

(No Model.)

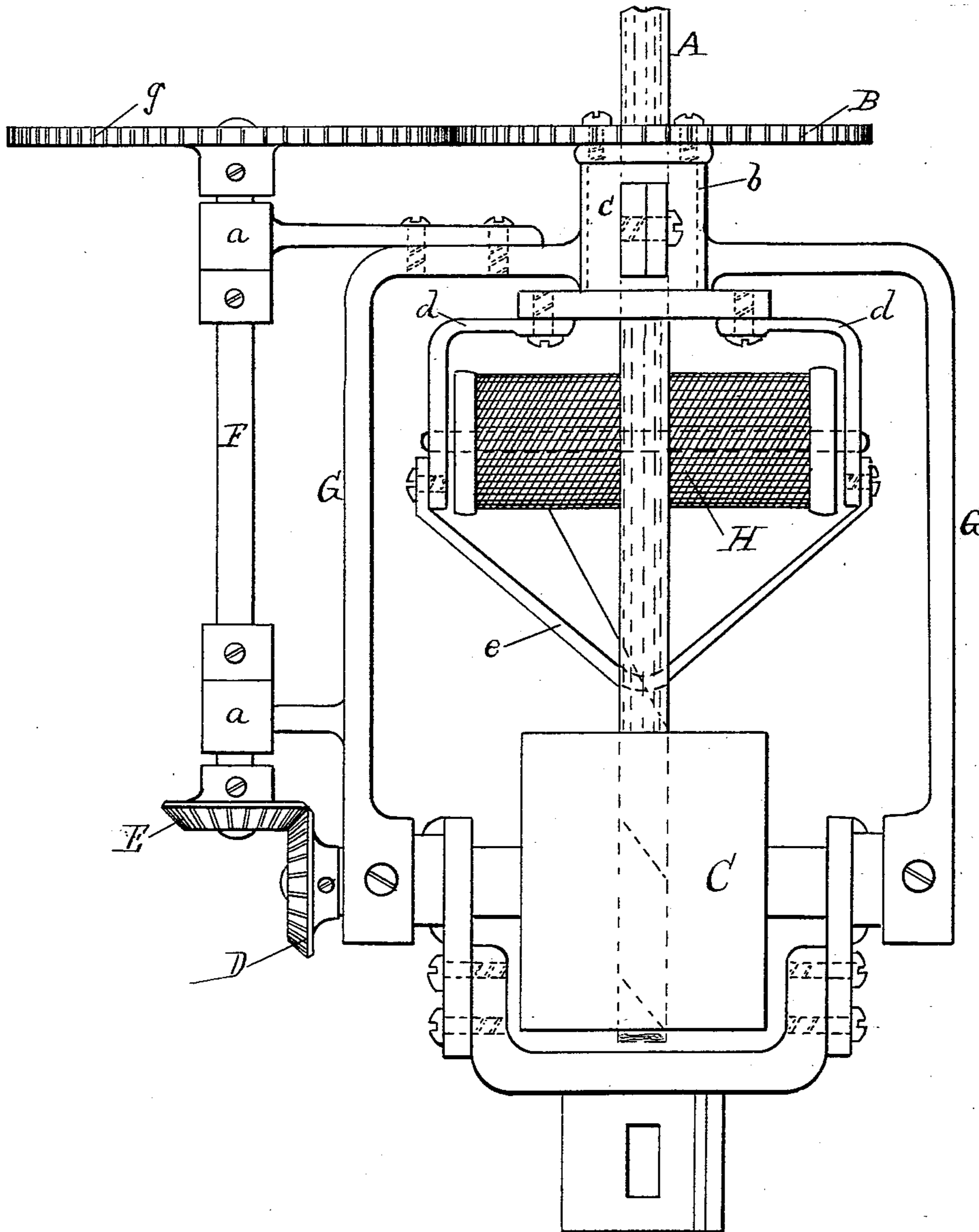
2 Sheets—Sheet 1

C. E. SCRIMGEOUR & H. GILDARD.
MECHANISM FOR WRAPPING WARP CHAINS.

No. 482,066.

Patented Sept. 6, 1892.

Fig 1.



