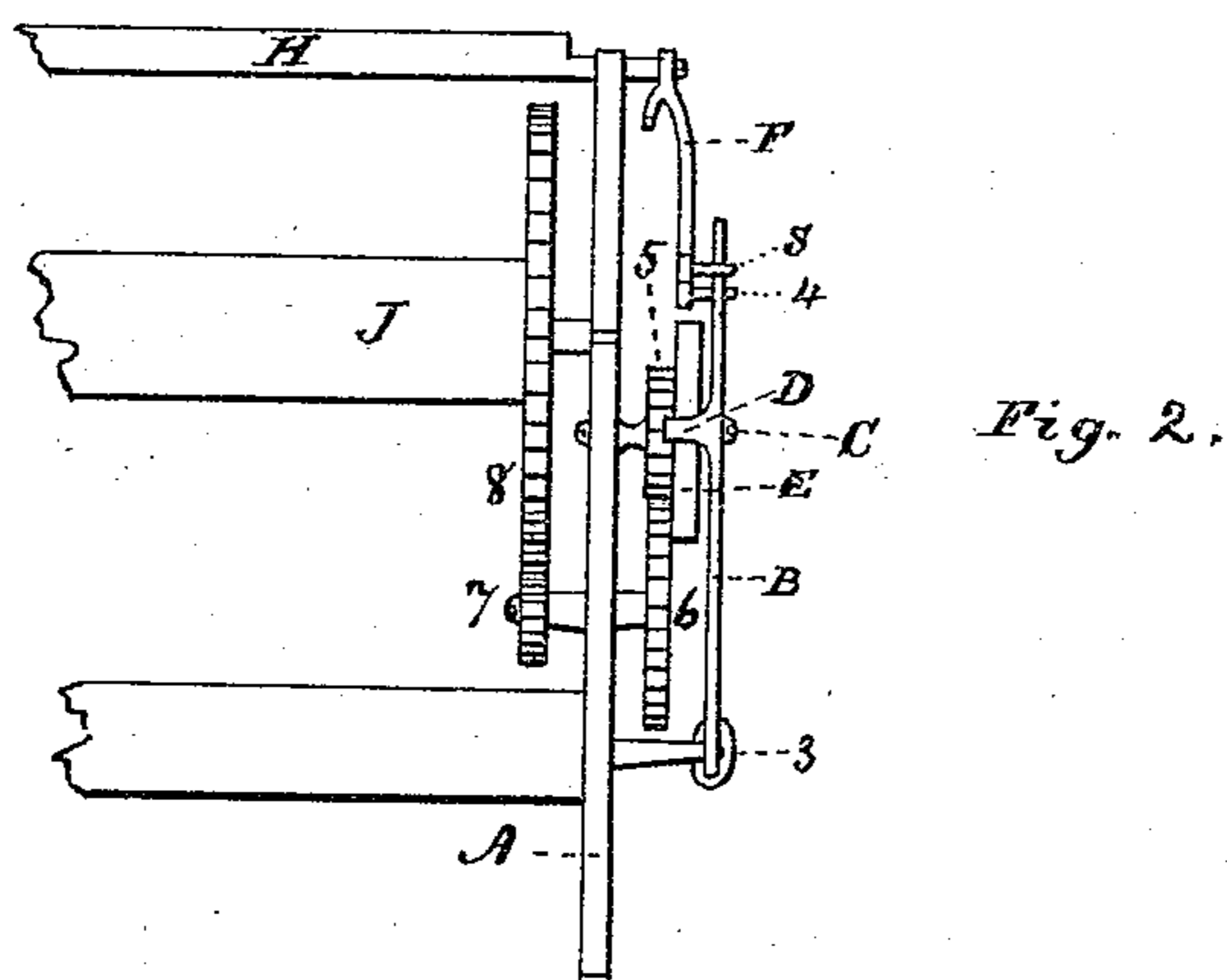
