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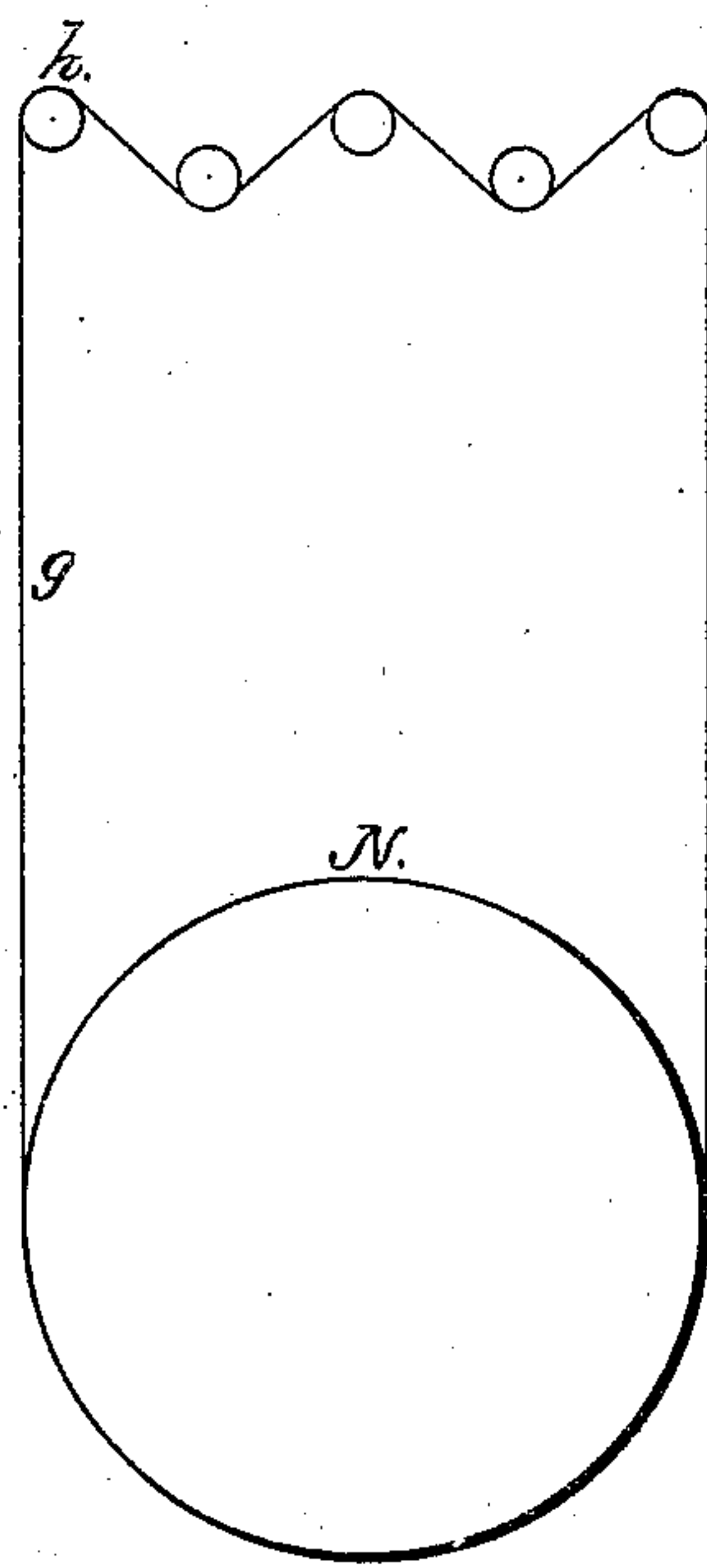
