

I. W. CHANDLER.
LOOM.

(Application filed Nov. 8, 1899.)

(No Model.)

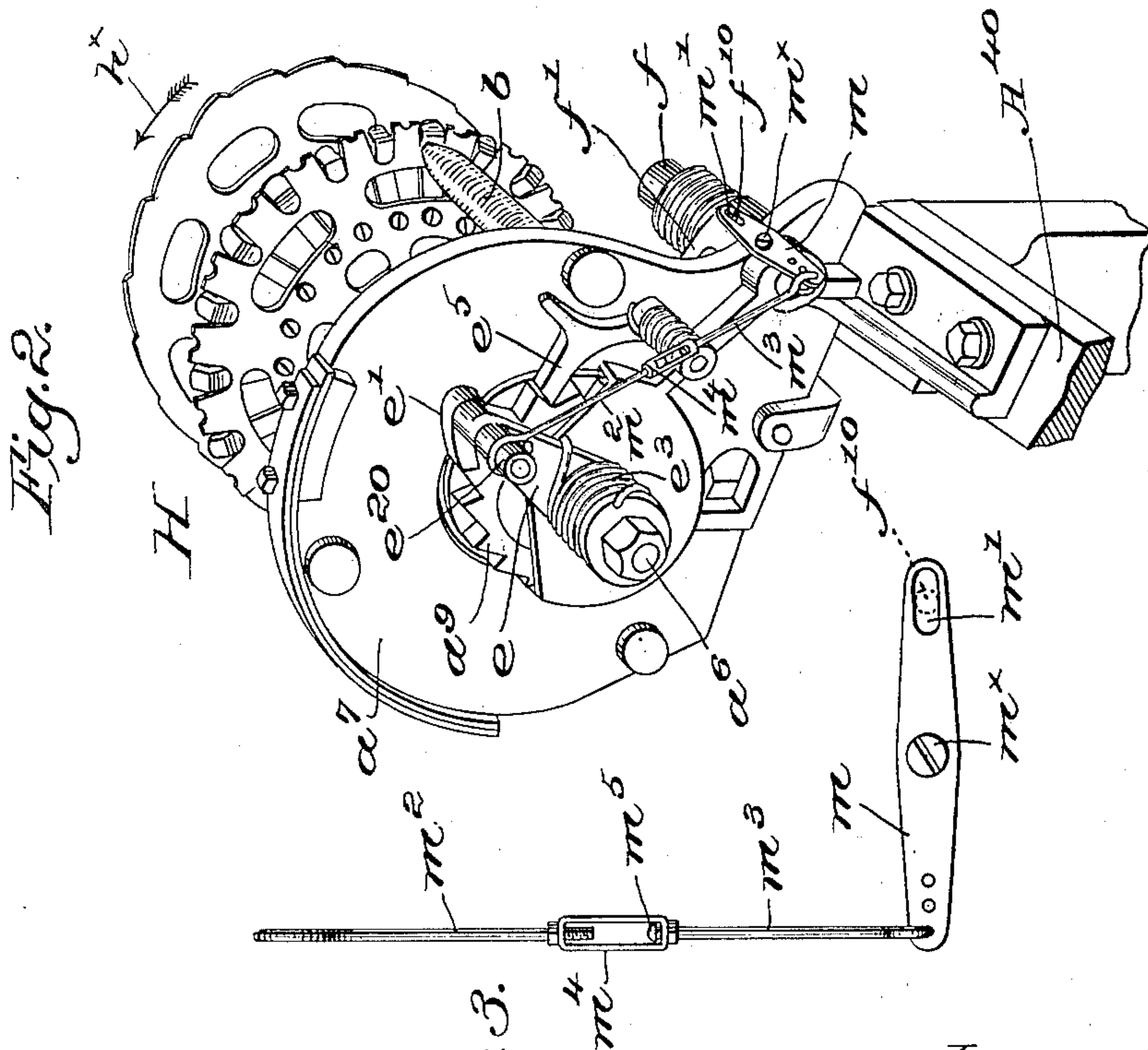
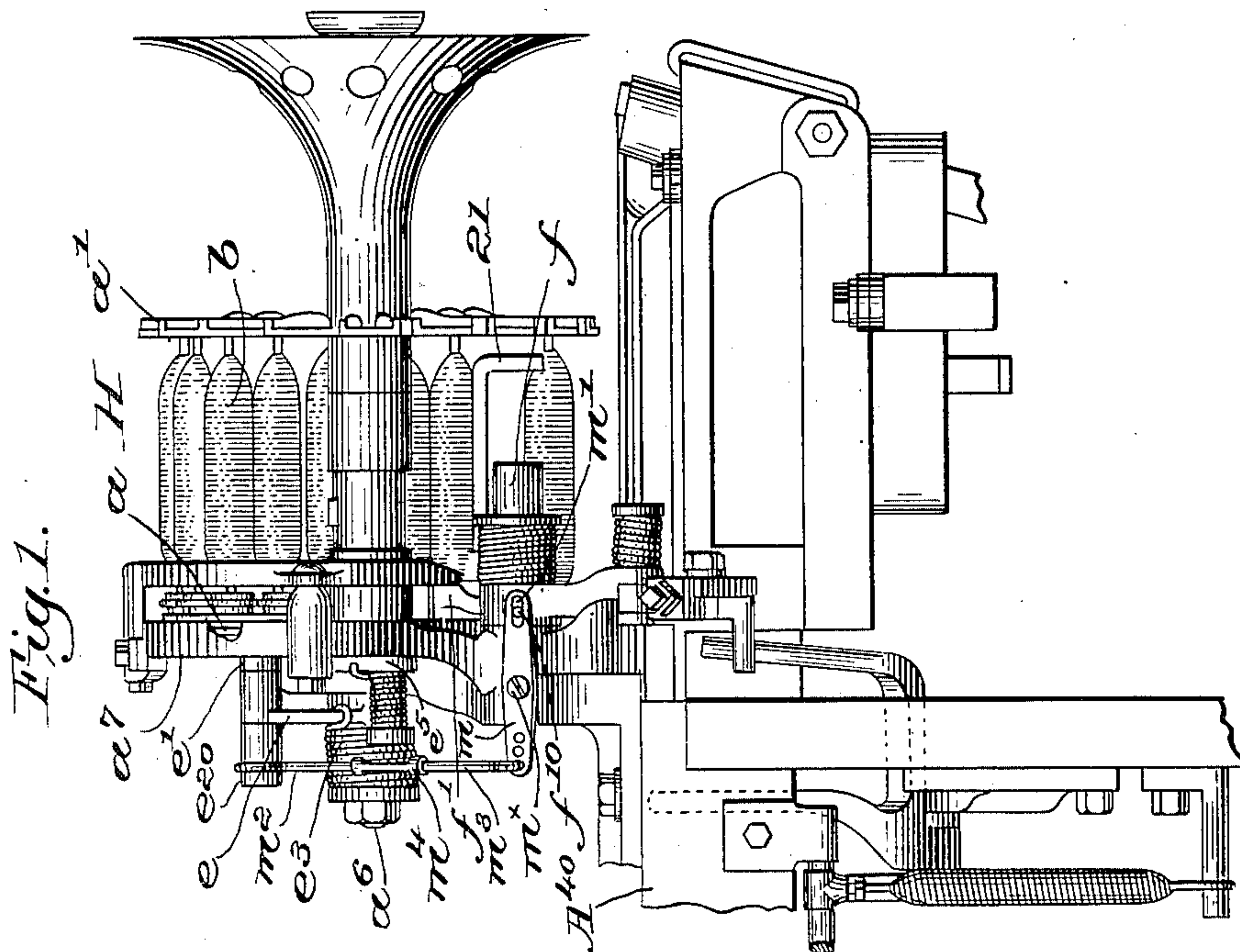