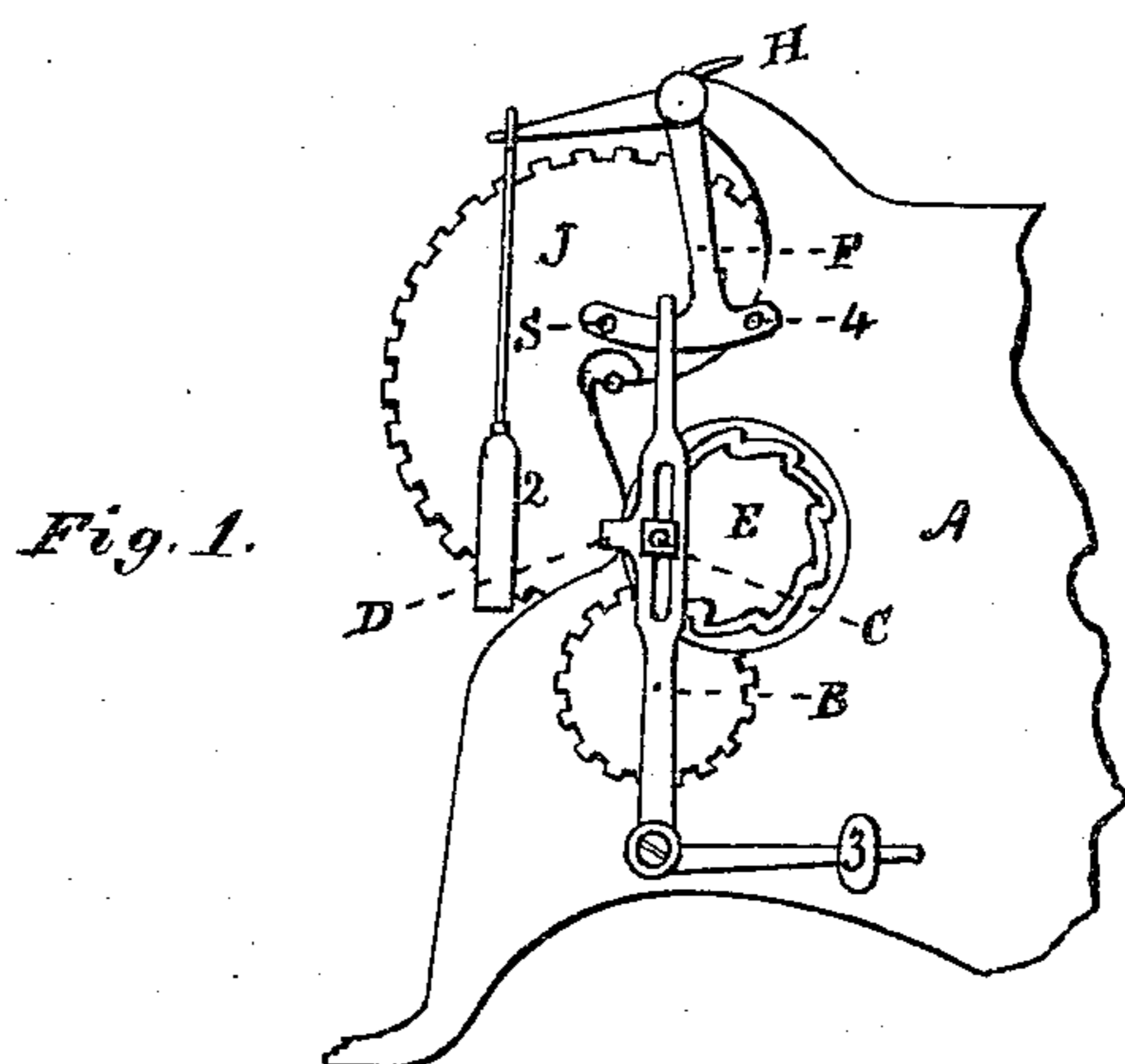