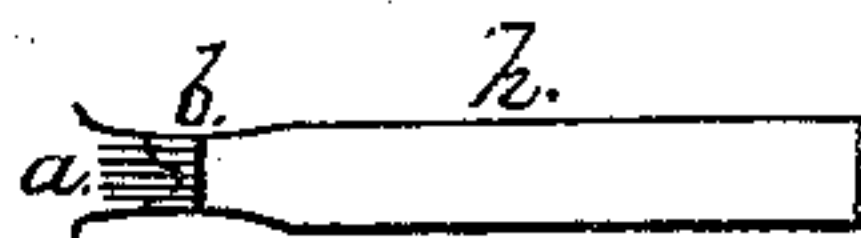
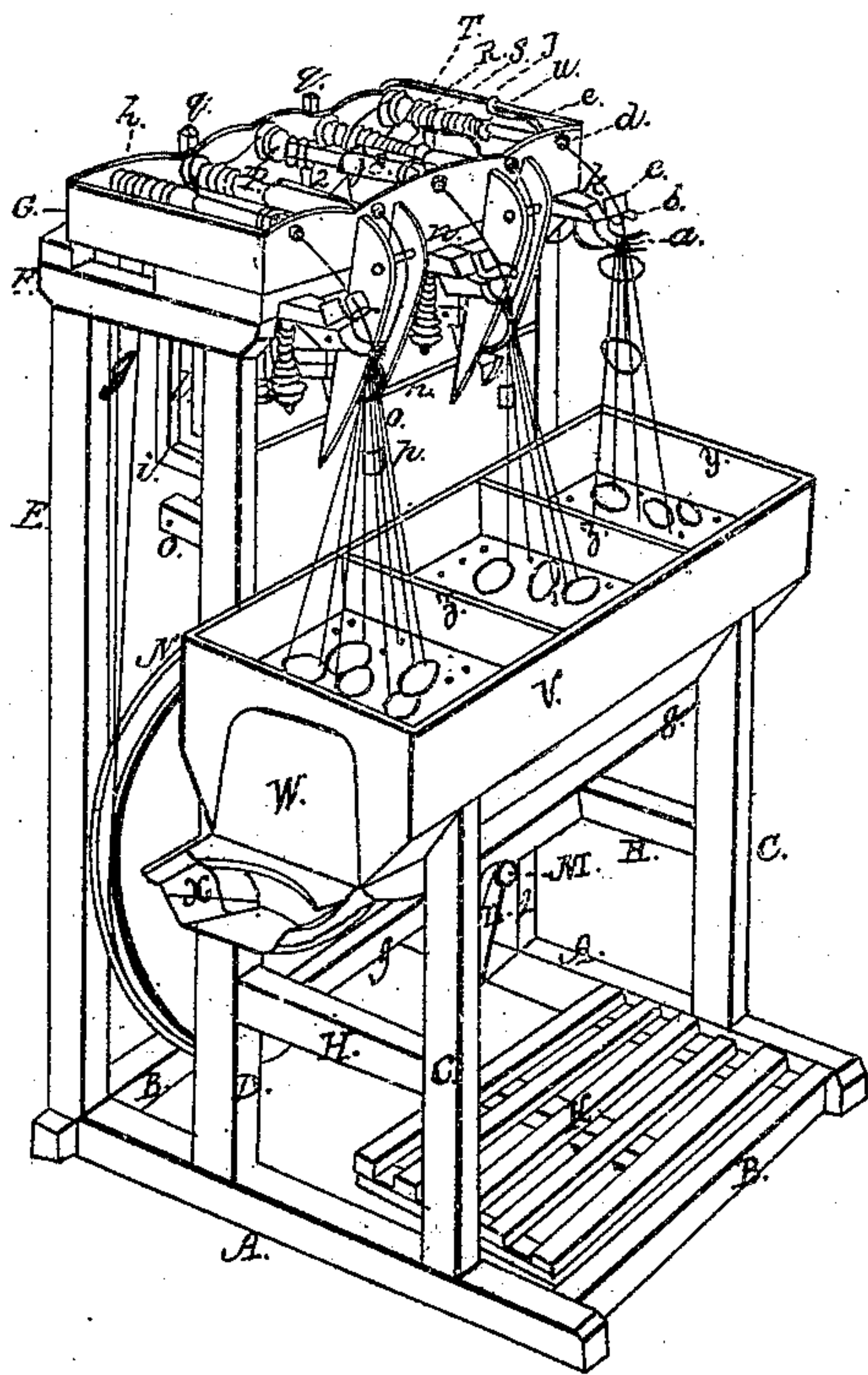
J. Dennis.

