

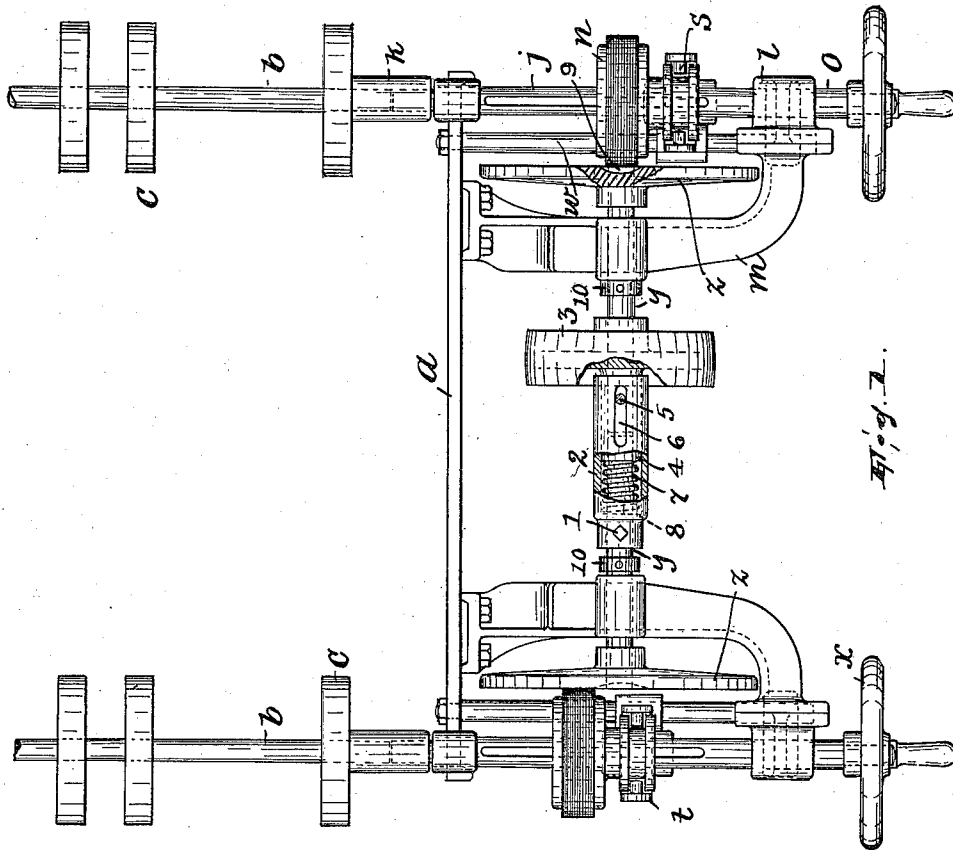
J. EASTWOOD.
GEARING.

APPLICATION FILED DEC. 17, 1908.

1,014,957.

Patented Jan. 16, 1912.

