(No Model.) 2 Sheets—Sheet 1.

C. E. SCRIMGEOUR & H. GILDARD.

MECHANISM FOR UNWINDING WARP THREADS.

No. 485,776. Patented Nov. 8, 1892.

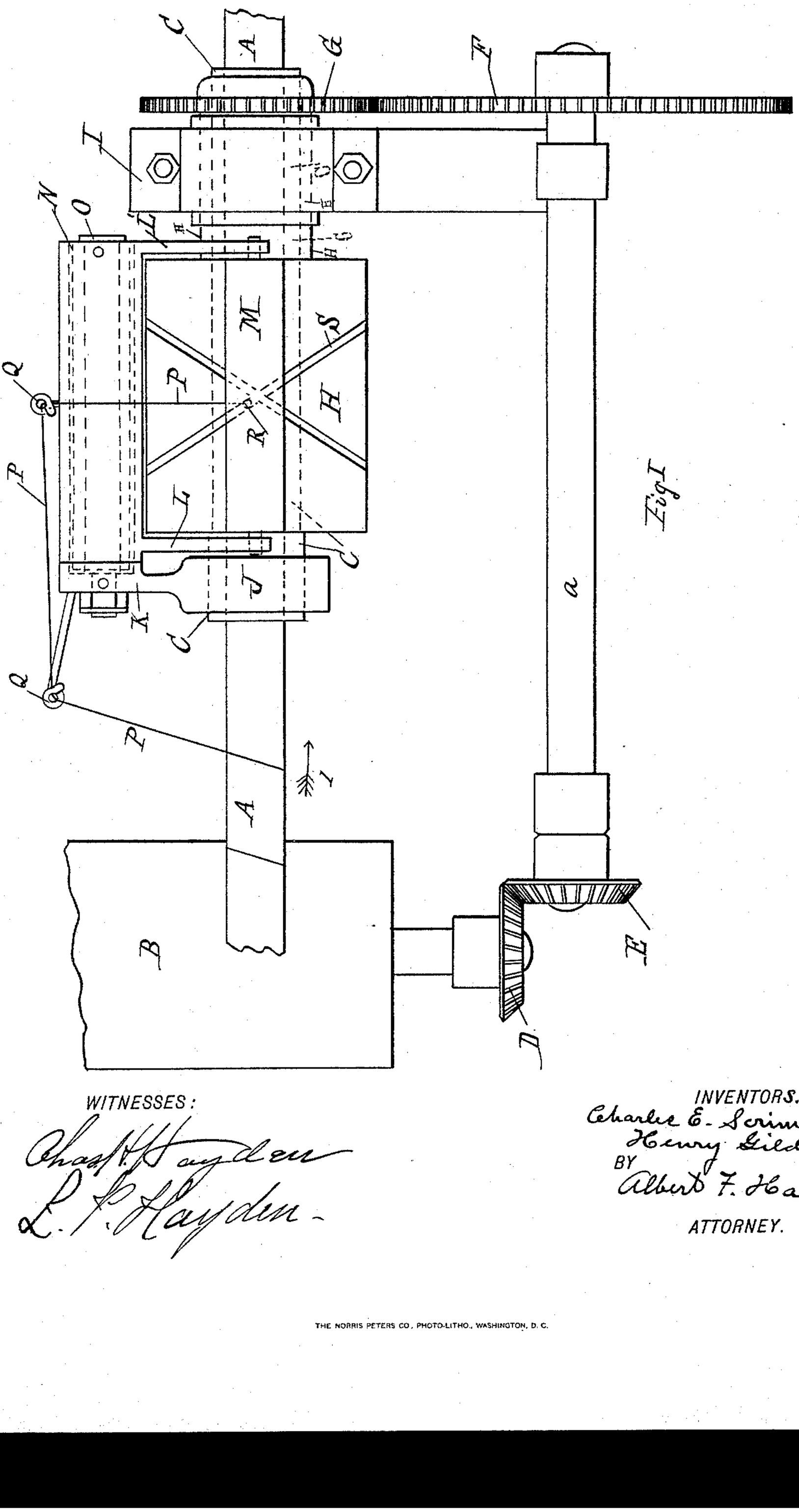

Fig. 1.

