

(No Model.)

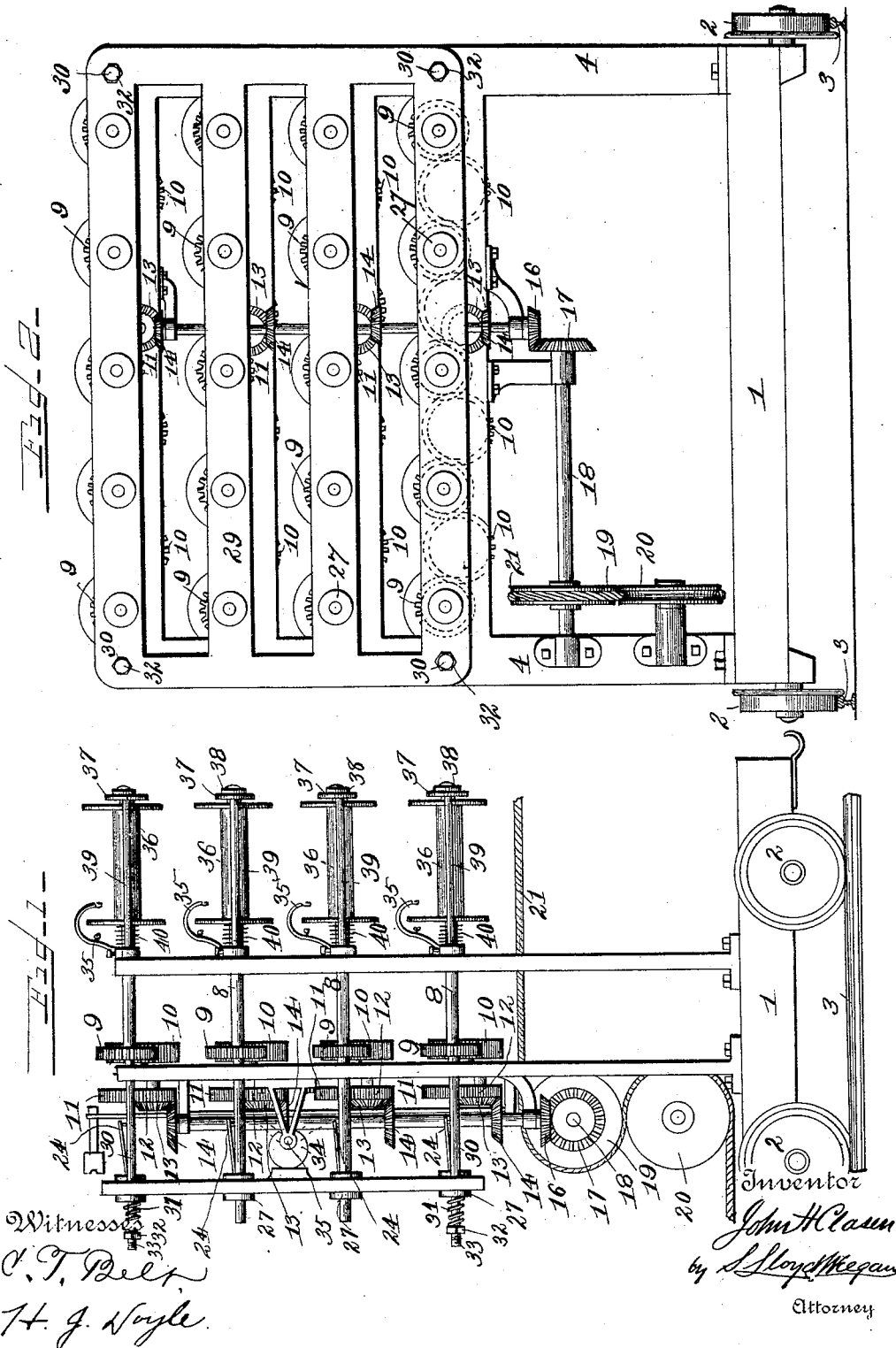
2 Sheets—Sheet 1.

J. H. CLASEN.

MACHINE FOR TWISTING AND WINDING CHENILLE.

No. 489,370.

Patented Jan. 3, 1893.