WITNESSES:

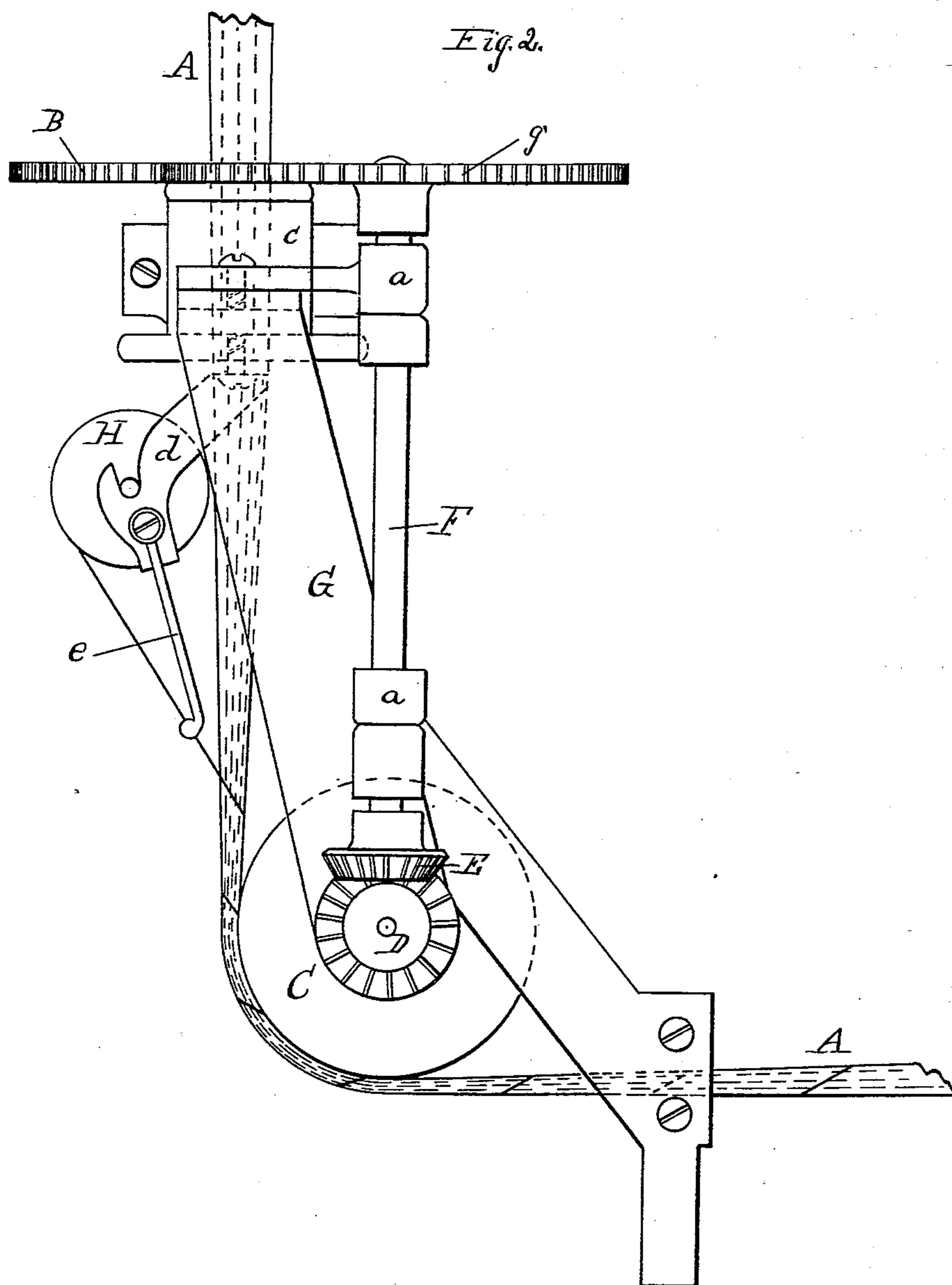
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

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

MECHANISM FOR WRAPPING WARP-CHAINS.

SPECIFICATION forming part of Letters Patent No. 482,066, dated September 6, 1892.

Application filed December 15, 1891. Serial No. 415,124. (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, county of Androscoggin, State of Maine, have invented a new and useful Improvement in Mechanism for Wrapping Warp-Chains, of which the following is a specification.