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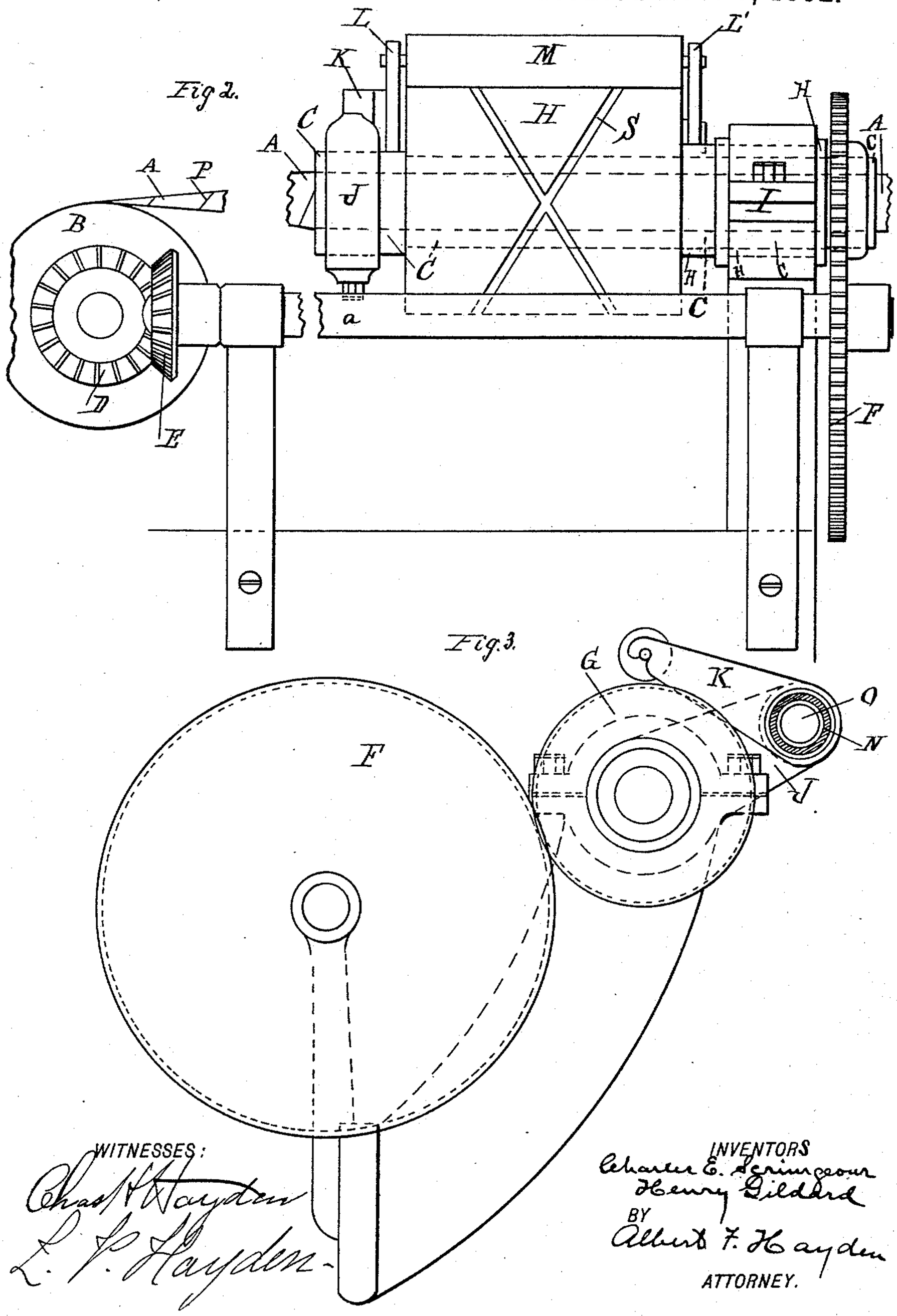
Fig 2.



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UNITED STATES PATENT OFFICE.

CHARLES E. SCRIMGEOUR AND HENRY GILDARD, OF LEWISTON, MAINE.

MECHANISM FOR UNWINDING WARP-THREADS.

SPECIFICATION forming part of Letters Patent No. 485,776, dated November 8, 1892.

Application filed January 12, 1892. Serial No. 417,832. (No model.)

