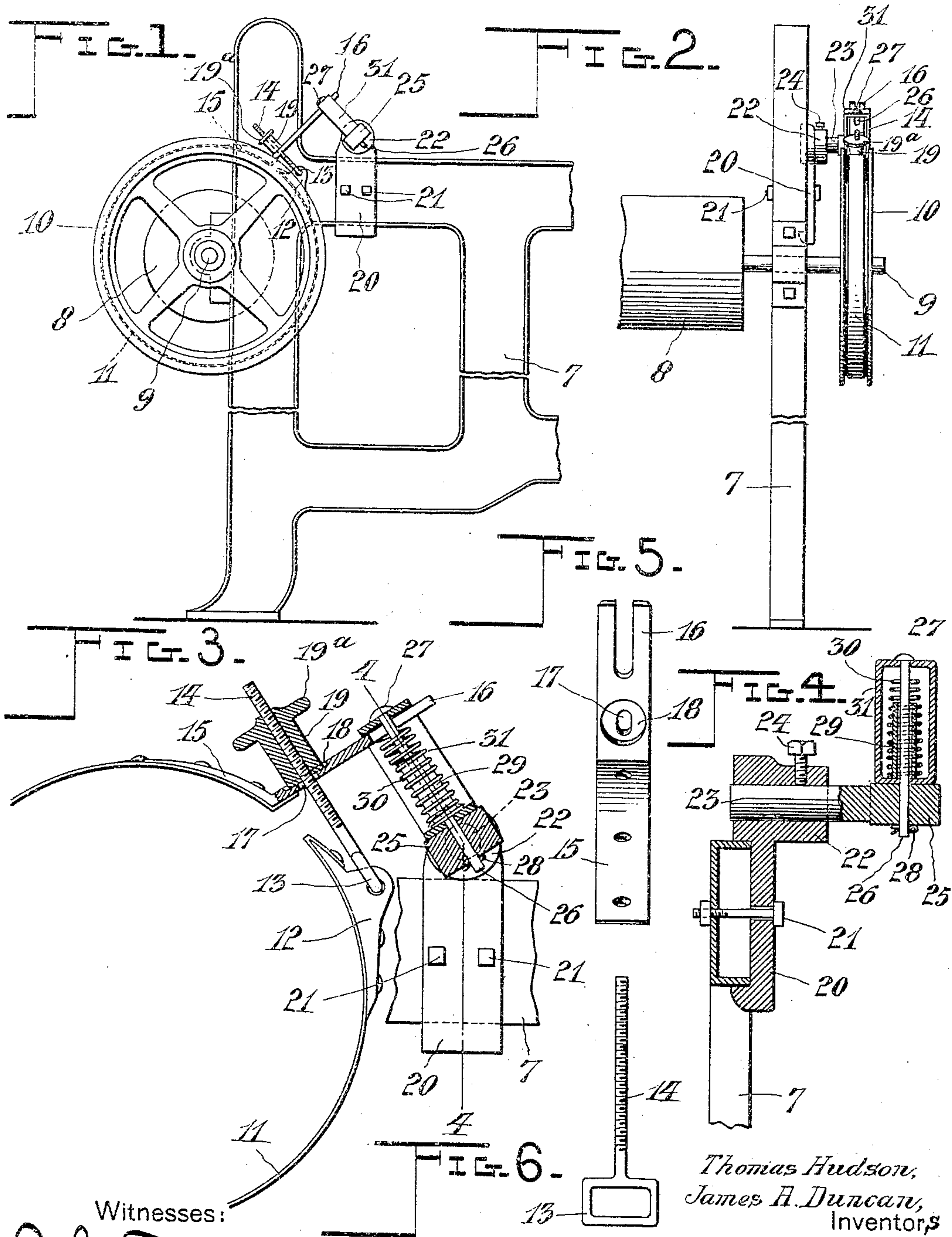
No. 778,668.

PATENTED DEC. 27, 1904.

T. HUDSON & J. A. DUNCAN.

FRICION LET-OFF MECHANISM FOR LOOMS.

APPLICATION FILED JUNE 10, 1904.



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FRICTION LET-OFF MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 778,668, dated December 27, 1904.

Application filed June 10, 1904. Serial No. 211,915.

To all whom it may concern:

Be it known that we, THOMAS HUDSON and JAMES A. DUNCAN, subjects of the King of Great Britain, residing in the city of Sherbrooke, county of Sherbrooke, in the Province of Quebec, Canada, have invented certain new and useful Improvements in Friction Let-Off Mechanism for Looms; and we do hereby declare that the following is 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.

This invention has reference to an improvement in brakes for the warp-beams of looms; and it consists in the peculiar and novel construction of the tension device whereby the frictional resistance of the brake on the warp-beam can be adjusted and the adjustment retained, as will be more fully set forth herein-after.

In a loom the warp-beam carrying the warp for the fabric to be woven is partially rotated from time to time and usually at each pick to let off the warp as the woven fabric is taken up. The warp-beams are usually provided with some kind of friction-brake which may be adjusted to regulate the frictional resistance. When a new warp-beam is inserted into the loom, the tension must be again regulated, so as to hold the warp taut during the forming of the shed and the beating up of the filling.

