

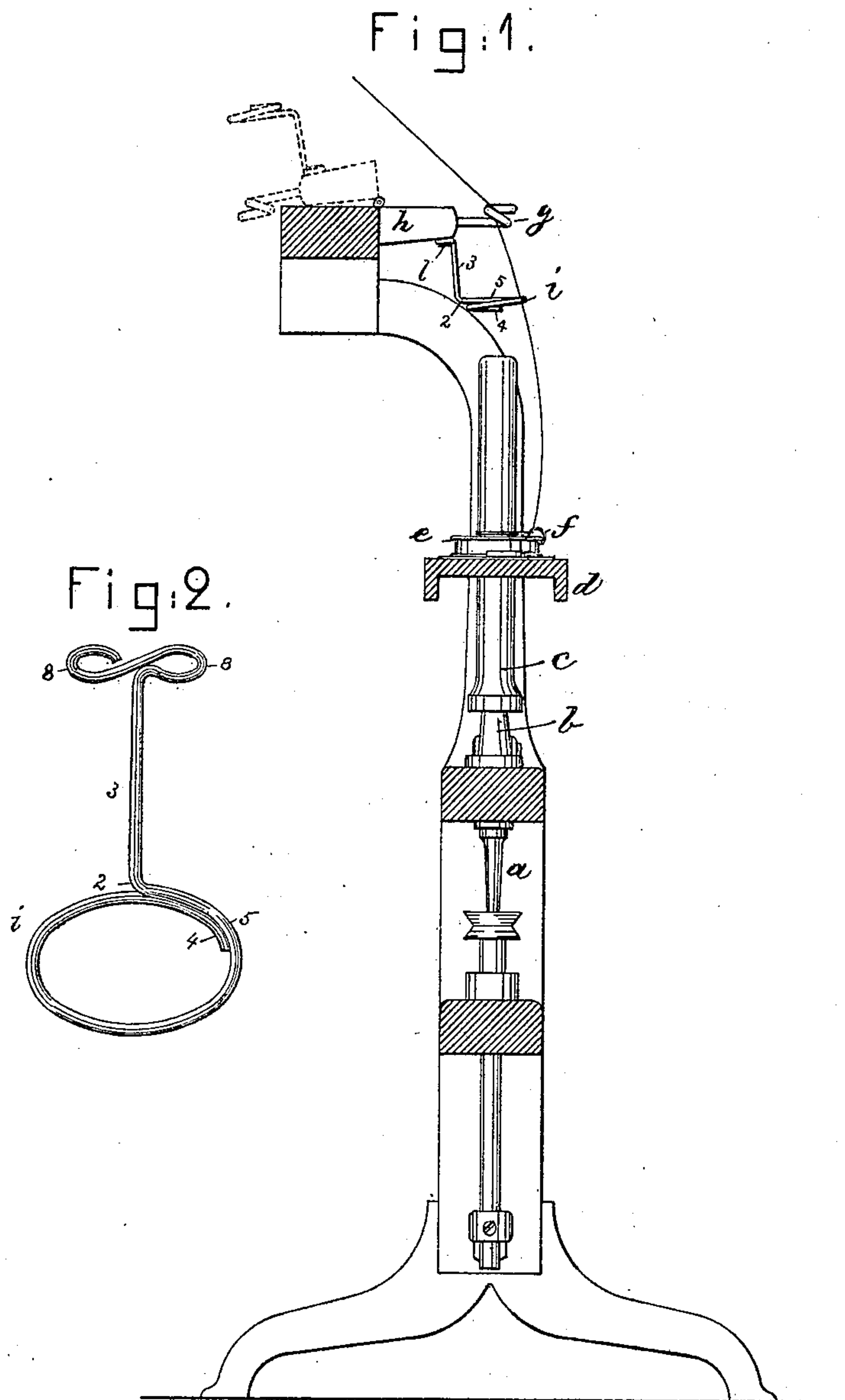
(No Model.)

E. KILBURN.

## Thread Contractor for Spinning Machines.

**No. 238,595.**

**Patented March 8, 1881.**



Witnesses.

St. E. C. Whitney.  
Arthur Reynolds.

Inventor.  
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by Crosby & Gregory Attys.

# UNITED STATES PATENT OFFICE.

EDWARD KILBURN, OF NEW BEDFORD, MASSACHUSETTS.

## THREAD-CONTRACTOR FOR SPINNING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 238,595, dated March 8, 1881.

Application filed July 6, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD KILBURN, of New Bedford, county of Bristol, State of Massachusetts, have invented an Improvement in Thread-Contractors for Spinning Machines, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to a thread-contractor for spinning-machines, and has for its object to restrain the bowing or throwing out of the thread and obviate the striking together of the threads as they are being spun and wound upon the bobbin.

