

(No Model.)

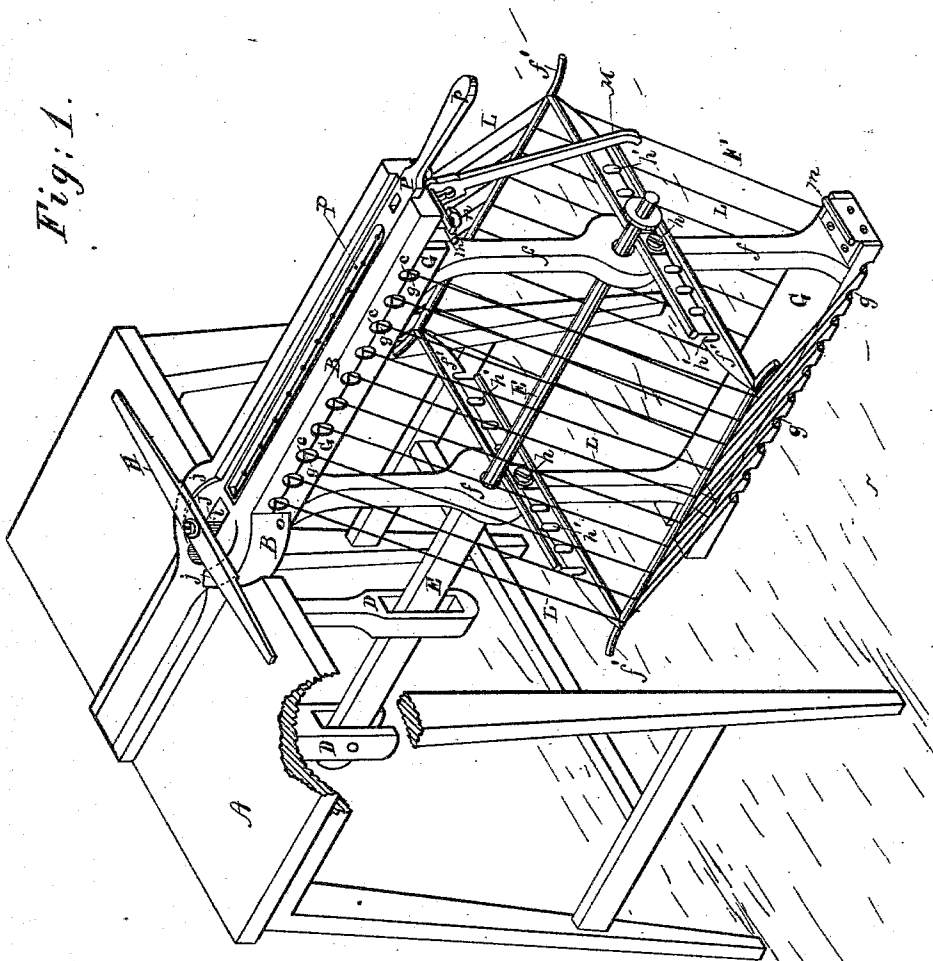
2 Sheets—Sheet 1.

E. MANULA.

MACHINE FOR CASTING LEADS ON FISH NET LINES.

No. 295,262.

Patented Mar. 18, 1884.



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Fig:2.

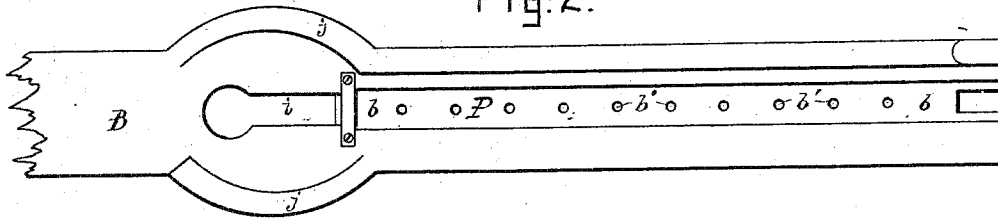


Fig:3.

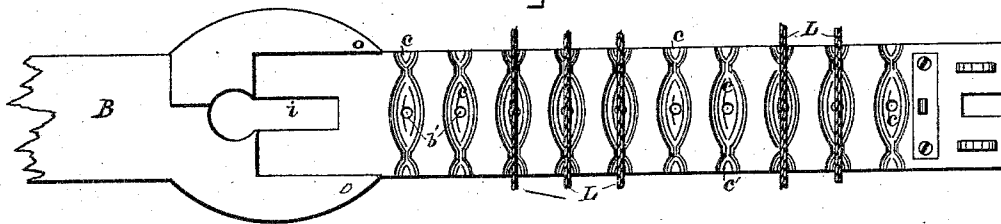


Fig:4.

