

(No Model.)

E. CLARKSON.
GILL FALLER.

No. 476,785.

Patented June 14, 1892.

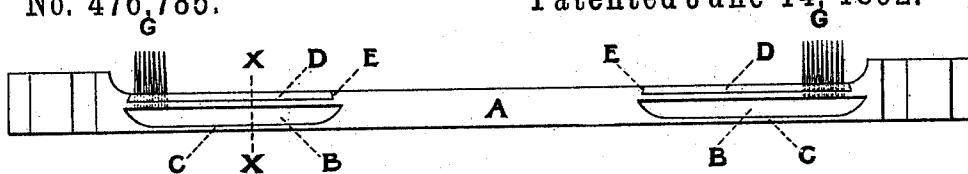


Fig. 1

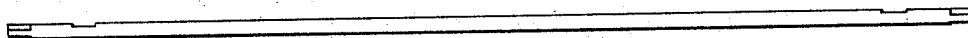


Fig. 2

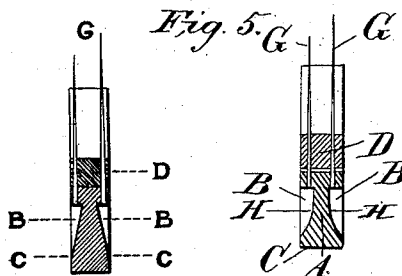


Fig. 3

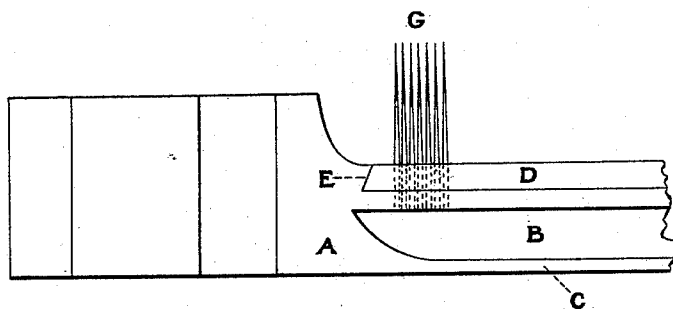


Fig. 4

WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD CLARKSON, OF BRADFORD, ENGLAND, ASSIGNOR OF ONE-HALF TO
EDWIN FARNELL, OF WOONSOCKET, RHODE ISLAND.

GILL-FALLER.

SPECIFICATION forming part of Letters Patent No. 476,785, dated June 14, 1892.

Application filed February 26, 1891. Serial No. 382,591. (No model.) Patented in England October 12, 1885, No. 12,094.

To all whom it may concern:

Be it known that I, EDWARD CLARKSON, a subject of the Queen of Great Britain, residing at Bradford, in the county of York, England, have invented a new and useful Improvement in Gill-Fallers, (for which I have obtained a patent in Great Britain, No. 12,094, bearing date October 12, 1885;) and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which—

Figure 1 is an elevation of a gill-faller constructed according to this my invention. Fig. 2 is a plan view of the back of the said gill-faller. Fig. 3 is a vertical transverse section taken through the gill-faller on line *x x* of Fig. 1, wherein the form of the inner faces of the recesses in the sides of the faller-bar are shown straight in cross-section. Fig. 4 is an elevation of the said gill-faller, drawn to an enlarged scale. Fig. 5 is a vertical transverse section taken through the gill-faller on line *x x* of Fig. 1, similar to Fig. 3, except that the form of the inner faces of the recesses in the side of the faller-bar are shown as concave in cross-section.

Similar letters refer to similar parts throughout the several views.

My invention relates to improvements in gill-fallers employed in the combing or preparing of wool and other fibers; and it consists in constructing the faller head or bar with one or more recesses formed in one side or in the two opposite sides thereof, according as it is desired to employ a single or double row of pins, the inner face of the recess tapering or running out toward the back or lower edge of the bar. By this means the depth of the holes required for the insertion of the gills or pins is reduced, and the cost and labor of drilling the holes thereby greatly lessened, without seriously or injuriously reducing the strength and weight of the faller, and at the same time affording ample room for the easy and convenient drilling of the holes and insertion of the pins.

