

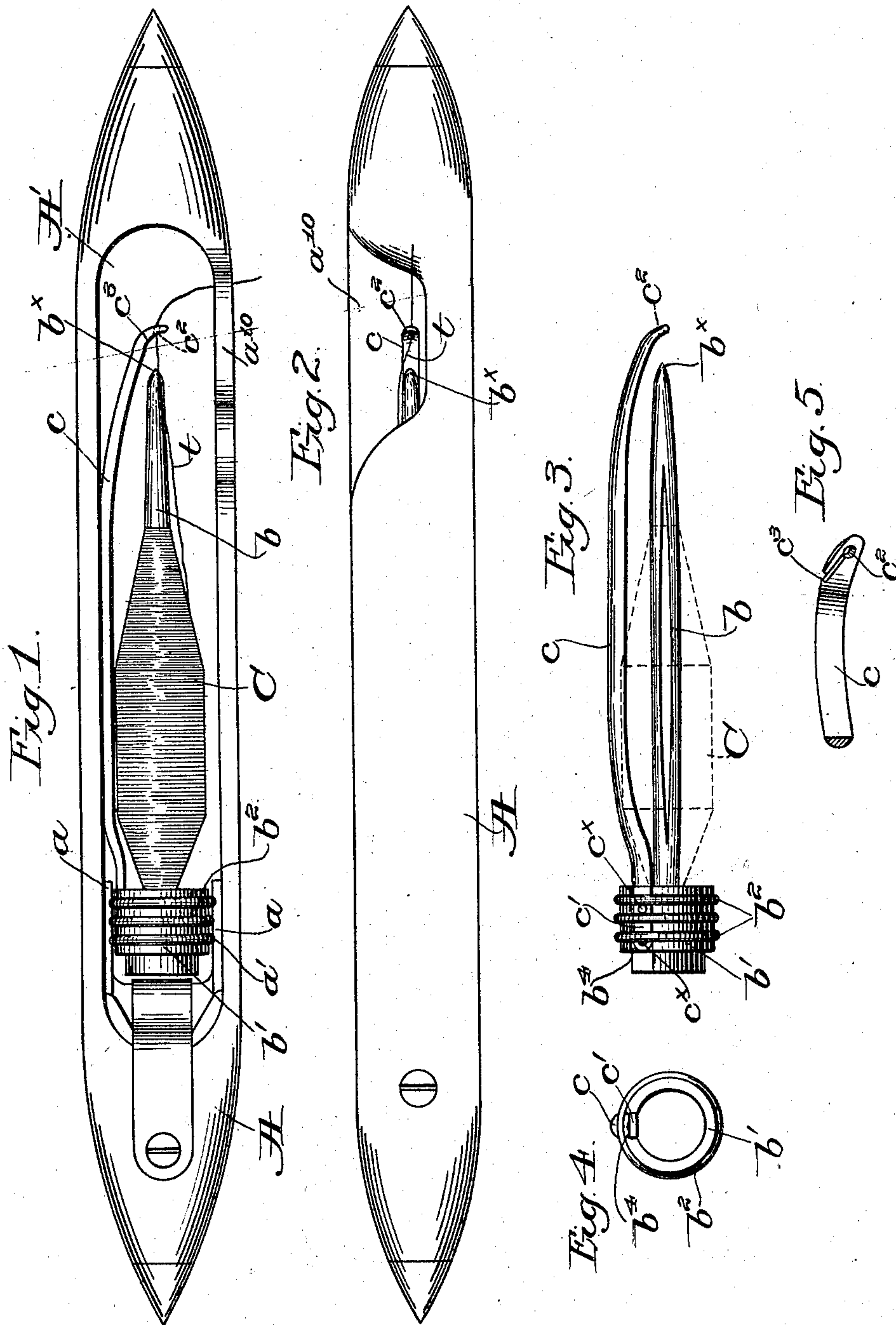
No. 628,772.

Patented July 11, 1899.

J. V. & E. CUNNIFF.  
FILLING CARRIER FOR LOOM SHUTTLES.

(Application filed Apr. 1, 1899.)

(No Model.)



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## FILLING-CARRIER FOR LOOM-SHUTTLES.

SPECIFICATION forming part of Letters Patent No. 628,772, dated July 11, 1899.

Application filed April 1, 1899. Serial No. 711,326. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN V. CUNNIFF and EDWARD CUNNIFF, of New Bedford, in the county of Bristol and State of Massachusetts, have invented an Improvement in Filling-Carriers for Loom-Shuttles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a novel filling-carrier for loom-shuttles of such construction that the thread-eye commonly used in shuttles may be entirely dispensed with, although, as will more clearly appear hereinafter, our novel filling-carrier may with equal facility be used with the usual forms of self-threading shuttles.

In accordance with our invention the filling-carrier is provided with a delivery-eye adjacent and beyond the tip of the carrier, through which eye the filling is drawn off from the wound mass as the shuttle travels back and forth.