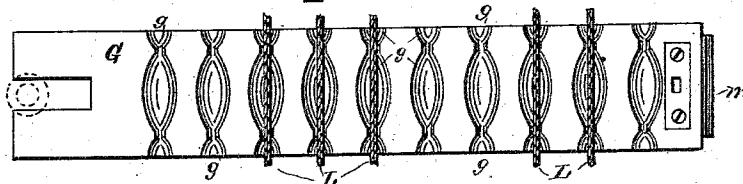


Fig:5.

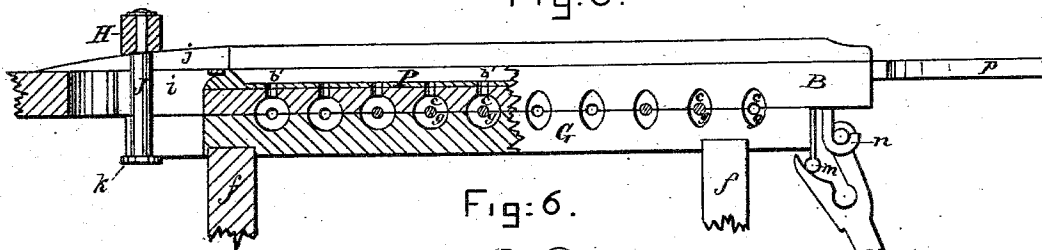
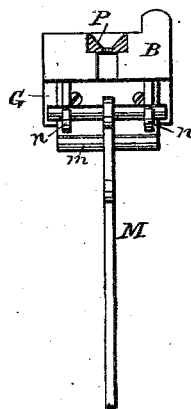


Fig:6.



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UNITED STATES PATENT OFFICE.

ERICK MANULA, OF ASTORIA, OREGON.

MACHINE FOR CASTING LEADS ON FISH-NET LINES.

SPECIFICATION forming part of Letters Patent No. 295,262, dated March 18, 1884.

Application filed December 4, 1883. (No model.)

To all whom it may concern:

Be it known that I, ERICK MANULA, of Astoria, county of Clatsop, and State of Oregon, have invented an Improvement in Machines for Casting Leads on Fish-Net Lines; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a new and useful machine for casting the leads or sinkers on the lines which go to form fish-nets; and it consists in a peculiar reel or winch upon which the line is wound, and having its circumference constructed to form one half the matrix in which the line lies, and a projecting arm under which the reel passes, forming the other half. It consists, also, in the means for conducting the molten metal into the matrix and cutting it off, and the means for clamping the two parts together during the casting, all of which I shall hereinafter fully explain.

The object of my invention is to put the leads on the line efficiently and rapidly.

Referring to the accompanying drawings, Figure 1 is a perspective view of my machine. Fig. 2 is a top view of arm B, the trough P being removed. Fig. 3 is a bottom view of arm B, showing one half the matrix. Fig. 4 is a top view of one of the cross-pieces G, showing the other half of the matrix. Fig. 5 is a side view of arm B, with cross-piece G in position for casting, a portion being in section, also showing more fully the lever M and its connection. Fig. 6 is an end view of arm B, cross-piece G, and lever M.

A is a frame or table, from one side of which projects an arm, B, having a groove or channel, *b*, with holes *b'* at intervals throughout its length, Fig. 2. The under side of this arm is provided with a number of transverse grooves, *c*, which form one-half the matrix in which the metal is to be cast, and with which the holes *b'* communicate, Fig. 3. Under the table are depending arms D, in one of which the reel-shaft E is pivoted, and in the other of which it is guided and limited by reason of passing through a slot therein, Fig. 1.

Upon the shaft E is mounted the reel F, consisting of two main radial arms, *f*, and two others, *f'*. The arms *f* have wide cross-pieces G, in which are made transversely the grooves *g*, corresponding to the grooves *c* in the arm B above, and forming, when brought into re-

lation with said grooves, the complete matrix, Figs. 4, 5. The other arms, *f'*, of the reel are made adjustable or extensible, and are adjusted at any point by means of screw *h*, fitting into any of a series of holes or notches, *h'*, made in the arms, Fig. 1. By these means the circumference of the reel may be increased or diminished.

L is the line of the fishing-net. It is wound upon the reel and lies in the grooves *g* of the cross-pieces G. The inner ends of said pieces G are slightly extended, and are slotted, as shown in Figs. 4, 5. An elongated slot, *i*, is made through the arm B, and an inclined-plane cam, *j*, is also made on the upper surface of said arm, Figs. 2, 5.