To all whom it may concern:

Be it known that we, CHARLES E. SCRIMGEOUR, a citizen of Canada, and HENRY GILDARD, a citizen of the United States, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented a new and useful Improvement in Mechanism for Unwinding Warp-Threads, of which the following is a specification.

This invention relates to mechanism for long-chain warping and beaming, which process has been fully described in our prior application, Serial No. 415,124, filed December 15, 1891, for the same, and particularly to a machine designed for removing the yarn or material from the loosely-condensed chain after the chain has been through the processes of boiling, doubling, dyeing or bleaching, splitting, and drying, preparatory to its being beamed or quilled.

In mechanism for long-chain warping and beaming, as claimed by us in the said application, as above premised, the thread or material is only temporarily wound around the chain for the purposes specified, and the subject of this application is a machine for removing the thread or material from the chain and winding it upon a spool or bobbin, so that it can be put upon the machine (previously described and claimed in said application) and used again for the same purpose, or the thread is in such shape when so taken off that it can be put directly into the chain itself if so desired and be manufactured into goods.

Figure 1 of the accompanying drawings represents a plan, and Fig. 2 a side elevation, of a machine for removing the thread or other material from the chain in the process of long-chain warping and beaming, while Fig. 3 represents an end view of the same.

At A is shown the loosely-condensed chain, around which is wound a thread P, moving in direction shown by arrow 1, it having been through the processes of boiling, doubling, dyeing or bleaching, splitting, and drying and is on its way to be beamed or quilled, and before it is beamed or quilled the thread P, of course, must be removed. This chain A passes over and drives the roll or drum B. To this drum B is attached a gear D, which meshes with and drives gear E, which latter is fastened to one end of the shaft *a*. On the other end of this shaft *a* is fastened a gear F, which latter meshes and drives gear G. To this gear G is fastened a cylinder C, through which the chain A passes. This cylinder C passes through the stationary hub or drum H, which latter is held stationary and in position by the bracket and clamp I, the said bracket being fixed and the said clamp fitting tightly on a reduced portion of the said hub. To the end of the cylinder C is securely fastened an arm J, to which there is attached as part of the same a "bracket" or "holder," so called, K, which latter is provided with arms L L′ to hold the bobbin or spool M. These arms fit loosely around the stationary hub H, so as to permit free movement when they revolve. Fitted in the "bracket" K, so called, there is a spiral spring N, which encircles the stud or bolt O, the function of said spring N being to hold the spool or bobbin M closely onto the surface of the stationary hub or drum H. From this construction it will be seen that when the chain A moves it operates the cylinder B, gears D, E, F, and G, and cylinder C. When the latter revolves, it carries the arm J, holder or bracket K, and spool M around the stationary hub or drum H, and consequently around the loosely-condensed chain A. The material or thread P, which is to be taken off, passes through the eye Q to the guide or traveler R, which latter travels in the double screw or groove S, made in the hub H. Every revolution of the cylinder C of course takes off one turn of the thread or material P from the chain A. The contact between the spool M and the surface of the stationary hub H serves to wind the material firmly onto the spool M, the guide or traveler building it on uniformly, so that it can be taken off easily and used again for the same purpose or may be put into the chain to be manufactured into goods or used for any other purpose desired.

We claim—

1. Mechanism for unwinding thread from a chain, consisting of a drum rotated by the feeding of the said chain, in combination with a rotating cylinder, gearing from the said drum to the said cylinder, a roll or spool carried by the said cylinder, and means in contact with the said roll for causing its rotation as it revolves with the said cylinder, in order that

the thread may be wound on the said roll, substantially as set forth.

2. The combination of the fixed obliquely-grooved hub H with the cylinder C, rotating within the said hub, the roll or spool M, carried by the said cylinder, the thread-guide R, moving in the groove of the said hub under the action of the said roll, and the gearing for driving the said cylinder, substantially as and for the purpose set forth.

3. In combination with the drum B, which is in contact with the warp-chain A and rotated thereby, the cylinder C, gearing from the said drum to the said cylinder, whereby the latter is rotated, a fixed grooved hub or drum surrounding the said cylinder, a guide moving in the oblique groove of the said drum and having the winding thread passed therethrough, and a roll attached to the said cylinder, which revolves with the rotation of the latter to unwind the thread from the chain, the said roll also rotating to wind the thread on itself, substantially as set forth.

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