My invention consists in a thread-contractor composed of a piece of wire-like metal coiled at one end to form an open ring or annulus, combined with the hinged guide-board upon which the contractor is secured below the common guide-eye, it co-operating with the ring-traveler and bobbin, as hereinafter more fully described.

Figure 1 represents, in section, part of a ring-spinning frame with my improved thread-contractor applied to the hinged guide-board, the dotted lines showing the guide-board thrown up, as is necessary preparatory to doffing or applying bobbins to the spindles; and Fig. 2 is an enlarged top view of the thread-contractor removed from the guide-board.

The spindle *a*, bolster *b*, bobbin *c*, ring-rail *d*, ring *e*, traveler *f*, guide-eye *g*, and hinged guide-board *h* are all of usual construction.

My thread-contractor *i* is composed, preferably, of a piece of ordinary wire bent to form a large open annulus or ring of about one inch in diameter, the turn of the annulus being a little more than one complete circle, as shown, so as to form a practically continuous wall or surface, against the interior of which the thread may travel without being caught or without liability to escape; yet the annulus is and must be provided with a gap or space to permit thread or yarn to be introduced within the annulus or contractor from its outer side rather than through the same, as would be necessary if the contractor or annulus did not have such an opening in it. The shoulder 2 of the contractor, between the annulus or ring part and the upright part or arm 3, serves as a stop to arrest the thread between the guide-eye and bobbin, and cause the thread, as the

bobbin is started, to pass through the gap between the parts 4 5 of and into the annulus, where it will remain so long as the yarn is unbroken. When the yarn breaks, were it not for the gap and the shoulder 2, it would be necessary for the attendant to pass the end of the yarn within the contractor before "piecing" (as it is called) the yarn or connecting its broken ends. The attendant, the yarn having broken, has only to piece or unite the ends in the quickest and easiest way and drop the yarn so pieced, and if it falls on the outer side of the contractor the yarn, during the first rotation of the traveler, will be carried against the shoulder 2 and checked a little, after which it will be immediately drawn through the gap in the contractor and into the interior of the contractor, which will thereafter act to prevent the yarn bowing out, as described.

This thread-contractor presents an annular surface between the guide-eye and top of the bobbin, as shown, to act upon and restrain the bowing or throwing out of the thread at that point, and it so restrains the throwing out of the thread that the threads of adjacent bobbins will not strike together during spinning.

The wire at the upper end of the arm 3 will preferably be curled, as at 8, to form a double loop to receive one of two screws, *l*, by which to attach the thread-contractor to the guide-board.

When the bobbins are to be doffed the guide-board and connected thread-contractors are turned up, as in dotted lines. The contractor *i*, being fixed to the guide-board, and being stationary while the ring-rail rises and falls, acts uniformly as a friction device for the thread, and greatly assists in winding the yarn uniformly and compactly on the bobbin.

Were the contractor or annulus fixed to and so as to rise and fall with the ring-rail, it would be practically impossible to piece the ends of the yarn without doffing the bobbin, and when the annulus or contractor happened to be opposite the bobbin the latter could be doffed only by lifting it from the spindle up through the annulus, and to replace the bobbin it would have to be passed down through the annulus.

In this my invention the contractor never surrounds either the bobbin or the spindle, but is always attached to the hinged guide-



board between the usual guide-eye and top of  
the bobbin, and when the bobbins are to be  
doffed the contractors and hinged guide-board  
are quickly removed from above them, as in  
5 dotted lines, so as not to be in the way of doff-  
ing, the latter operation being done by the at-  
tendant in the usual manner practiced in the  
common spinning-frame where a contractor is  
not used. The connection of the contractor  
10 with the hinged guide-board thus becomes a  
most essential feature of my invention, and is  
included in my invention as an essential part.

The contractor during spinning being al-  
ways stationary with relation with the guide-  
15 eye and top of the bobbin makes the thread  
more uniform as to twist and insures greater  
evenness in winding than were the contractor  
connected with and made to rise and fall with  
the ring-rail, as has been done.

I claim—

The contractor *i*, formed as described, to  
leave an open space for the insertion of the  
yarn therein laterally, combined with the  
hinged guide-board and its guide-eye located  
above the contractor, and with the ring rail, 25  
ring, and traveler, and with the spindle to  
turn the bobbin upon which the yarn held  
within the said contractor is being wound,  
substantially as described.

In testimony whereof I have signed my name 30  
to this specification in the presence of two  
subscribing witnesses.

EDWARD KILBURN.

Witnesses:

JOS. P. LIVERMORE,  
G. W. GREGORY.