Through the slot *i* extends a pin, J, having a head, *k*, on its lower end, and a cross-lever, H, on its upper end, which lies upon the arm B, and is adapted to be turned at right angles with said arm, whereby it travels up the cam and raises the pin, or parallel with said arm to lower the pin, Figs. 1, 5. When in this latter position, it may be moved back and forth, the pin J moving in the slot *i*, to enable it to fit its head under the slotted pieces G or withdraw it therefrom. By these means the inner ends of the pieces G are raised to hold them in close connection with the arm B, or released to allow the reel to turn, Fig. 5. The under side of the arm B at this portion is provided with side guide-lips, *o*, which confine the ends of pieces G and hold them accurately. They do not prevent the reel from turning, as when released it drops down free of the lips because of its pivoted axis, and for this same reason it can be clamped up tightly to its place, as described. The outer ends of the cross-pieces G are also extended, and have small lips *m*, Fig. 5. These are engaged by one arm of a forked lever, M, journaled in a bearing, *n*, on the end of the arm B above. The downward movement of this lever clamps the pieces G at their outer ends tightly and holds them in place, Fig. 5.

P is a trough adapted to slide within the groove of arm B, and provided with a handle, *p*, for convenient manipulation, Fig. 1. This trough is perforated at intervals, and is adapted, when pushed into its place, to fit its perforations over those *b'* in the groove *b*.

The operation of my machine is as follows:

The reel, having the line wound upon it, is turned until one of its pieces G is brought under the arm B. It is then clamped up at its inner end by the vertically-adjustable pin J, which is moved into connection with it, as I have described. Its outer end is clamped up by the lever M. The matrices are formed by the grooves *c g*, in which the line lies. The molten metal is poured into trough P and flows down through the holes into the matrices, and is thus cast in each around the line. The sliding trough is then drawn back sufficiently to cut off the metal, the clamps are released, the reel drops, is relieved, and is turned until its other piece G is brought into relation with arm B, when the operation is repeated. In this way I cast many sinkers upon the line at regular intervals and at one operation.

It is obvious that I need not confine myself to two cross-pieces G, but may have as many on the reel as may be desirable, this being determined by the proper intervals between the sinkers.

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

1. In a machine for casting leads on lines, a reel or winch upon which the line is wound, said reel having grooves in its circumference, in which the line lies, and forming one half the matrix, in combination with a stationary piece having corresponding grooves, forming the other half of the matrix, substantially as herein described.

2. In a machine for casting leads on lines, a reel or winch upon which the line is wound, said reel having grooves in its circumference, in which the line lies, and forming one half the matrix, in combination with a stationary piece having corresponding grooves, forming the other half of the matrix, and a means for clamping the reel and stationary piece together to form the matrix around the line, substantially as herein described.

3. In a machine for casting leads on lines, the revolving reel P, having cross-pieces G on its circumference, provided with grooves *g*, in combination with the perforated arm B, under which the reel revolves, and provided with corresponding grooves, *c*, communicating with

the perforations in the arm, and forming with grooves *g* the complete matrix around the line, substantially as herein described.

4. In a machine for casting leads on lines, the reel F, mounted on a shaft adapted to have a vertical adjustment, said reel having cross-arms G on its circumference, provided with grooves *g*, in combination with the superposed perforated arm B, having grooves *c*, and means for clamping the reel up to the arm, to bring and hold the pieces G in connection with the arm B, substantially as and for the purpose herein described.

5. In a machine for casting leads on lines, the table A, arms D, pivoted reel-shaft E, and reel F, mounted thereon, having the grooved cross-pieces G, with slotted inner ends on its circumference, in combination with the perforated arm B, having grooves *c*, and the means for clamping the reel up to the arm, consisting of the pin J, passing down through an elongated slot, *i*, in arm B, and having a head, *k*, on its lower end, and a cross-lever, H, on its upper end, adapted to move upon a cam, *j*, on said arm to vertically adjust the pin, substantially as herein described.

6. In a machine for casting leads on lines, the vertically-adjustable reel F, having the grooved cross-pieces G, with slotted inner ends in its circumference, in combination with the perforated arm B, having grooves *c*, and the means for clamping the reel up to the arm at both ends, consisting of the vertically-adjustable pin J, engaging with the inner ends of the cross-pieces, and the forked lever M, engaging with their outer ends, substantially as and for the purpose herein described.

7. In a machine for casting leads on lines, the revolving reel F, having the transversely-grooved cross-pieces G, in combination with the perforated grooved arm B, having transverse grooves *c* on its lower side, and the sliding perforated trough P, all arranged and operating substantially as herein described.

In witness whereof I have hereunto set my hand.

ERICK MANULA.

Witnesses:

C. W. FULTON,
G. C. FULTON.