Machine for Making Silk.

N^o 1,041.

Patented Dec. 28, 1838.

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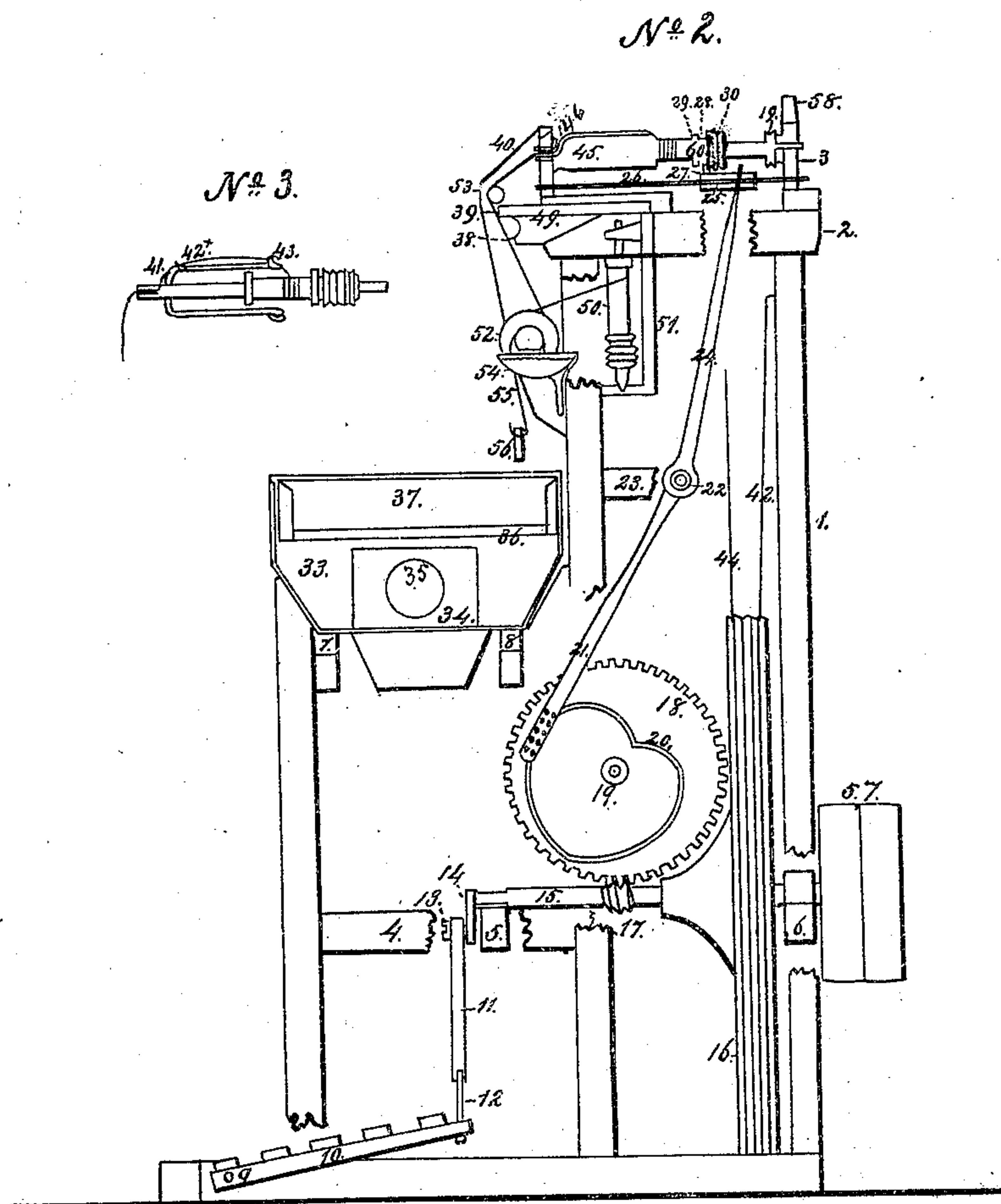
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Machine for Making Silk.