Fig. 3.

Witnesses.

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UNITED STATES PATENT OFFICE.

IRVING W. CHANDLER, OF BURLINGTON, VERMONT.

LOOM.

SPECIFICATION forming part of Letters Patent No. 657,914, dated September 18, 1900.

Application filed November 6, 1899. Serial No. 735,998. (No model.)

To all whom it may concern:

Be it known that I, IRVING W. CHANDLER, a citizen of the United States, residing at Burlington, county of Chittenden, State of Vermont, have invented an Improvement in Looms, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

My invention relates to looms which are provided with means for replenishing automatically the weft or filling as may be necessary from time to time in the operation of the loom, and I have herein shown one embodiment of my invention as applied to a loom which forms the subject-matter of United States Patent No. 596,894. In said patent the supplies of filling are supported in a holder, which is moved step by step by or through the partial unwinding of a spring, to bring one after another of the filling-supplies into position to be acted upon by a transferrer, the latter removing the filling-supply from the holder to the shuttle. After each transfer the spring is wound up by means of an arm connected with a pawl-carrier and lifted by engagement with some moving part of the loom, as the lay, the pawl engaging a ratchet, which is shown as moving with the holder, the pawl being drawn back one or more teeth to take a new hold on the ratchet, thereby compressing the spring. The holder for the filling-supplies is shown in said patent as of the "Northrop" type, which is illustrated in United States Patent No. 529,940, and I make use of such a holder in my present invention. I have so reconstructed the apparatus above mentioned that the movement of the holder is effected in a step-by-step manner by or through the transferrer, and one practical embodiment of my invention is best illustrated without attempting to show all of the forms in which the invention may be embodied. The step-by-step movement of the holder by or through the transferrer is the leading feature of my invention, and while I show one mode of effecting such operation I do not limit or restrict my invention to such mode.

