J. Turner.

Mach. for Covering Cord.

No. 81,845. Patented Sept. 1, 1868.

Fig. 1.

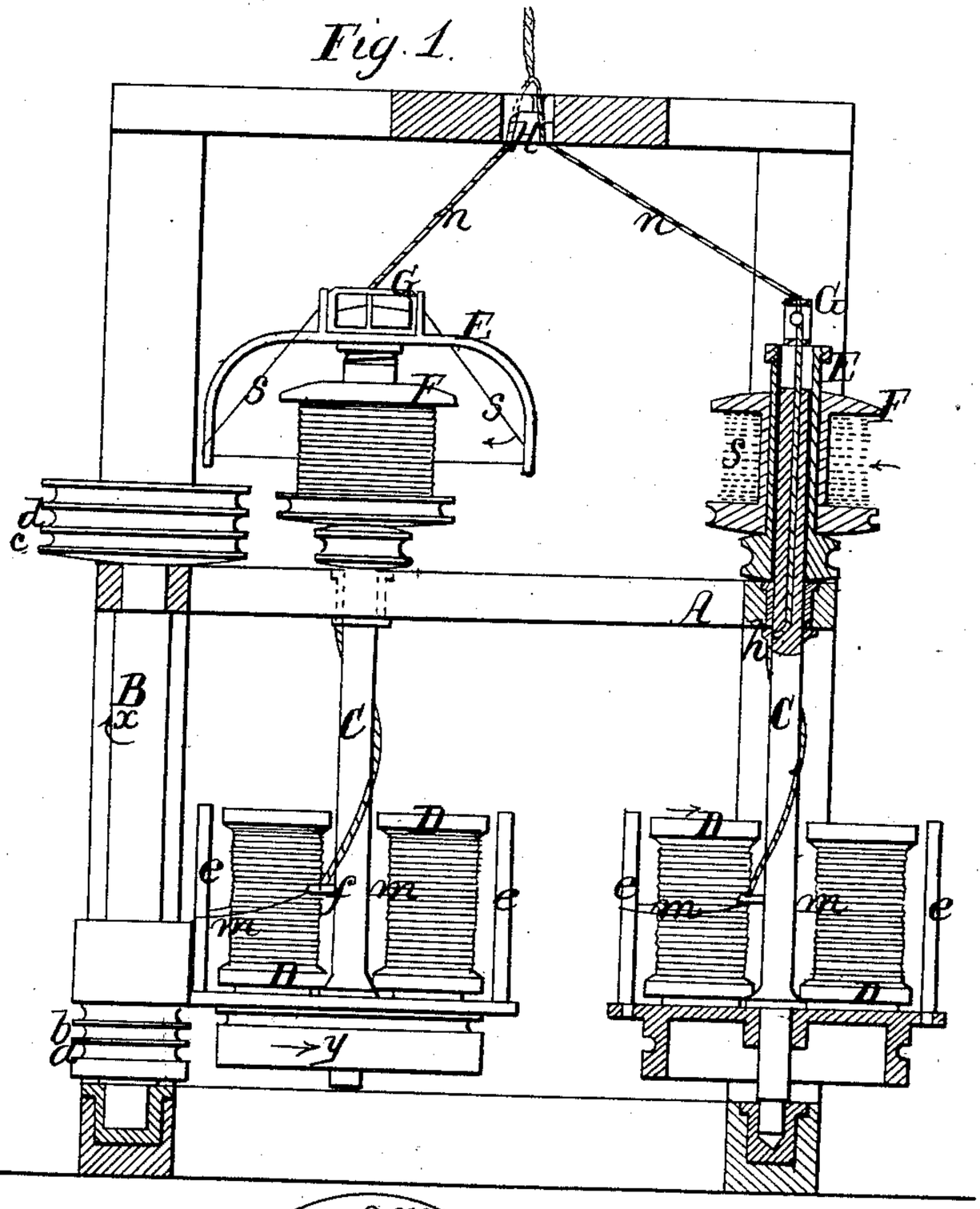
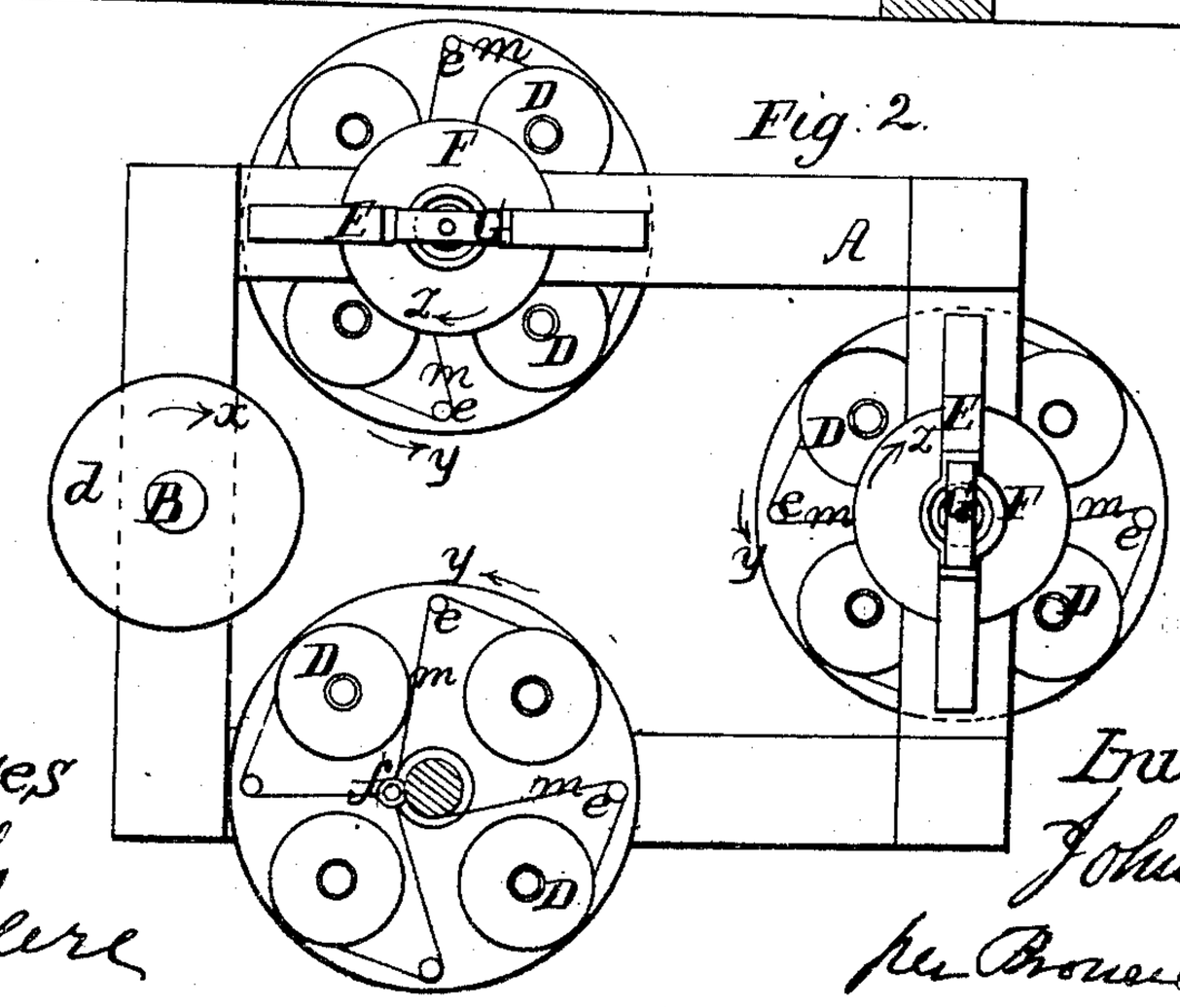


