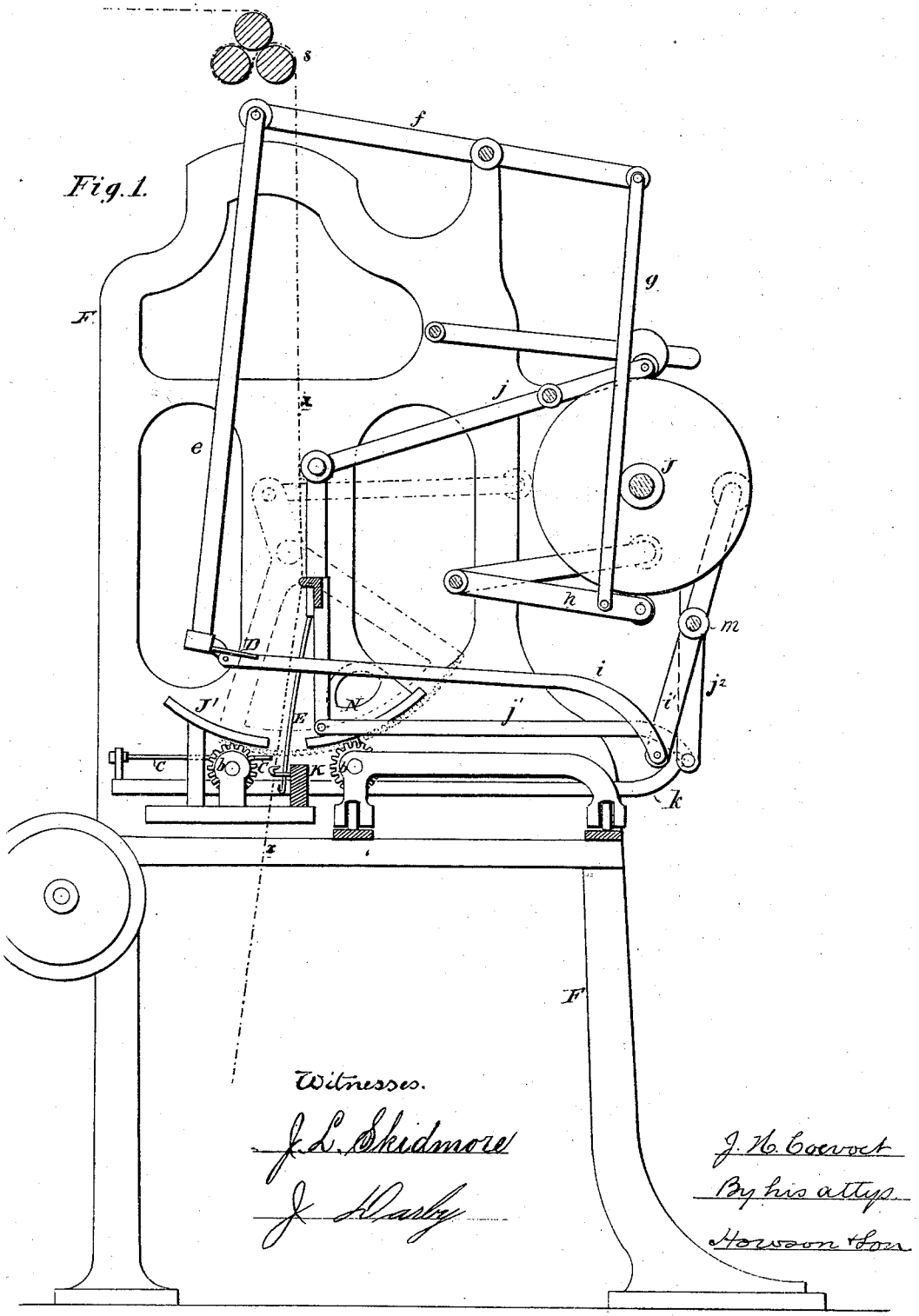
2 Sheets—Sheet 1.

