

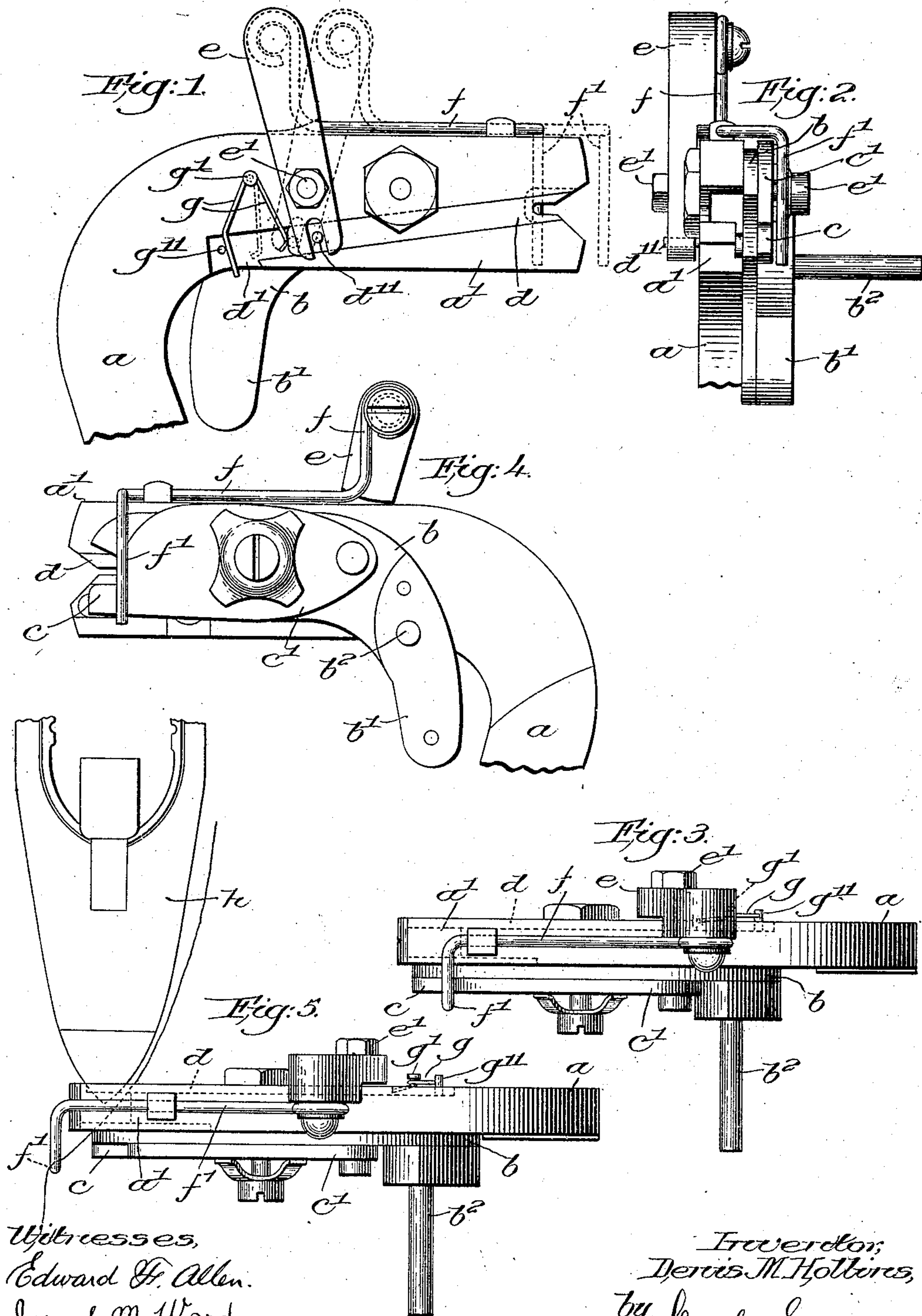
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PATENTED JAN. 29, 1907.

D. M. HOLLINS.

THREAD PARTER FOR WEFT REPLENISHING LOOMS.

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Witnesses,
Edward H. Allen.
Joseph M. Ward,

Inventor,
Dennis M. Hollins,
by Masby Gregory,
attys.