Witness
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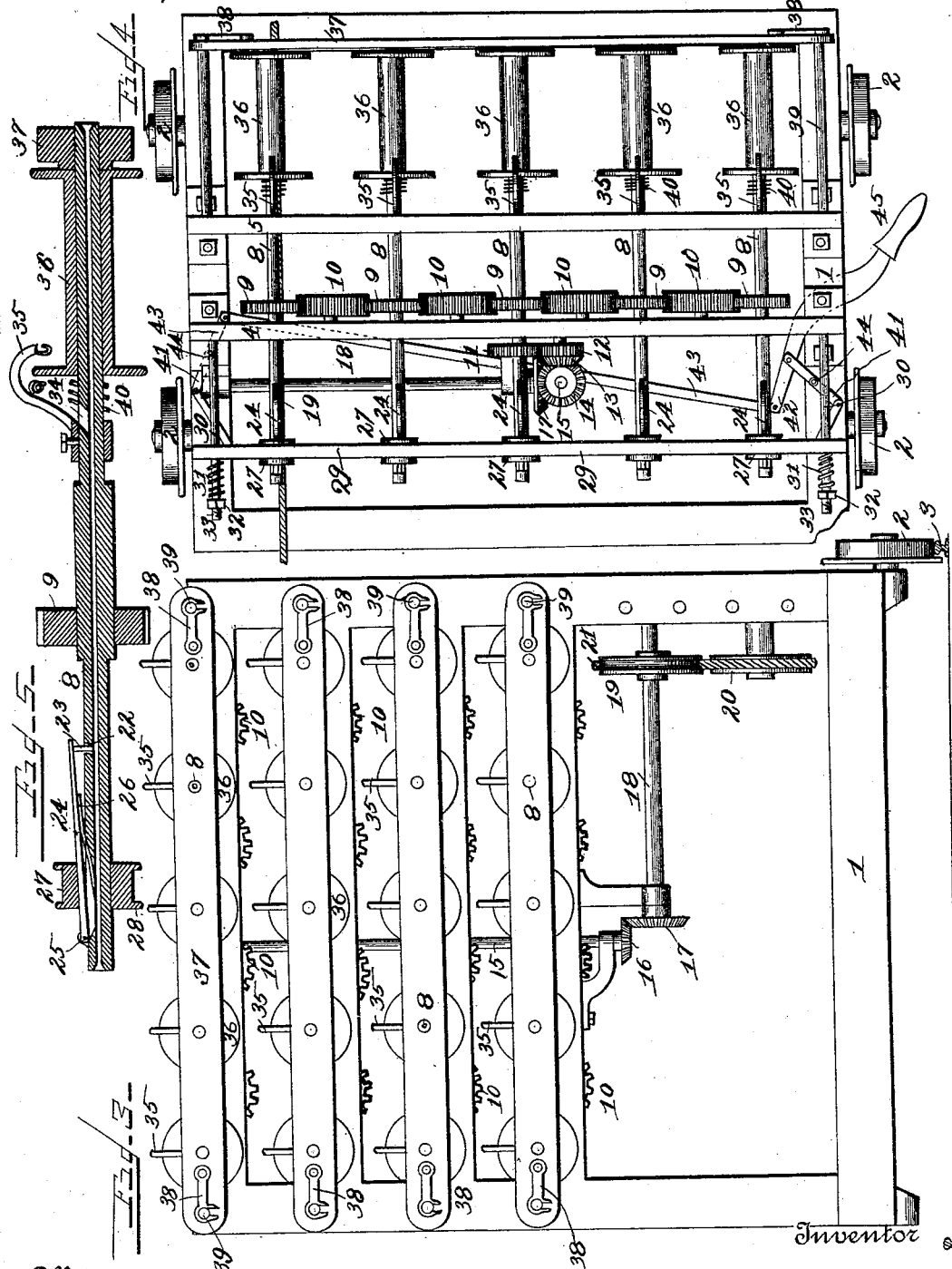
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UNITED STATES PATENT OFFICE.

JOHN H. CLASEN, OF PHILADELPHIA, PENNSYLVANIA.

MACHINE FOR TWISTING AND WINDING CHENILLE.

SPECIFICATION forming part of Letters Patent No. 489,370, dated January 3, 1893.

Application filed November 3, 1891. Serial No. 410,810. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. CLASEN, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Twisting and Winding Chenille; and I do hereby declare the following to be a sufficiently full, clear, and exact description thereof as to enable others skilled in the art to make and use the said invention.

This invention relates to the manufacture of chenille yarns and has for its object the twisting and winding thereof with a more even and uniform degree of tightness in all parts, and a better condition of the cut fibers which ultimately form the face of the woven fabrics for which such yarns are used.

The nature of this invention consists in the combination of a traveling car or truck with a series of hollow spindles connected by gearing so as to turn simultaneously and devices for alternatively twisting several stretched lengths of chenille yarn, and winding such yarns, after they are twisted, upon spools preparatory to weaving them into fabrics, in which the cut fibers form the surface.

The construction and operation of this invention are fully hereinafter described, and illustrated in the accompanying drawings in which,

Figure 1 shows a side view of a machine embodying this invention. Fig. 2, a front view. Fig. 3, a rear view. Fig. 4, a plan or top view thereof, and Fig. 5, an enlarged section of one of the twisting and winding spindles.

1, represents a truck frame, supported by wheels 2, resting and traveling upon tracks 3.