J. H. COEVOET.

MACHINE FOR THE MANUFACTURE OF NETS.

No. 169,522. Patented Nov. 2, 1875.

Fig. 1.



Witnesses.

J. L. Skidmore

J. Hasley

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Howson & Son

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

J. H. COEVOET.

MACHINE FOR THE MANUFACTURE OF NETS.

No. 169,522. Patented Nov. 2, 1875.

FIG. 2.

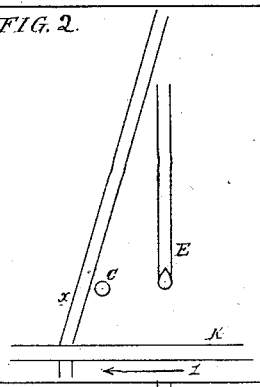


FIG. 3

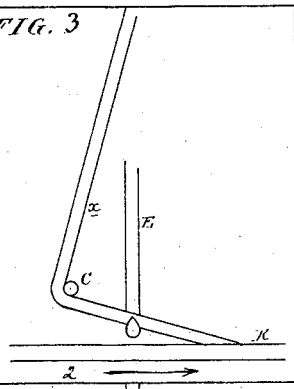


FIG. 4.

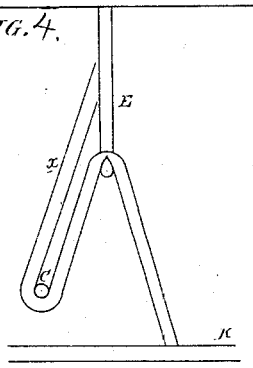


FIG. 5

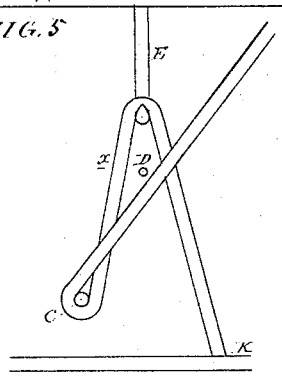


FIG 6.

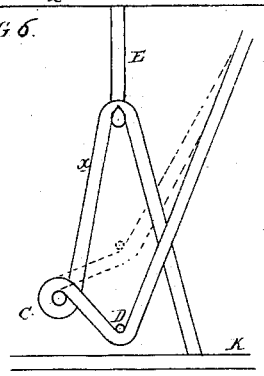


FIG. 7.

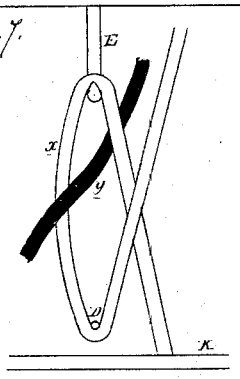


FIG. 8.

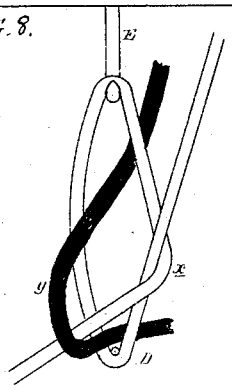
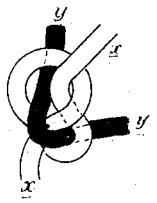


FIG. 9.



Witnesses
R. M. Barr
Harry Coleman

J. H. Coevoet
By his atty's
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UNITED STATES PATENT OFFICE.

JULIEN H. COEVOET, OF CALAIS, FRANCE.

IMPROVEMENT IN MACHINES FOR THE MANUFACTURE OF NETS.

Specification forming part of Letters Patent No. **169,522**, dated November 2, 1875; application filed February 4, 1875.