2 SHEETS—SHEET 1.



WITNESSES

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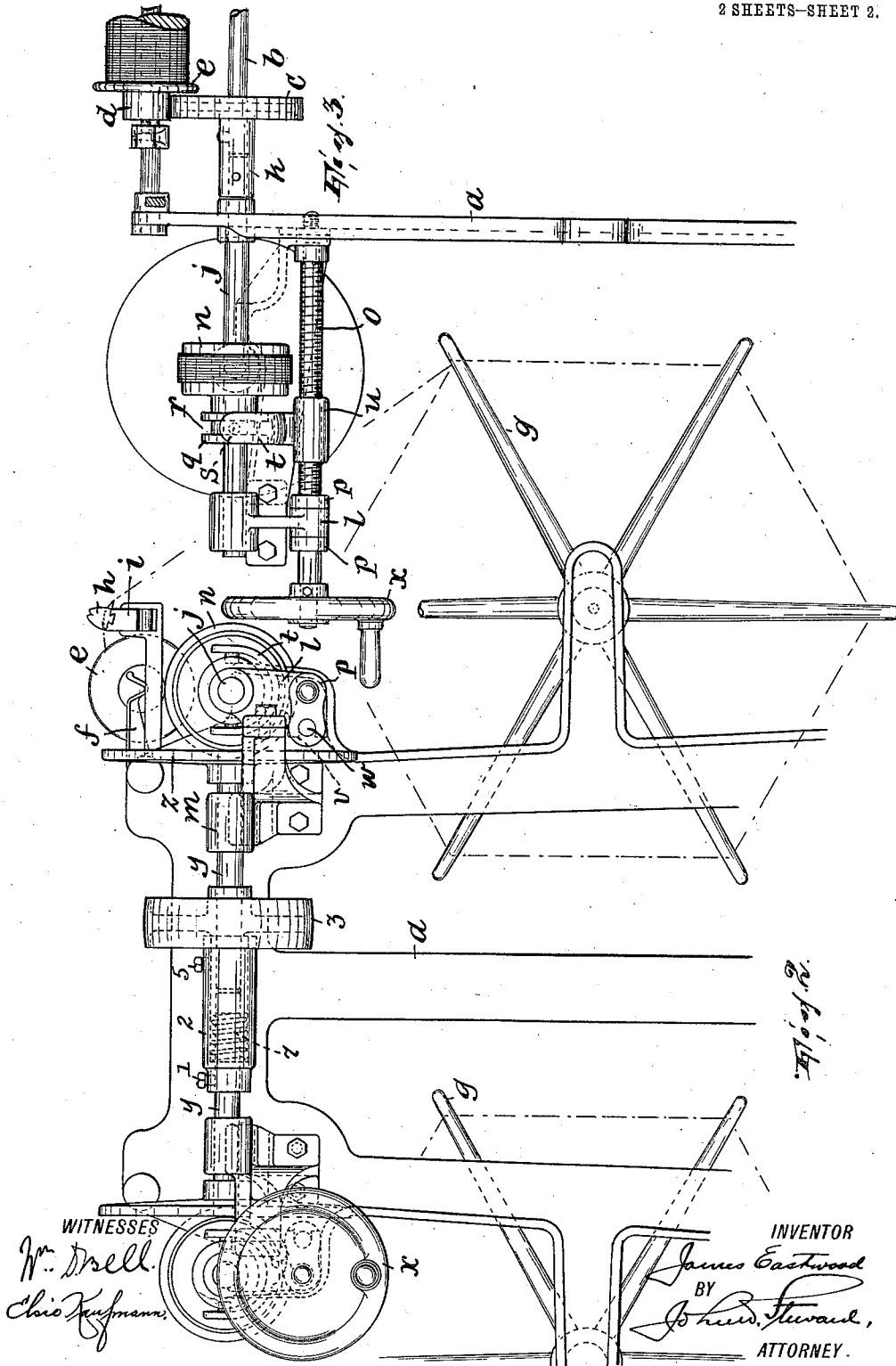
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

JAMES EASTWOOD, OF PATERSON, NEW JERSEY, ASSIGNOR TO THE BENJAMIN EASTWOOD COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

GEARING.

1,014,957.

Specification of Letters Patent.

Patented Jan. 16, 1912.

Application filed December 17, 1908. Serial No. 467,978.

To all whom it may concern:

Be it known that I, JAMES EASTWOOD, a citizen of the United States, residing in Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Gearing; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to machines for winding thread from swifts onto bobbins, spools and the like, and it consists in certain improvements whereby the two bobbin- or spool-driving shafts of such machines may be rotated independently of each other and each at variable speeds, with the result that several distinct advantages hereinafter named are attained.

The invention will be found fully illustrated in the accompanying drawing wherein,

Figure 1 is a plan view of so much of the end portion of the improved winding machine as it is necessary to show for the purpose of illustrating the invention, certain parts being shown broken away; Fig. 2 is an end elevation; and, Fig. 3 a side view.

a designates one of the end frames of the machine and *b*, *b* the two shafts above-mentioned, the latter carrying the usual driving wheels *c* on which are adapted to rest the whirls *d* of spools or bobbins *e* which are arranged in suitable brackets *f* above said shafts and onto which the silk is wound from the swifts *g* as said spools are rotated by the wheels *c*; *h* designates one of a series of thread guides carried by the reciprocating thread guide rails *i* (only one of which is shown), which latter are reciprocated in the usual manner so as to lay the silk evenly on the spools.

j designates rotary shafts forming extensions of the shafts *b*, the same being coupled with the shafts *b* by the sleeve couplings *k*. The shafts *j* are journaled, parallel with each other, in the end frame *a* and the extensions *l* of two brackets *m*, and on these shafts, splined thereto, are arranged the friction wheels *n*. In each extension *l* of bracket *m* and in the end frame *a* is also

journaled a screw *o* which is held against longitudinal movement by two collars *p* fixed thereon on opposite sides of the bracket-extension *l*. Each friction wheel *n* has an annularly grooved projection *q*, the groove *r* of which is adapted to receive the lugs *s* on a fork *t* which has an internally threaded sleeve *u* arranged on the screw *o*; a forked extension *v* projects laterally from each sleeve *u*, the same receiving a fixed rod *w* sustained at its ends in the end frame *a* and the bracket-extension *l*; the purpose of such forked extension and rod *w* is to steady the fork *t* and keep it true with respect to the friction wheel. A hand-wheel *x* is secured on the outer end of each screw *o*.