A is the faller-head, made of cast-steel, in the two opposite sides of which are formed curved recesses B B, which recesses taper or

run out toward the back C. Holes for the insertion of gills or pins are drilled or bored through from the recesses to the upper edge of the faller, through which holes the gills or pins G G are drifted. The inner face of the recess may be in the form of a plane and straight in cross-section, as shown in Fig. 3 of the drawings, or it may be concave in cross-section. The use of either form will be within the scope of my invention. The concave form permits the pins to be more easily inserted, and therefore I think its use preferable. The use of either form, however, affords sufficient room for drilling the holes and springing in and driving the pins, and also permits the retention and use of sufficient bulk and weight of metal in the bar at and near the back or lower edge to give the necessary strength and the weight needed to secure perfect steadiness to the bar in the operation of the machine. The concave form in cross-section of the inner faces H H of the recesses B B is shown in Fig. 5 of the drawings.

D is a piece or bar of brass fitted into the upper edge of the faller, with its ends dovetailed into the faller, as at E E, and which may be brazed, soldered, or riveted therein. The object of making this part of brass is to prevent the faller from becoming rusted by damp or moisture in the fiber; but this is not indispensable, as the faller, if desired, as is often the case, may be made in one piece and without the use of the brass bar. The brass bar D also serves to laterally support and strengthen the pins, they being made to fit quite closely within the holes through the brass bar, and the pins in turn hold the brass bar in place in the faller-bar and prevent it from wearing loose from the faller in the operation of the machine.

Gill-fallers have heretofore been constructed by drilling holes through the entire depth of the faller-head from the back or lower edge to the upper edge and driving the gills or pins through from the back, the great objection to which method is the excessive labor and cost of drilling or boring through the whole depth of the head. Another method heretofore in use was to drift or drive the gills or pins through holes formed in a strip

or bar of brass, the back of which was after-
ward fitted into the upper edge of the faller-
head and secured thereto by riveting or sol-
dering. The serious objection to this method
5 is the great liability of the brass piece or bar
to become loosened and separated from the
faller-head and the consequent expense for
repairs. Another method also employed here-
10 tofore and which saved a part of the labor
and cost of drilling through the entire depth
of the head was to construct the faller-head
so that in cross-section it was similar to the
letter T, the holes being drilled through the
15 head; but the objection to this form is that
the fallers are rendered too light and are apt
to break and otherwise be injured. Besides,
in a faller head or bar thus constructed the
cutting away of so much metal from the lower
20 part of the bar and leaving so narrow a base
renders it so poorly balanced and top-heavy
and withal so light that in the ordinary oper-
ation of the machine it works very unsteadily
and jumps about, necessitating a much slower
25 speed in running the machine; but by my
invention as herein described and illustrated
there is only the thickness of the part of the
faller between the recess and the upper edge
thereof to drill or bore through for the recep-
30 tion of the gills or pins G G in lieu of boring
through the entire depth of the faller-head,
and that, while the recesses B B effect the de-
sired saving in labor and cost of drilling, the
weight and strength of the faller is not ma-
35 terially or objectionably reduced and there
is ample room afforded for introducing the
pins, while the original width of the back C

is preserved and the gills or pins are securely
and firmly held without liability to become
loosened or separated from the faller-head.

The provision of as broad a base as possi- 40
ble and the retention of as much metal in the
head or bar and as near the bottom as possi-
ble is necessary and important in order to
guard against breakage and also to secure a
perfect balance and consequent steadiness to 45
the faller in the operation of the machine,
thus enabling the machine to be run at a
greater speed than would otherwise be pos-
sible.

What I claim as my invention, and desire 50
to secure by Letters Patent, is—

1. The faller head or bar A, provided with
gills or pins G and having one or more re-
cesses B formed in the side thereof and ta-
pering or running out toward the back C and 55
also having its back C of the same or sub-
stantially the same breadth as the upper edge
and forming a part of the solid bar itself, sub-
stantially as described.

2. The combination of the brass bar D with 60
the faller-bar A, provided with pins G and hav-
ing one or more recesses B formed in the side
thereof and tapering or running out toward
the back C and also having its back C of the
same or substantially the same breadth as 65
the upper edge and forming a part of the
solid bar itself, substantially as described.

EDWARD CLARKSON.

Witnesses:

JNO. A. CLARKSON,
T. T. EMPSALL.