To all whom it may concern:

Be it known that I, JULIEN HECTOR COEVOET, of Calais, France, have invented certain Improvements in Machinery and Processes for the Manufacture of Nets, of which the following is a specification:

The object of my invention is to manufacture fishing and other nets by locking together a series of parallel warp-threads and a series of shuttle-threads, forming meshes of any desired size; and this object I accomplish by means of plunging-hooks E, movable bar K, points C D, and shuttles N, (shown in Figure 1, Sheet 1, of the accompanying drawing,) the various movements of the said parts, during the formation of a knot, being illustrated in the diagrams, Sheet 2.

The plunging-hooks, points, shuttles, and bars are arranged in series, side by side, between the side frames F of the loom, and are actuated from driving-cams on the shaft J, the points D being operated from said shaft through the medium of the arms and levers *e f g i i'*, the plunging-hooks E through the levers and arms $j j^1 j^2$, and the points C by means of a slide, *k*, operated by a lever vibrating on the bar *m*.

The shuttles are fitted to and guided by parallel curved races or slots formed in frames J', and are caused to move back and forth between the warps *x* by rotating pinions *b*, adapted to racks on the lower curved edges of the shuttles, the pinions being driven by a toothed segment operated by a cam on the shaft J, as shown by dotted lines, Fig. 1.

Each shuttle consists of two side frames, connected together, and inclosing a space for the reception of the bobbin, to which the requisite friction for securing a tension is imparted by means of an adjustable or flexible spring.

The warp-threads *x* pass upward from the beam, through holes in the bar K, or through hooks carried by said bar, to and around the take-up rolls *s*, as shown in Fig. 1. As all the warp-threads are moved simultaneously and in the same manner, as well as the shuttle-threads, it will only be necessary to describe the combined operations of a single warp and a single shuttle thread in the formation of a single knot, the successive operations necessary to this end being illustrated in the diagrams, Figs. 2 to 9, in which the positions of the threads are all indicated. The result is obtained on my machines by special cams, which, successively or simultaneously, give to the threads the said positions. Fig. 2 shows the position at a moment where the preceding knot is terminated, and when it is necessary to begin again another knot. At this moment, by several movements (described further) the warp-thread *x* has been obliquely drawn to the left, by the movement of the bar K, in the direction of the arrow 1, so that it has gone to the left, beyond the point C, which has been drawn back. The point C is then pushed forward across the threads *x*. Upon a movement of the bar K, in the direction of the arrow 2, the thread *x* is drawn to the right, forming an angle on the point C, as shown in Fig. 3. The hook E then descends, catches beneath the thread, Fig. 3, and ascends, drawing up the thread, as shown in Fig. 4. At this moment the movement to the right of the eye through which the thread passes, Fig. 5, carries the upper portion of the thread *x* in a position to be caught by the point D, which, descending, draws down the thread, as shown in Fig. 6, while the point C is withdrawn, leaving the thread in the form of an elongated loop upon the hook E and point D, Fig. 7. The shuttle N now passes forward, carrying its thread *y* through the loop, Fig. 7; the bar K moves to the left, bringing the lower end of the thread *x* over the loop, as shown in Fig. 8, and the shuttle passes then back to its first position, passing below this crossed end of the thread, and through the lower portion of the loop. The hook E and the point D are now disengaged from the loop, when, by the action of suitable tension devices, the threads are drawn tightly, and securely interlocked, forming a knot, as shown in Fig. 9. The rotation of the rollers *s* carries the net upward to an extent determined by the size of the mesh to be formed, after which the above-described operations are repeated, producing another series of meshes. In this case, however, each thread *x* is knotted with that of the shuttle next to the shuttle first used, so that the different series of meshes are connected together in the form of a net, the width of which depends upon the number of threads employed.

I claim—

The combination, in a netting-machine, of plunging-hooks E, points D and C, sliding bar K, and shuttles N, whereby parallel warp-threads are formed into loops, and a shuttle-thread is carried round the cross-thread of each loop, the whole being adapted to operate together to form a net, as set forth.

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

JULIEN HECTOR COEVOET.

Witnesses:
E. NEWARR,
A. GIETTING.