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UNITED STATES PATENT OFFICE.

JONATHAN DENNIS, JR., OF PORTSMOUTH, RHODE ISLAND.

MACHINE FOR REELING SILK FROM COCOONS.

Specification of Letters Patent No. 1,041, dated December 28, 1838.

To all whom it may concern:

Be it known that I, JONATHAN DENNIS, Jr., of Portsmouth, in the county of Newport and State of Rhode Island, have invented a new and useful Machine for Reeling Silk from the Cocoons; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in constructing a machine of such a form that one person can operate it with their feet and tend the cocoons with their hands and apply the filers from new cocoons when the machine is in motion.

It is provided with a treadle rack for the foot of the tender over which there is a boiler so constructed that the water is over and upon each side of the fire, this boiler has a strainer that fits it to prevent the remains of the cocoons from sinking and to remove the cocoons from the water when the reel is stopped, this strainer is divided by a partition to keep the cocoons for each thread reeled by themselves. The fibers of silk after leaving the cocoons in the water pass up between several pointed wires placed in the form of a mans hand open, with the fingers slightly bent, which prevents the cocoons that become tangled from rising up to the guide above. The thread after passing the guide runs through a revolving tube that keeps the fibers firmly twisted as they pass (between the guide and the tube) and enables the tender to apply the fibers from new cocoons with the greatest facility when the machine is in full operation. The twist thus given unites the fibers of silk firmly so as not to show where the new fibers are added, the twist also forces the water out of the thead, and then the twist escapes before the thead passes the traversing guide that spreads it upon the rails of the reel. The operation of the machine may be stopped instantly by removing the foot from the treadle to a lever that acts upon the fly wheel of this machine. This reel may be operated by steam water or other power.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

A A of the accompanying drawing is the side sills. B, one of the cross sills; the end of the other is seen at 1 drawing No. 2. The letters in this specification refer to drawing No. 1 and the figures to No. 2.

C C and 2 the front posts, D, D, and 3

the middle, E E and 4 the back posts, F F and 5 the plates, G G the short girts framed into the front and middle posts. H and 6 a sill framed into the two cross sills. 7 the end of the cross girt framed into the middle posts behind the boiler. 8 an inclined post framed into the sill, H, and 6, and the cross girt 7, upon the post 8 there is one bearing of the crank shaft 9, the other is upon the short girt G. I I two cross girts framed into the back posts. J, and 10, the fly wheel upon the crank shaft between the bearings, this fly wheel may be taken off and a tight and loose pulley put in its place, when the machine is to be operated by steam, water, or other power, except the foot of the tender. H and 11 a treadle rack supported by the rod 12, passing through the cleats of the rack and the side sill and the sill H and 6. The arm 13 is fastened to one of the cleats of the rack by the leather strap 14, in the upper end of this arm there is a hole through which the stud 15, is screwed into the crank (9). There is a pulley L, upon the crank shaft with a number of grooves in it, the band M, from one of these grooves runs into a similar groove in the pulley N, upon the shaft of the reel O, and 16. The bearings of the reel shaft are in the ends of the plates F F and 5, there is another band P from the pulley L that drives the pulley 2 upon a stud fastened to the middle post. A band from the pulley 2 runs up to the tube box R and 17, (see drawing No. 3) the tube box drawn with the front side left off and the band from the pulley 2 runs over the pulley S and 18 then round the whir of the tube T and 19, then back round the pulley S and 18 then over the whir of the tube U and 20, then back over the pulley 21 that is under the pulley S and 18 onto the pulley 2. The pulleys S and (18 and 21) run on pins that pass through the tube box. V and 22 the traverse rail with rods in the end that slide in the top of the back posts (the top of the post is left off in drawing No. 2 so as to show the end of the rail and the ends of the rods) this rail is kept in motion by the arm W and 23. One end is fastened to the rail the other end has a stud screwed through it into the pulley X and 43 that turns upon a stud screwed into the top girt I between the back posts, the pulley X and 43 is carried by the band Y and 44 from the pulley 24 upon the crank shaft between the crank and the bearing. Z and 25 a board