Figure 1 is a top or plan view of a shuttle provided with a filling-carrier, showing one embodiment of our invention. Fig. 2 is a side elevation thereof, the tip of the filling-carrier and the delivery-eye being seen through the cut in the side of the shuttle-body. Fig. 3 is a view in elevation of the filling-carrier detached, the filling being indicated by dotted lines. Fig. 4 is an end view of the filling-carrier, and Fig. 5 is an enlarged perspective detail of the arm provided with an open delivery-eye.

Referring to Fig. 1, the shuttle-body A has a longitudinal opening A' therein extending completely through the shuttle to permit the ejection of one filling-carrier at one side by the entrance of a fresh filling-carrier at the other side in well-known manner in shuttles used in connection with looms provided with automatic filling-supplying mechanism.

The shuttle is provided with holding means for the filling-carrier, herein shown as yielding jaws a, grooved on their inner faces, as

at a', Fig. 1, and located at one end of the opening A' of the shuttle-body.

We have herein shown the filling-carrier as comprising a blade or skewer b to receive the cop C, rigidly secured at one end to a head b', provided with annular ribs or projections b<sup>2</sup>, which in practice enter between and are held by the jaws a of the shuttle, as shown in Fig. 1. The filling-carrier is thus held firmly at one end in the shuttle-opening in position for the filling to be drawn off over the tip b<sup>x</sup> of the blade. The head is shown as longitudinally recessed at b<sup>4</sup>, Figs. 3 and 4, to receive the foot c' of an arm c, which is attached to the head by suitable fastenings c<sup>x</sup>, said foot passing under the ribs b<sup>2</sup> to prevent interference therewith. Between its free and attached ends the arm is laterally curved or offset to clear the cop or mass of filling when the latter is on the blade b, and at its free end the arm is provided with a delivery-eye c<sup>2</sup> a short distance beyond and substantially and preferably in alinement with the tip of the filling-carrier, the filling passing through the eye as it is drawn off over the tip end of the blade without twisting or winding around it. This delivery-eye being made a part of the filling-carrier, it is unnecessary to have a thread-eye in the shuttle, as the thread will run over the side of the shuttle-body without trouble. In Figs. 1 and 2 we have, however, shown the shuttle-body as cut away at a<sup>10</sup> opposite the delivery-eye of the filling-carrier to permit the thread to draw off at the side of the shuttle rather than over the top.

Our novel filling-carrier can be used in the hopper or feeder construction forming a part of automatic filling-supplying such as shown in United States Patent No. 529,940, dated November 27, 1894, in connection with either an eyeless shuttle, as before referred to, or a self-threading shuttle, such as shown in said patent, it being understood that when the filling-carriers are placed in the hopper the filling ends will be drawn each through its appropriate delivery-eye.



When used in connection with a self-threading shuttle, the filling-carrier herein shown is advantageous in that the thread is positively carried down into the usual threading-slot with which such shuttles are provided, thus tending to decrease the chances of a mis-thread occurring upon change of filling.

We prefer to make the delivery-eye open—that is, with an entrance-slot  $c^3$ , Fig. 5—in order that the thread can be passed into the eye with greater ease, the slot being on an angle, so that under ordinary conditions the thread would not get out while the shuttle was in use.

The eye-carrying arm is made elastic or resilient, so that it can be bent slightly to one side when the cop is put on the blade or skewer.

Our invention is not restricted to the precise construction and arrangement herein shown, as the same may be modified or rearranged without departing from the spirit and scope of our invention.

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

1. A filling-carrier adapted to be inserted in or removed from a shuttle having a rigidly-attached arm provided with a delivery-eye beyond and adjacent the tip of the carrier.

2. A filling-carrier having an attached arm provided with a delivery-eye substantially in alinement with the tip of the carrier, said arm being outwardly curved between said eye and its point of attachment to the carrier.

3. A filling-carrier having an attached resilient and longitudinally-extended arm in-

turned at its free end and provided with a delivery-eye beyond and adjacent the tip of the carrier.

4. A filling-carrier adapted to be inserted in or removed from a shuttle comprising a blade or skewer to receive the cop, a head at one end of the blade, and an arm rigidly attached to the head; extended longitudinally beyond the tip of the skewer and provided thereat with a delivery-eye substantially in alinement with the tip.

5. A loom-shuttle having an opening there-through, and holding means mounted on the shuttle, combined with a filling-carrier adapted when inserted in said opening to be engaged and held at one end by said means, and an arm attached to the filling-carrier and provided adjacent the tip of the latter with a delivery-eye for the filling.

6. A loom-shuttle having an opening there-through, and holding means mounted on the shuttle, combined with a cop-skewer adapted to be inserted in said opening and having a head to be engaged and held by said means, an outwardly-curved arm attached to the head and longitudinally extended beyond the tip of the skewer, and a delivery-eye in the arm adjacent and beyond the tip of the skewer.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

JOHN V. CUNNIFF.  
EDWARD CUNNIFF.

Witnesses:

JAMES W. EDDERS,  
JAMES WILKINSON, Jr.