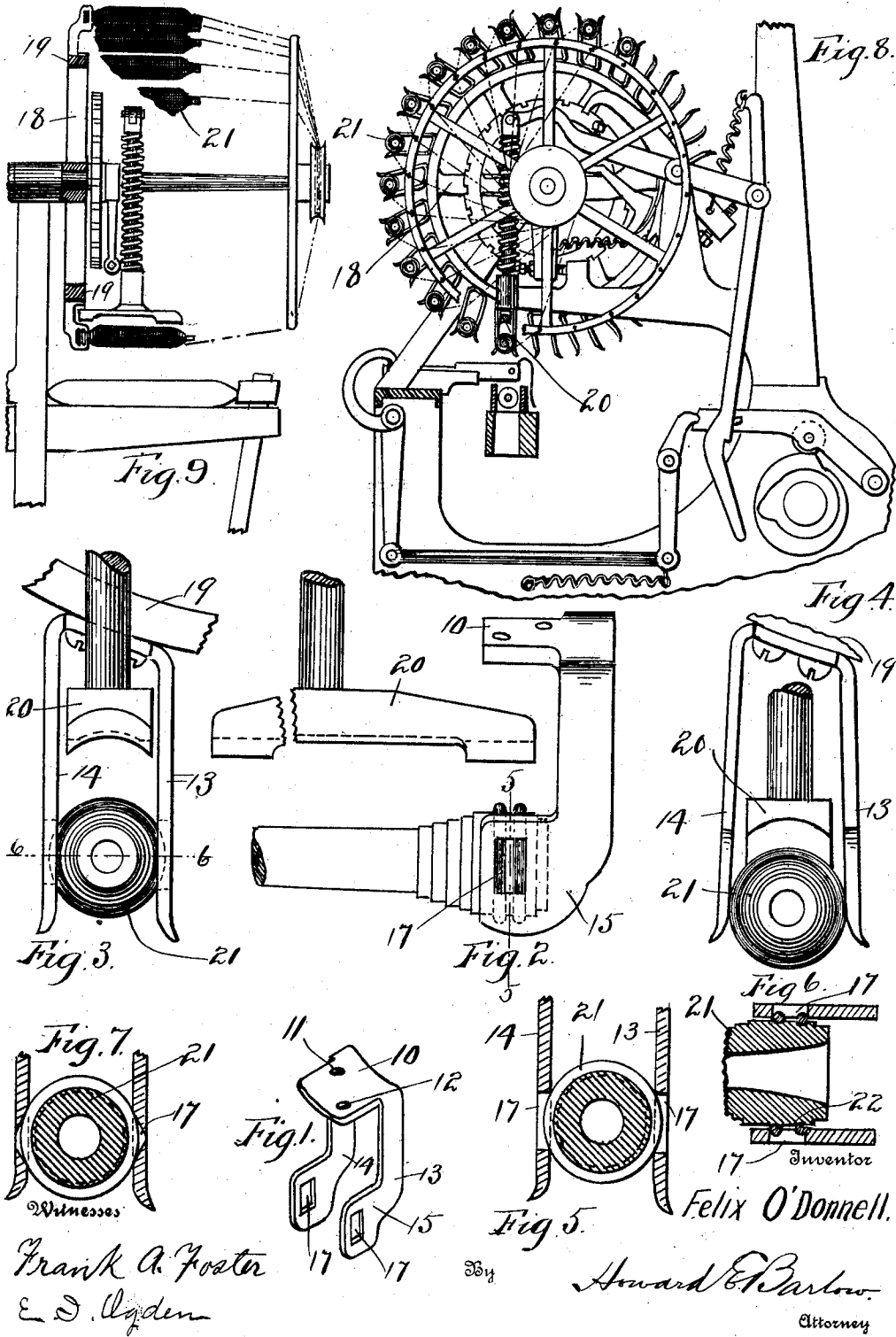


No. 859,512.

PATENTED JULY 9, 1907.

F. O'DONNELL.
SPRING CLIP FOR RETAINING FILLING CARRIERS.
APPLICATION FILED OCT. 2, 1905.



UNITED STATES PATENT OFFICE.

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SPRING-CLIP FOR RETAINING FILLING-CARRIERS.

No. 859,512.

Specification of Letters Patent.

Patented July 9, 1907.

Application filed October 2, 1905. Serial No. 280,894.

To all whom it may concern:

Be it known that I, FELIX O'DONNELL, a citizen of the United States, residing at the city of Pawtucket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Spring-Clips for Retaining Filling-Carriers, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to spring clips for holding filling carriers in a weft replenishing loom and has for its object to produce a spring clip of simple and effective construction that may be attached in any convenient manner to the rotatable filling feeder of a weft replenishing loom.

It is found in practice to be of great convenience in attaching the filling carriers to the filling feeder to simply press one end between the spring fingers whereby the carrier is retained in exactly the required position without further support from the opposite end.