In the brackets *m*, alined with each other, are journaled the shafts *y*, each shaft carrying at its outer end a face-plate *z* adapted to bear against the corresponding friction wheel *n*. On one of these shafts, by means of a screw 1, is fixed a sleeve 2. On the other shaft *y* is arranged a driving pulley 3 having a laterally extending hub 4 received by the sleeve 2 and fixed to the shaft *y* on which said pulley is mounted by a screw 5, which screw is received by a longitudinal slot 6 in sleeve 2, so that the two shafts *y* are locked for rotation together but are susceptible of movement axially in opposite directions. A spring 7, inclosed in sleeve 2 and bearing at one end against the end of hub 4 and at the other end against a shoulder 8 formed integrally in sleeve 2, serves to press the sleeve and hub apart, so that the face plates are held in good driving contact with the friction wheels. The center of the acting face of each face-plate is preferably dished, as at 9, so that the corresponding friction-wheel will clear the face-plate when moved opposite the recess thus formed; when the friction-wheel occupies the position just referred to the face-plate is held against being thrust into contact with it by a stop collar 10 on its shaft *y* engaging bracket *m*. It will be understood that the power is taken into the machine by a belt (not shown) extending around pulley 3.

It has always been a source of considerable annoyance and waste of time and labor in the use of machines of this character that the threads often break because, on starting the machine, the spools being precipitously set rotating while the swifts are as yet stationary or, on stopping, the spools

suddenly ceasing to rotate while the swifts continue rotating, the incident strain is greater than all the threads can be calculated to withstand. In addition, it has heretofore been impossible to wind different grades of thread on the two sides of the machine, without keeping the speed on one side down to that which the strength of the thread on the other side only makes possible.

These disadvantages I have overcome by the mechanism herein described. Pulley 3 being rotated, the attendant has but to shift either friction-wheel n radially with reference to its face-plate to cause the corresponding shaft b to rotate at any desired speed; and by shifting said friction wheel to the center of the face-plate, it will be understood that the rotation of the shaft b will be completely stopped. Thus, one shaft may rotate at a different speed from that of the other, allowing different grades or strengths of thread to be wound on the two sides of the machine, or the speed of either shaft may be changed at will.

By providing a common driving member, comprising the alined shafts y and the mechanism connecting and controlling them and constructing the same and the mechanisms whereby power is transmitted from them to the driven members in substantially the manner herein shown and described, simplicity of construction is conserved and a mechanism is afforded which is not only compact and space-saving but which may be readily operated by the attendant without the assistance of others more familiar with the handling of mechanical contrivances.

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

1. The combination, with a suitable support, of two rotary members to be driven

arranged in said support in spaced relation to each other, a rotary driving member disposed between said driven members and comprising two parts each movable axially of said driving member, means acting normally to move said parts axially, and co-operating power transmitting devices carried by the driving and driven members and limiting the axial movements of said parts, substantially as described.

2. The combination, with a suitable supporting structure, of two substantially parallel rotary members to be driven, a friction-wheel on each of said members and adjustable thereon axially thereof, a rotary driving member arranged with its axis transverse to the driven members and comprising two parts each movable axially of said driving member, means acting normally to move said parts axially, and a face-plate, on each part, bearing against a friction-wheel, substantially as described.

3. The combination, with a suitable supporting structure, of two substantially parallel rotary members, a friction-wheel splined on each of said members, a rotary driving member arranged with its axis transverse to said driven members and comprising alined parts each movable axially of said member, a spring acting normally to press said parts apart, and face-plates arranged between said friction wheels and each carried by one of said parts, substantially as described.

In testimony, that I claim the foregoing I have hereunto set my hand this 14th day of December, 1908.

JAMES EASTWOOD.

Witnesses:

WM. D. BELL,
ELSIE KAUFMANN.