Upon the truck frame 1, are erected and securely fastened, in parallel and perpendicular position, two frames 4 and 5, each having twenty bearings 6 and 7, arranged in horizontal rows; in each pair of bearings the journals of one of twenty hollow spindles 8, rest and turn. The spindles 8 are all rotated in the same direction, by spur wheels 9, fixed upon them, which engage in intermediate toothed wheels 10. One spindle 8, in each row, receives motion from a spur wheel 11, turned by another spur wheel 12, rotated by an attached bevel wheel 13, engaging in a

bevel wheel 14, fastened on, and turned by an upright shaft 15. The shaft 15 is rotated by a beveled wheel 16, turned by another beveled wheel 17, on a horizontal shaft 18, supported in journal bearings secured to the frame 4, and turned by the grooved wheel 19 receiving motion from an endless rope 21, which passes under the grooved wheel 20 having journal bearings also secured to the frame 4, and is strained, guided, and propelled by suitable rotating pulleys and shafts located at the opposite ends of the tracks 3.

In each of the spindles 8, in front of the frame 4, is a hole 22, which enters from the side to the central bore, but not across it, in and out of which works a pin 23, held on the end of a lever 24, pivoted at a point 25, near the front end of the spindle 8, and pressed outwardly by a spring 26. The relative position of the lever 24, to the spindle 8, is with the pivoted end nearest to the spindle, and when free to act, the spring 28, holds the free end of the lever 24, out sufficiently to retract the pin 23, clear of the bore of the spindle 8. A sleeve 27, is fitted to slide over the spindle 8, and lever 24, so that when the sleeve 27 is pushed toward the frame 4, the free end of the lever 24, is pressed toward the spindle 8, and the pin 23, is pressed through the hole 22, and clamps the yarn which is in the bore of the spindle 8. The sleeves 27, are provided with collars 28, at each end, and are fitted so as to turn in, but not to slide through, a plate 29, supported on horizontal guides 30, projecting from the frame 4, and through the plate 29. The sleeves 27, are pressed toward the frame 4, by springs 31, held in place and adjusted in tension by the nuts 32, on screws 33, formed on the outer ends of the guides 30. Toggle levers 41, attached by bearings 44 to the frame 4, and to the plate 29, and connected with each other by levers 42 and a link 43 so as to be moved simultaneously by a hand lever 45, press the plate 29 and sleeves 27, away from the frame 4, and the springs 26, aided by the centrifugal force of the levers 24, retract the pins 23, from the bores of the spindles 8. The spindles 8, project rearwardly beyond the frame 5, and have an oblique hole 34, made from the side into the bore of each of them; the edges of the holes 34, are carefully chamfered or rounded and

polished, and close to each hole 34, is fixed a flier 35, which extends outwardly from the spindle 8, and guides the yarn which passes into the spindle 8, from the front end, and emerges from the hole 34, on to a spool 36, which fits loosely upon the spindle 8, and is held upon it by a plate 37, secured by latches 38, engaging in the grooves or necks of studs 39, and the extent, pressure, and tightness of hold against turning, and consequent tension of the yarn in winding, is regulated by helical springs 40, placed upon the spindles 8, so as to make pressure of the spools 36, against the plate 37.

The operation of the machine is as follows; a piece of chenille yarn in untwisted condition is passed from the machine which lays the strands and cuts the pile or flock, into the front end of each spindle, and put through the hole 34 over the flier 35, and onto the spool 36. The machine above described with the plate 29, pressed toward the frame by the springs 31, and consequently with each of the yarns clamped by the pin 23, so as to turn with the spindle 8, is started with a progressive motion on the rails 3 and the spindles 8, rotated by power supplied through the endless rope 21, and the several yarns are twisted uniformly. When the twisting is satisfactorily accomplished, the plate 29, is forced away from the frame 4 by the toggle levers 41, and the continued rotation of the spindles, winds the yarns upon the spools 36, because the spools rotate with a less velocity than the fliers 35, and spindles 8. As the winding proceeds the truck 1, and connected machinery is drawn toward the starting point, and

when the twisted yarn has been wound, the plate 29 is again pressed toward the frame 4, and another length is paid out, and the operation repeated.

Having described my invention what I claim is,

1. In a machine for twisting and winding chenille, a hollow spindle having a side aperture and flier, and a winding spool arranged to receive the twisted chenille, in combination, with a clamping device for alternately clamping and releasing the yarn from the twisting action of the spindle substantially as set forth.

2. In a clamping device for alternately holding and releasing yarns from a spindle, a hollow spindle having an aperture through the side thereof, a lever and pin adapted to press upon the said yarn, in combination with a sliding sleeve, and actuating mechanism to operate said sleeve substantially as and for the purpose set forth.

3. In a machine for twisting and winding chenille yarns, a series of revolving hollow spindles 8, arranged in parallel position in a frame 4, the wheel 19, shaft 18, beveled wheels 17 and 16, 14 and 13, spur wheels 11 and 12 and 9 and 10, for transmitting motion to the spindles 8, in combination with the clamping pin 23, lever 24, spring 22, and sleeve 27, a series of winding spools, flier 35, and the plate 37 and springs 40 arranged to operate substantially as set forth.

JOHN H. CLASEN.

Witnesses:

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