The invention is fully set forth in this specification and more particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1—is a detail perspective view of my spring clip detached illustrating the two offset spring fingers and the engaging recesses or eyes in the ends of said fingers. Fig. 2—is a side elevation of the spring clip showing a filling carrier in position therein showing the foot of the transferer located above said carrier. Fig. 3—is a front elevation of the spring clip showing the carrier in position and the transferring foot above the same. Fig. 4—is also a front elevation showing the transferring foot as having descended and about to press and detach said filling carrier from the clip. Fig. 5—is a front elevation of the spring clip showing the fingers sectioned on line 5—5 of Fig. 2 illustrating the receiving eyes or recesses and the position of a filling carrier when held therein. Fig. 6—is a transverse section on line 6—6 of Fig. 3 illustrating the manner in which the spring fingers of the clip engage and retain the raised portion of the filling carrier. Fig. 7—is a sectional view of the said spring fingers and the carrier in place between the same, illustrating particularly another form of recess to receive and retain the raised portion of the carrier. Fig. 8—is an end elevation of a rotary filling feeder on which is mounted a plurality of filling carriers held in position by my improved spring clip. Fig. 9—is a side elevation of the rotary filling feeder in section showing some of the operating mechanism, and the spring clips supporting filling carriers in position on said rotary feeder.

Referring to the drawings, Fig. 1 best illustrates the preferred form of my improved spring clip which is preferably constructed by striking the same up out of thin spring steel into a U-shape having a base portion

10 pierced by the holes 11 and 12 through which it may be fastened to the filling feeder. Projecting outward from this base portion are the long spring fingers 13 and 14 having their outer ends preferably offset or extending forward forming ears 15—15 which ears are provided with either recesses, as at 17 in Fig. 7, or have the slots or holes cut through them in the manner illustrated at 17 in the other figures for the purpose of engaging and retaining the filling carrier. At 18 is the rotary filling feeder of a weft replenishing loom that may be of any desired construction and mounted and rotated in any convenient manner.

My improved clip, of the form shown, is more particularly designed to be attached to a feeder of the construction illustrated, but it may be adapted to be operated in connection with a feeder of any other suitable construction. For illustration, let it be said, the base portion 10 of the clip may be either screwed or riveted to the rim 19 of the said rotary carrier 18, the fingers 13 and 14 being set preferably at an angle to a radial line so as to be in a vertical position when brought beneath the transferer foot 20 (see Fig. 8). The carrier to be used in this clip may be of any of the usual forms but should be constructed with a ring, band or enlarged portion at 22 on its engaging end so that it may be held in the recesses 17 in the spring fingers.

In placing the carriers in position in these clips it is only necessary to slide the enlarged end of the same down between the fingers until the little rings, as shown in Figs. 5 and 6, enter the eyes or recessed portion 17 whereupon the natural spring in these fingers 13 and 14 causes them to grip the carrier tightly automatically straightening the same and holding it firmly in the desired position with its opposite end entirely free until it is carried around beneath the transferer foot and struck down into the shuttle.

An essential feature of the construction of this clip is that the offset ends of the fingers 13 and 14 grip and hold the carrier in a position to be engaged and acted upon by the transferer foot directly above the point where it is held in the fingers, as illustrated in Fig. 2, thus insuring the carrier being transferred straight and true into the shuttle, which is a very essential feature to the successful transferring of the same when running at a high speed. The clip is extremely simple, practical and inexpensive in its construction, and effective in its operation.

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

1. A rotatable filling feeder, a spring clip attached to said feeder, said clip being provided with two parallel spring fingers, and said fingers being provided with eyes whereby the carrier is engaged by its butt and at once positioned therein.

2. A rotatably mounted filling feeder, a transferer, a

retaining clip attached to said feeder, said clip being provided with forwardly extending members, and means in said members for engaging and retaining a carrier in position therein whereby the butt of said carrier may be engaged by said transferrer on being struck into the shuttle.

5 3. A rotatable filling feeder a spring clip including two spring fingers or jaws connected to said feeder, said fingers being provided with short recesses set parallel with the fingers whereby the carrier is engaged by its butt and at once positioned and held at right angles to said fingers.

10 4. A rotatable filling feeder a spring clip including two spring fingers or jaws connected to said feeder, said fingers being provided with short recesses set parallel with the fingers whereby the carrier is engaged by its butt and gripped at a plurality of points on each side thereof, and at once positioned and held at right angles to said fingers.

5. A spring clip comprising a base and two outwardly extending spring fingers, each finger being provided with an extending ear near its outer end, and means in said ears for engaging and positioning a filling carrier or the like. 20

6. A spring clip comprising a base and two outwardly extending spring fingers, said fingers being provided with extending ears or enlarged portions near their outer ends, and means in said ears for engaging and retaining a filling carrier or the like. 25

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

FELIX O'DONNELL.

Witnesses:

HOWARD E. BARLOW,

E. I. OGDEN.