J. MASON.

Let-Off Mechanisms for Looms.

No. 153,264.

Patented July 21, 1874.



Witnesses:

Inventor:

Laurens V. Francis
Arthur Mason

Gapheth Mason

UNITED STATES PATENT OFFICE.

JAPHETH MASON, OF TAUNTON, MASSACHUSETTS.

IMPROVEMENT IN LET-OFF MECHANISMS FOR LOOMS.

Specification forming part of Letters Patent No. **153,264**, dated July 21, 1874; application filed May 27, 1874.

To all whom it may concern:

Be it known that I, JAPHETH MASON, of Taunton, Bristol county, Massachusetts, have invented an Improved Let-Off Motion for Looms, of which the following is a specification:

The object of my invention is to so regulate the motion of the beam as to let off the warp therefrom just when and in the amount required. It consists in regulating this motion by the pressure of the warp upon the "whip-roll," independent of any other part of the loom.

The mechanism by which this is accomplished is shown in the accompanying drawings making a part of this specification, in which—

Figure 1 is a view of part of a loom side with the parts attached thereto necessary to illustrate this invention, and Fig. 2 a back-end view of the same with the weight 2 removed.

A, a part of a loom side or frame; B, a bent weighted lever; C, a pin or stud attached to the lever B, and held against the teeth of the face ratchet-cam by the weight 3; D, a guard to prevent the pin C from being thrown off of the face ratchet-cam; E, the face ratchet-cam; F, a bent lever attached to the axis of the whip-roll; 4, a pin or stud in this lever, which acts upon the lever B; H, the whip-roll; J, the beam: and 5, 6, 7, and 8, gear-wheels connecting the beam J with the face ratchet-cam E.

The operation of this improved let-off is very readily seen. When the tension of the warp is too great, the pressure of the threads upon the whip-roll H causes it to be slightly depressed, and consequently moves the lever F, striking the spur or stud 4 against the lever B, carrying it off far enough to disengage the pin or stud C from one tooth of the face ratchet-cam E, when the weight 3 causes the lever B to return to its former position, thus permitting the beam to turn or let off the warp, and relieving the pressure upon the whip-roll. The amount of pressure upon the whip-roll required for this purpose may be regulated by moving the stud C up or down

in the slot in the lever B. Should more thread be let off than is required to relieve this pressure, the weight 2 immediately comes into action, raising the edge of the whip-roll H against the warp, thus retaining the proper tension thereof.

The lever B and face ratchet-cam E are controlled by the whip-roll H, through the pin or stud 4 only. The other pin, S, on the same lever has no effect upon the let-off, but simply prevents too great latitude in the motion of the whip-roll.

The number of "picks" or threads per inch, which varies according to the kind of cloth being woven, is regulated by the gear-wheel 5 at the back of the face ratchet-cam E.

Upon actual trial, it has been found that the let-off motion herein described possesses the following advantages: First, the warp is always of the same tension; second, the breakage of the threads and consequent stoppage of the loom to repair are in a great measure avoided; third, by this uniformity of tension the harnesses wear very much longer; fourth, it is a durable mechanism; fifth, it is adapted to any style or weight of goods, from cambric to canvas; sixth, it works as well with the whip-roll near to the harnesses as when farther off; and, seventh, any undue slackness of the warp, as is the case after lowering the whip-roll, may be easily taken up on the beam; or, in other words, the beam may be easily reversed by simply turning back, by hand, the face ratchet-cam.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the whip-roll H, the bent weighted lever B, with its adjustable stud C and guard D, and the face ratchet-cam E, all operating together as and for the purpose set forth.

2. In combination with the face ratchet-cam E, the lever B and arm F, having the stud 4, and controlled by the whip-roll H, all operating together as and for the purpose set forth.

JAPHETH MASON.

Witnesses:

LAURENS N. FRANCIS,
ARTHUR MASON.