UNITED STATES PATENT OFFICE.

DENIS M. HOLLINS, OF BLACKBURN, ENGLAND, ASSIGNOR TO DRAPER COMPANY, OF HOPEDALE, MASSACHUSETTS, A CORPORATION OF MAINE.

THREAD-PARTER FOR WEFT-REPLENISHING LOOMS.

No. 842,666.

Specification of Letters Patent.

Patented Jan. 29, 1907.

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To all whom it may concern:

Be it known that I, DENIS MACHELL HOLLINS, a subject of King Edward VII of Great Britain, and a resident of Blackburn, England, have invented certain new and useful Improvements in Thread-Parters for Weft-Replenishing Looms, of which the following description, in connection with the accompanying drawings, is a specification.

10 This invention relates to the thread parter or cutter and clamp employed in automatic filling-replenishing looms for cutting or parting the thread of filling between the cloth and the shuttle while or immediately after
15 the shuttle is positioned in the shuttle-box to receive the fresh filling-supply; and the object of my improvements is to apply in combination with any suitable parting and clamping device means for acting when the shuttle
20 is not properly boxed and the filling-replenishing mechanism is not actuated to move the filling-thread away from or prevent it entering the clamp and being severed.

At the present time in the event of the
25 shuttle failing through any cause to enter fully into the shuttle-box adjacent to the thread parter and clamp when the filling in the shuttle is not practically exhausted the jaws or blades of the device are forced open
30 by the projecting tip of the shuttle as the lay beats up, and as a consequence of this the filling-thread lying between the cloth and the shuttle enters between same and is held and
35 parted by the closing of the jaws as the lay recedes to back center, thereby severing the filling-thread when not called for and causing faulty weaving or premature filling replenishment or stoppage of the loom.

To avoid the objectionable results of the
40 severance of the filling when not called for, I have devised means for preventing the entrance of the thread or filling into the thread-parter when the shuttle fails to enter fully into the adjacent shuttle-box at any period
45 in the operation of the loom when such parting of the thread is not required.

In order that my invention may be fully understood, I hereinafter make reference to the accompanying drawings, in which—

50 Figure 1 is outer side elevation of the thread-parter and clamp having my improvements applied thereto. Fig. 2 is rear end elevation of same. Fig. 3 is plan view of Fig. 2. Fig. 4 is an inner or opposite side

elevation to that shown at Fig. 1; and Fig. 5 55 is a plan of Fig. 4, showing an improperly-boxed shuttle and the thread-guard in operative position.

Referring to the drawings, *a* represents the swinging support bent rearwardly at its upper end to constitute the shuttle-feeler *a'* to move in well-known manner across the raceway of the lay at the entrance of the adjacent shuttle-box if the shuttle is properly boxed. The movable member *b* common to the
60 thread-parter and thread-clamp is mounted on the notched upper end of the arm *a* and coöperates with the fixed cutting-blade *c* and with the flat face of the fixed member *c'* of the clamp, so that the filling-thread between
65 the cloth and shuttle when boxed for filling-replenishing will be acted upon and first clamped by the members *b* and *c'* and then
70 parted by the members *b* and *c*, the swinging movements of the arm *a* bringing the parting
75 and clamping devices into position to engage the filling.

The lay (not shown) is cut away to present a shoulder to engage the heel *b'* of the blade-jaw *b* when the lay completes its forward beat to thus operate said blade-jaw, which is opened thereafter by the setting-pin
80 *b²* in the usual way, and while the thread is still clamped it is brought by the return of the arm *a* to normal position into the range
85 of a thread-cutting temple (not shown) to part the thread adjacent the cloth upon a subsequent forward beat up of the lay.