The object of this invention is to so construct the brake that warp-beams may be exchanged without readjusting the tension on the brake and to secure a more reliable frictional resistance on the warp-beam and more uniform tension on the warp.

Referring to the drawings, in which similar numerals of reference indicate corresponding parts in all the views, Figure 1 represents that portion of a loom-frame in side elevation to which our invention is attached. Fig. 2 is a front elevational view thereof. Fig. 3 is an enlarged detail view, partly broken away and shown partly in section, illustrating a fragment of one of the side bars of the loom with our device attached thereto. Fig. 4 is a sectional view taken on the line 4-4 of Fig. 3. Fig. 5 is a detached detail view of a bi-

furcated extension connected with the brake-band shown in Fig. 3. Fig. 6 is a detail view of the rockable adjusting-rod which is connected with the opposite end of said brake-band.

Referring to the parts, 7 indicates the frame of a loom to which the invention is applied.

8 is the warp-beam, which, as shown in the drawings, is supported on the shaft 9, which is provided with the beam-head 10. For convenience of operation the beam-head is formed with a peripheral channel in which is held the brake-band 11. (Shown in detail in Fig. 3.) The band 11 is provided at or near one end with the bearing-block 12, in which is rockably mounted the yoke 13 of the screw-threaded rod 14. Upon or near the opposite end of the band 11 is connected an extension 15, which terminates in the bifurcated end portion 16, and is provided with the perforation 17, through which the rod 14 is projected, said perforation 17 being slightly elongated, as shown in Fig. 5, so as to permit more or less vibration of the band 11 when in use. Upon the upper face of the extension 15 and surrounding the perforation 17 is a seat 18, upon which rests the screw-threaded nut 19, which engages with the rod 14 for the purpose of tensioning the band 11 upon the head 10.

Connected with the frame 7 is a bracket 20, which is secured thereupon by means of bolts 21, projected through such bracket and the frame, as shown in Fig. 4, and the upper end of the bracket 20 terminates in a bearing 22, in which is rockably mounted the stud-shaft 23, which stud-shaft may be locked in any predetermined position by means of the set-screw 24 passing downwardly through the bearing 22 and impinging such shaft. The outer end of the shaft 23 is provided with a non-circular portion 25, which is perforated, as shown in Fig. 4, and through this perforation is projected a stem 26, which is provided with an upset end portion 27 and is locked in position by means of the key 28. Upon the stem 27 is mounted a sleeve 29, surrounding which is the compression-spring 30. It is evident that the tension of the band 11 upon the wheel 10 may be regulated to a nicety by means of the nut 19, which is pref-

erably provided with a milled head 19^a for convenience of operation, and when the device is once adjusted it may be used continuously without further adjustment in doing the same class of work.

In securing the device in position for operation the band 11 is secured upon the wheel 10, and the bifurcated extension 16 is projected within the yoke 31, after which tension of the band may be regulated by means of the nut 19, before referred to, and, if desired, the yoke 31 may be rocked upon its supporting-shaft to place it in proper position, so that the spring 30 will receive the impact of the bifurcated extension 16 when the brake-band is rotated with the brake-head 10 during the time of feeding, and it will be evident that the brake may be removed with the brake-head, if desired, without changing the tension and warp-beams may be changed without readjusting the tension on the brake.

While we have shown in the accompanying drawings the preferred form of our invention, it will be understood that we do not limit ourselves to the precise form shown, for many of the details may be changed in form or position without affecting the operativeness or utility of our invention, and we therefore reserve the right to make all such modifications as are included within the scope of the following claims or of mechanical equivalents to the structures set forth.

Having described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a loom, a warp-beam, friction let-off mechanism therefor including an annular brake-band, a bearing near one end of said band, a screw-threaded rod rockably mounted in said bearing, an extension on the opposite end portion of said band, and a rockable cushion coöperating therewith.

2. In a loom, a warp-beam, friction let-off

mechanism therefor including an annular brake-band, a bearing near one end of said band, a perforated extension on the opposite end portion of said band, a rod held in said bearing and adapted to project through the perforation in said extension, an adjusting means on said rod, and a cushion coöperating with said extension.

3. In a loom, a warp-beam, friction let-off mechanism therefor including an annular brake-band, a bearing near one end of said band, a perforated extension on the opposite end portion of said band, a rod held in said bearing and adapted to project through the perforation in said extension, an adjusting means on said rod, and a rockable cushion coöperating with said extension.

4. In a loom, a warp-beam, friction let-off mechanism therefor including an annular brake-band, a bearing near one end of said band, a perforated extension on the opposite end portion of said band, said extension being bifurcated at its free end, a rod held in said bearing and adapted to project through the perforation in said extension, an adjusting means on said rod, and a cushion coöperating with said extension.

5. In a loom, a warp-beam, friction let-off mechanism therefor including an annular brake-band, a tension-rod rockably mounted near one end of said band, a perforated extension near the opposite end of said band, said extension being bifurcated at its end, a rockable yoke, a stem therein adapted to enter the said bifurcation, a spring on said stem, and a tensioning-nut on said rod.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

THOMAS HUDSON.
JAMES A. DUNCAN.

Witnesses:

G. E. BORLASE,
A. JONCAS.