Fig. 2.



Witnesses
J. McCready
A. Seidere

Inventor
John Turner
per Brown Coombs & Co

JOHN TURNER, OF NORWICH, CONNECTICUT.

Letters Patent No. 81,845, *dated September* 1, 1868; *antedated August* 25, 1868.

IMPROVEMENT IN MACHINE FOR COVERING CORD.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN TURNER, of Norwich, in the county of New London, and State of Connecticut, have invented a new and useful Improvement in Machinery for Making Covered Twist and Cord, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents a sectional elevation of an apparatus for making covered cord, embracing my invention, and

Figure 2 a sectional plan of the same.

Similar letters of reference indicate corresponding parts.

This improvement relates to machinery by which cotton or other yarn is twisted to form strands, and the strands are covered with silk, worsted, or other material, and after having been so covered, may be laid and twisted together to form cord; and my invention consists in a novel arrangement of the bobbin, that carries the covering-yarn or material, relatively to the strand-spindle and yarn-bobbins, by placing said bobbin coincident with the axis about which the twisting is performed, whereby the centrifugal force of the covering-bobbin is reduced, and an increased velocity may be given to the same, to effect a more perfect winding of the covering round the strand with a less number of covering-bobbins.

In the accompanying drawing, my improvement is shown as applied to making covered cord by laying and twisting together three covered strands, but any number of strand-spindles may be used, according to the number of strands required to make up the cord.

A is the frame of the machine, having at its one side a general driving-shaft, B, rotating, say, as indicated by the arrow *x*, and carrying pulleys *a b c d*, for giving motion by belt or band, through pulleys on or connected with them, to the strand-spindles C, with their frames carrying the yarn-bobbins D, and to the fliers E. Each strand-spindle may have any number of yarn-bobbins, D.

Though said spindles and fliers are here shown as being driven so that they simply rotate about their own axes, and not about or round a common axis or main centre as well, this latter motion may be given them in addition, if preferred; the arrangement and action of the covering-bobbins F relatively to the strand-spindles, and use and action of the fliers, remaining in either case the same.

It is, in fact, all-important, in this, my invention, that the covering-bobbins F should, either as here shown, or in any other suitable manner, each be arranged with its axis coincident with the axis of the twisting apparatus; likewise important or desirable that a flier, arranged to operate essentially as shown, should be used, and that the covering-yarn should be conducted to, through, or over it, all as more clearly explained in the following description of the operation.

On setting the machine in motion, the spindles C twist together the yarns *m*, from the bobbins D, the yarns being conducted by guide-pins *e* to eyes *f*, on the spindles, and thence to openings *h* in the latter, and made to pass through the spindles, the twisted yarn from each spindle forming the cord, the twisting taking place between the opening *h* and a hole in a guide, G, from whence the strand *n* passes to the laying-top H, where the several strands *n*, from the different spindles, meet to be twisted together into cord, as in other machines, or in any suitable manner.

The strands are covered as the yarns *m*, composing them, are twisted, or just before the twist is completed, by yarn or material drawn from the flier-bobbins F, arranged coincident with the axis about which the twisting is performed, each of said bobbins being here shown as hung for independent rotation (under, it may be, a suitable friction-check) on or round a sleeve of the flier, E, that has its centre of rotation coincident with the axis of the strand-spindle, and is interposed between the strand-twisting and laying apparatus. One, two, or more yarns, *s*, may be supplied by each covering-bobbin. These yarns, *s*, are conducted to the strand, to, through, or over the arms of each flier E, and from thence through the guide G, to the covering-point at or near the centre of the flier.

Supposing the strand-yarn bobbins D to rotate as indicated by the arrows *y*, the fliers, with their covering-bobbins E, may revolve as denoted by the arrows *z*.

By the arrangement of the covering-fliers or bobbins in the axes about which the twisting of the yarns to form the strands is effected, the centrifugal force of the covering-bobbins is reduced to a minimum, so that they may be run faster than where the axes of said bobbins are eccentrically situated, or not coincident with the twisting-axis, whereby the covering may be wound more directly around the strand, and the liability of its falling between the threads of the strand is prevented, and such increased speed renders a less number of covering-bobbins necessary, allowing, it may be, a single one to be used for each strand.

When it is desired to make covered twist without manufacturing the twist into cord, a single strand-spindle, C, carrying bobbins D, with a like relative arrangement to that herein described, of flier with its covering-bobbin, may be used.

What is here claimed, and desired to be secured by Letters Patent, is—

The covering-bobbin F, arranged and operating in combination with the twisting-spindle C and yarn-bobbin D, substantially as shown and described.

JOHN TURNER.

Witnesses:

JOHN G. BAKER,

MARIA L. MEEKER.