10 This invention relates to that class of inventions which in the process of manufacturing cotton goods have for their object the production of practically-perfect goods at a saving in cost to the manufacturer. The
15 method of long-chain warping, balling, and beaming or "quilling," so called, now in use, which is a method of treating and handling the threads or chain preparatory to the further processes of boiling, doubling, dyeing,
20 or bleaching, splitting, and drying, all of which has to be done before the thread is beamed or quilled, consists in loosely condensing the threads of the chain to three-quarters of an inch, more or less, depending
25 entirely on the number of threads composing the chain, and passing them so condensed through pot-eyes or trumpets or over rolls, grooved pulleys, or V's to the baller, where it is built into a ball for convenience in handling during the processes above enumerated.

In this method of long-chain warping, balling, and beaming or quilling it is impracticable to obtain anything like perfect results, for the reason that the threads in the chain so
35 condensed do not remain in that condensed form when being treated, but become separated and tangled on account of loose threads and from other causes, thereby in the subsequent processes of manufacture allowing the
40 threads to become still more separated and disarranged and oftentimes broken. This necessitates mending in of new threads, which may not closely match in color or quality, which makes imperfect work and at an increase in cost over and above the cost when
45 our invention is put to use. To avoid these defects and disadvantages, we make use of the construction and combination of devices hereinafter more particularly set forth and claimed.

50 In the accompanying drawings, Figure 1 represents a plan view of a machine embody-

ing our invention, and Fig. 2 a side elevation of the same.

At A is shown a loosely-condensed chain, which passes through the hub of a gear B, 55 thence under a roll C to the "baller," so called, (not shown,) where it is built into a ball for more convenience of subsequent handling. The friction of the chain A causes the roll C to revolve. 60

Attached to the end of the shaft of roll C is a bevel-gear D, which when roll C turns, moves, and this in turn moves bevel-gear E, with which it is engaged. This bevel-gear E is fixed to shaft F, which is journaled at a a 65 to the frame G. On the other end of shaft F is a gear g, which engages with gear B, first alluded to. The hub or shaft b of this gear B is journaled in the journal c. Attached to this hub or shaft b are light arms d 70 d, which carry a spool H. This spool H contains the thread or material desired to be coiled around the chain, and as the chain moves, the spool with the aid of the gears and their connections, as will be readily seen, revolves around the chain as it passes to the baller. The number of coils to be coiled around the chain can be easily regulated by changing the sizes of the gears. 75

At e is shown a "guide," so called, which 80 serves to hold or guide the thread or any desired material as it unwinds from the spool. With each new chain the spool H can be easily removed by unscrewing the arms d or in any other convenient way and a new one 85 substituted, as for the purpose of detecting loose threads it would be desirable that the color of the thread or material on the spool H should be different and in contrast from that of the chain. 90

Our improvement is particularly valuable in the manufacture of fine colored goods, as it prevents, as above premised, the mending in of new threads, which cannot be identical in color, and it also prevents knots and twists, 95 thereby insuring uniform and continuous threads throughout the entire chain or warp, and consequently almost perfect beaming or quilling, which in turn causes more perfect dressing or starching, and thus furnishes the 100 weaver with a perfect warp and one of uniform color and shade, which secures an in-

creased product per loom and practically-perfect goods. After the chain has been boiled, dyed, &c., and before it is beamed or quilled the coils of thread or other material are removed and wound off onto the spools for use a second time.

We claim—

1. A roll arranged to be rotated by the frictional contact of a chain of warping, in combination with a wheel having a tubular hub through which the said chain passes, a spool arranged transversely with relation to the said chain and carried by the said hub in its rotation to wind a thread around the said chain and intermediate gearing, whereby the said roll transmits rotation to the said wheel and spool, whereby the said chain in its forward motion causes the thread to be wound around it, substantially as set forth.
2. In combination with the roll C and its

shaft, the gear-wheels D E, the shaft F, driven thereby, the wheel *g*, turning with the said shaft, the wheel B, meshing with wheel *g* and having a tubular hub *b*, the detachable arms *d*, attached to the said hub, the transverse spool H, journaled in the said arms and rotating with the said hub, and frame G, to which all the said parts are attached, the relative arrangement of the hub, spool, and roll being such that a chain of warping which passes straight through the said hub will be in contact with and impart motion to the said roll and be wound by the thread from the said spool as the latter is carried around by the hub *b*, substantially as set forth.

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Witnesses:

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