under the tube box with dove tailed grooves running across it, a part of the board is left off in drawing No. 2 to show the slide *a*, and 26, in the end of the slide is the guide *c*, and 72. There is a block *b* and 28 fastened onto the slide *a*, and 26, into which the wires, *d*, and 35, are inserted five with the ends pointed and two with the ends rounded and bent out so as to receive the fibers of silk readily from the hand of the tender, *e* and 28 the boiler shown in drawing No. 2 with part of the end off so as to show the strainer and partition, *f*, the plate of metal running under its whole length and turned up at the end (see 29) and fitted to receive the funnel 30 that conveys away the smoke, *h*, the door of the cavity under the boiler which cavity extends under the whole length and may be made square or circular, plain or fluted, to increase the surface for the action of the fire in this cavity and upon a grate that stands upon the metal plate *f*, the fire is made to heat the water in the boiler and the smoke passes out through the hole 30 in the plate 29 at the end of the cavity, *G* a cleat fastened to the front posts for the plate of metal to rest upon there is a similar cleat for the other edge fastened to the middle posts, (31 and 32 the ends of both the cleats), *i* and 23 the strainer that fits into the boiler to prevent the remains of the cocoons from sinking and to remove the cocoons from the water when the reeling is stopped; this strainer has a movable partition *j*, and 34 across it to keep the cocoons for each thread separate; the fibers of silk from the cocoons are drawn up between the pointed wires *d*, and 35, through the guide *c* and 27 into the tube *U* and 36 which is fluted at each end and is made to revolve very fast, by the band that carries it and twists the fibers of silk firmly as they are drawn through between the guide *c* and 27 into the tube *u* and 36, which enables the tender to apply the fibers from new cocoons with the greatest facility as the twist runs down to

the guide *c*. The fibers thus applied adhere more readily and lay smoother and are more firmly attached to the thread in consequence of the twist thus given. The pointed wires are so near together as not to let the cocoons that are tangled and drawn up pass but prevents the tangled fibers from being twisted in with the others, above the guide *c*, and 27, and thereby prevents the thread from being broken, which would be most likely to be broken if the pointed wires *d* and 35, did not keep the tangle cocoons a proper distance below the guide *c*, and 27. The twist in the tread from the tube *U* and 36 escapes before the thread passes the guide *k* and 37 in the traversing rail *V* and 22 onto the reel *O* and 16 upon which it is spaced. The lever *l* and 38, has its fulcrum upon a pin 39 passing through the sills *A* (and *H* and 6) this lever is raised up against the fly wheel to stop it by the foot of the tender pressing down the outer end *M* and 40, another reel that lays in the bearings 41, fastened to the back posts this reel is to supply the place of the other, while the skeins upon the one used first is drying, the skeins are taken from the reel by taking out the pin 42 that holds the arms at right angles and bringing the rails together which loosens the silk so that it will slip off.

What I claim as my invention and desire to secure by Letters Patent is—

1. The hand of pointed wires or fingers to prevent the cocoons from being drawn so near to the guide as to allow the tangled fibers to be twisted in with the others and break the thread of silk.

2. The fluting the ends of the twisting tubes and the combination of the twisting tubes with the guides and hands all as above described.

JONATHAN DENNIS, JR.

Witnesses:

BENJAMIN ARNOLD,
JAMES G. ARNOLD.