Referring to the accompanying drawings, Figure 1 is a front elevation of a part of a loom, showing a holder with a number of fill-

ing-supplies supported by it, forming a filling-replenishing mechanism of the general character shown in the patents referred to, with one form of my invention operatively applied thereto. Fig. 2 is a perspective view of the holder and means for moving it step by step by or through the transferrer; and Fig. 3 is a detail on a larger scale, to be described in the specification.

The stand a^7 , secured to the breast-beam A^{40} of the loom and supporting a stud-like shaft a^6 , on which the holder is mounted, said holder comprising two connected plates a a' , the ratchet a^9 , movable with the holder, the co-operating pawl e' on the pawl-carrier e , shown as an arm fulcrumed on the stud a^6 and moved in one direction by the spring e^3 , attached at one end to the stud a^6 , the detent e^5 , the stud f on the stand a^7 , and the pusher or transferrer f' , mounted on the stud f , having a finger 21 to act against the tip of the bobbin or filling-carrier, are shown in the accompanying drawings substantially as illustrated in Patent No. 596,854. In that patent the lay effected the step-by-step movement of the holder, which I have lettered H in Figs. 1 and 2, so that the filling-supplies b were brought one by one into the path of the transferrer or pusher to be removed from the holder, the movement of the holder being thus independent of the transferrer. In order to effect the movement of the holder by or through the transferrer, I have shown a lever m , fulcrumed at m^x on the stand a^7 , one end of the lever having a slot m' therein to be entered by a pin f^{10} on the hub of the transferrer-arm f' , so that movement of the latter will rock the lever on its fulcrum. The opposite or inner end of the lever is connected by a preferably-adjustable link m^2 m^3 with a lateral lug e^{20} on the pawl-carrier e , and by referring to Figs. 1 and 2 the operation of the device will be made clear. When the transferrer f descends to remove a filling-supply from the holder H, the slotted end of the lever m will be lifted and its other end depressed, so that through the link the pawl carrier e will be rocked on its fulcrum toward the front of the loom. The pawl e' will slip over one or more of the ratchet-teeth and will take fresh hold on the latter, the spring e^3 being wound up meanwhile, so that when

the transferrer returns to normal position and the holder H is free to move it will be moved forward in the direction of arrow h^x , Fig. 2, one step, or far enough to bring the
 5 next filling-supply into operative position relative to the transferrer.

I have shown the link members $m^2 m^3$ as connected by a turnbuckle m^4 , the member m^2 being threaded into it for adjustment,
 10 while the member m^3 is loose in the turnbuckle and headed at m^5 , (see Fig. 3,) providing for slip on the return of the transferrer to normal position and preventing bending or buckling.

15 My invention is not restricted to the particular embodiment herein shown, as manifestly changes or variations may be made therein without departing from the spirit or scope of my invention.

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

1. A rotatable filling-supply holder, a spring to rotate it, a transferrer to remove
 25 the filling-supplies singly from the holder, and means actuated by or through the transferrer to wind the spring.

2. A rotatable filling-supply holder, a spring to rotate it, a transferrer to remove

the filling-supplies singly from the holder, 30 and means operative on the active movement of the transferrer to wind the spring.

3. A rotatable filling-supply holder, a ratchet rotatable therewith, a pawl-carrier having a pawl to engage the ratchet, a spring fast at 35 one end and connected at its other end with the pawl-carrier, a transferrer to remove the filling-supplies from the holder, and connections between the pawl-carrier and transferrer, to wind the spring by the operation of 40 the transferrer.

4. A filling-feeder to hold a series of filling-carriers, an actuating-spring to intermittingly move the feeder and bring the filling-carriers singly into operative position, a 45 transferrer to engage a filling-carrier in operative position and remove it from the feeder, and means controlled by the operation of the transferrer to wind the feeder-actuating spring. 50

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IRVING W. CHANDLER.

Witnesses:

D. J. FOSTER,

J. T. STEARN.