The above parts are old and form no part of my present invention, which consists in
90 applying to said means or to any other construction of thread parter and clamp new or improved means for forcing the filling away from the thread-parter when the shuttle fails to box properly, the said means in the
95 embodiment of my invention shown in the annexed drawings comprising a slide *d*, movable endwise in a guideway, such as ways or a groove *d'* in the outer side of the shuttle-feeler *a'* and having its end beveled
100 or inclined inwardly from the upper and lower edges thereof to correspond with the angular mouth at the rear end of the shuttle-feeler *a'* and preferably ending in a recess, as shown. The slide *d* carries a pin *d''*, with
105 which engages the forked or slotted end of a lever-arm *e*, pivoted at *e'* on the arm *a*. To the outer or upper end of the lever-arm *e* is

pivotaly connected a length of wire *f*, which is bent downwardly to the top of the thread-parter and is continued horizontally along the upper edge of the arm *a* and bent outwardly again at right angles near the rear end of the said arm *a* to form a guard *f'*.

The slide is maintained in its rear or normal position by a leaf or other suitable spring *g*, coiled around a stud or pin *g'* and engaging at one end with a slide *d* and at the opposite end with a pin *g''* on the arm *a*.

Normally the guard and parts cooperating therewith occupy the positions shown in full line at Figs. 1 and 4, the guard *f'* being withdrawn clear of the mouth of the thread-parter and clamp, so that the latter may operate in the usual way to part the thread between the cloth and the shuttle in the adjacent box when the shuttle is boxed therein for filling replenishment.

If the shuttle *h* fails to box properly, as illustrated at Fig. 5, the tip thereof as the lay beats up is brought into engagement with the shuttle-feeler and with the rear end of the slide *d*, forcing the latter forward and moving the lever *e* from full to dotted line position, Fig. 1, the rocking of the lever in this way forcing the guard-wire *f* rearwardly to place the guard *f'* beyond the mouth of the shuttle-feeler and the blades on the parter, as shown in dotted line in Fig. 1 and in full line in Fig. 5, the guard engaging the filling-thread and holding it clear of the thread-parter.

By the means described the filling-thread cannot possibly be caught in and severed by the thread-parter when the shuttle fails to box properly, being moved and held away from the said parter by the guard *f'*, which is actuated to place it in operative position by the shuttle itself when not fully in the adjacent-box on the beat up of the lay.

Although I have shown my improved guard applied to the thread parter and clamp herein shown and described, it will be understood that it may be applied to any construction of thread-parter for parting the thread between the cloth and the shuttle and that any suitable means adapted to be moved by an improperly boxed shuttle to force the guard to and beyond the end of the thread-parter may be adopted as found to suit the construction of thread-parter employed.

It will also be manifest that the guard or shield for engaging and holding the thread clear of the thread-parter may vary in construction and arrangement, the essential fea-

ture being the provision of a guard which by suitable connections whose operation is determined by the abnormal position of the shuttle in the shuttle-box will be advanced rearwardly beyond the end of the thread-parter and engage and carry with it the filling lying between the shuttle and the cloth.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In automatic looms, the combination with means for clamping and parting the thread between the cloth and the shuttle when filling replenishment takes place, of a guard or shield movable rearwardly beyond the end of the parter by connection or connections adapted to be engaged and operated by an improperly-boxed shuttle in the adjacent shuttle-box, in the manner and for the purpose substantially as herein set forth.

2. In automatic looms, a shuttle-feeler provided with a guideway, a slide movable therein and adapted to contact with and be moved by an improperly-boxed shuttle, a normally inoperative guard or shield, and a lever-like connection pivotaly connected therewith and with the slide, to move rearwardly and operatively position the guard or shield by shuttle-induced movement of the slide.

3. In automatic looms, the combination with means to clamp and part the thread between the cloth and the shuttle when filling replenishment takes place, of a guard or shield for the thread, and means actuated by or through contact with an improperly-boxed shuttle to operatively position the guard or shield and thereby prevent cooperation of the clamping and parting means upon the thread.

4. In automatic looms, a shuttle-feeler *a'* provided with a guide-recess, a slide longitudinally movable therewith and adapted to contact with and to be moved by an improperly-boxed shuttle, a lever *e* fulcrumed on the shuttle-feeler and operatively connected with the slide, and a normally inoperative shield or guard as *f'* pivotaly connected to said lever and adapted to be moved into operative position by or through shuttle-induced movement of the slide.

In testimony whereof I affix my signature in the presence of two witnesses.

DENIS M. HOLLINS.

Witnesses:

ERNOLD S. MOSELEY,
MALCOLM SMETHURST.