

No. 762,641.

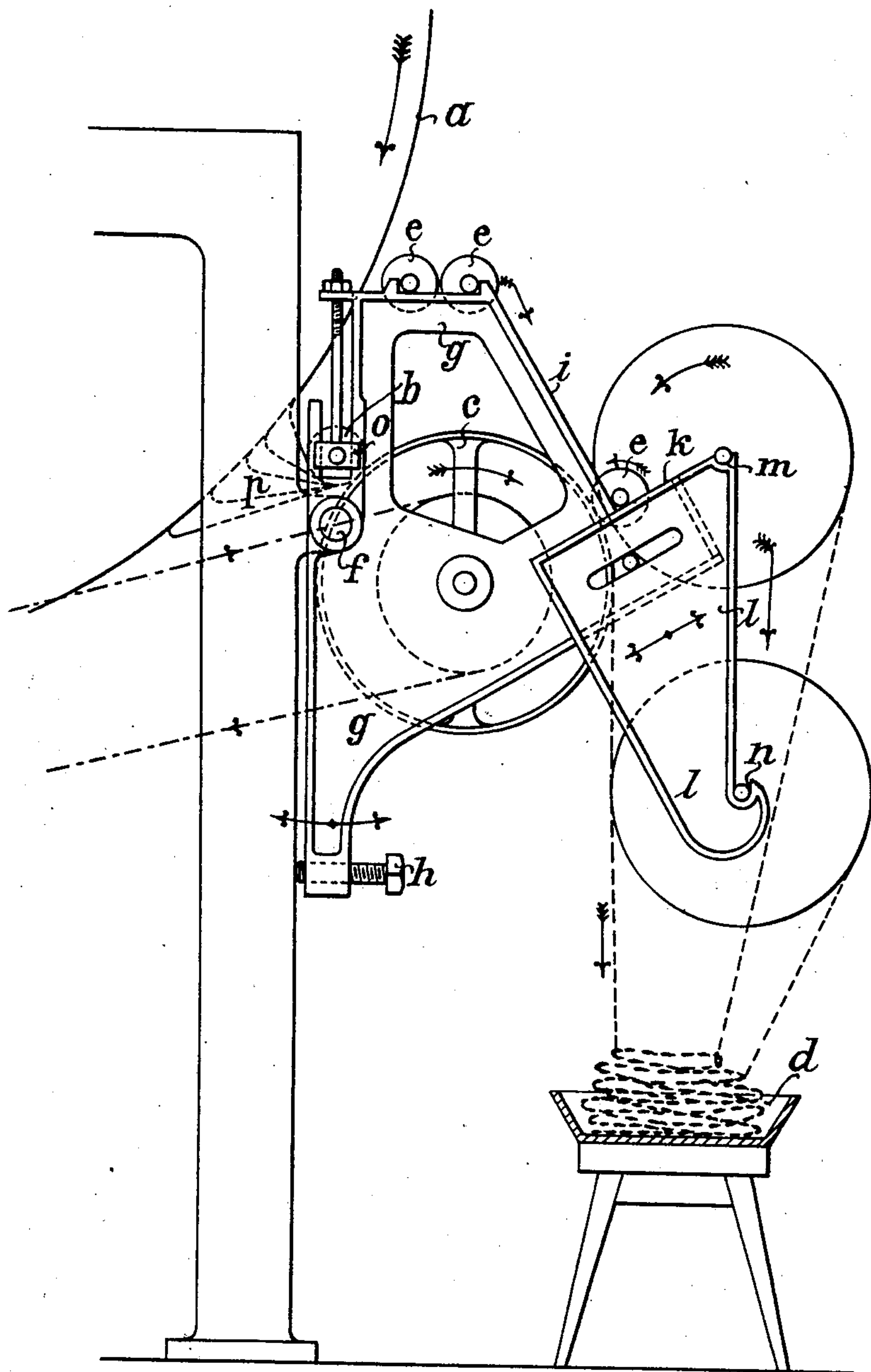
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R. KRON.

PROCESS OF ROLLING UP SMALL STRIPS OF SHORT FIBER MATERIAL TO
MAGAZINE ROLLS.

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NO MODEL.



Witnesses:-
Henry Thieme
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UNITED STATES PATENT OFFICE.

RUDOLF KRON, OF GOLZERN, GERMANY.

PROCESS OF ROLLING UP SMALL STRIPS OF SHORT-FIBER MATERIAL TO MAGAZINE-ROLLS.

SPECIFICATION forming part of Letters Patent No. 762,641, dated June 14, 1904.

Application filed May 23, 1903. Serial No. 158,403. (No specimens.)

To all whom it may concern:

Be it known that I, RUDOLF KRON, a citizen of the Republic of Switzerland, and a resident of Golzern, Kingdom of Saxony, German Empire, have invented new and useful Improvements in Processes of Rolling Up Small Strips of Short-Fiber Material to Magazine-Rolls, of which the following is a specification.

In rolling up webs of short-fiber material formed according to application Serial No. 134,201, filed December 6, 1902, and divided in a moist condition into small strips to magazine-rolls to be spun or twisted it has been most difficult to roll up exactly such small strips being still in a moist condition, their strength being a very small one and the magazine-roll being by no means capable to be spun if a defect arises by the strips running the wrong way or one above the other. Now, therefore, according to the present invention for the purpose of an exact rolling up of the small strips without tearing or running the wrong way the strips of material, being still in a moist condition, are conducted from the drying-cylinder, the drying-rollers press, or any suitable drying apparatus with a very short length of thread round an adjustable roller. The small strips form a fan between such adjustable roller and the drying apparatus, equalizing in a continuous manner the differences of the lengths of the strips before their rolling up. At the beginning of the operation and before the approximate equalizing of the separate strips the latter run into a receptacle and the operator conducts or leads the strips which have perhaps left behind in their course between the roller mentioned above and the small yielding cylinders placed on such roller till the web runs entirely free from defects—*i. e.*, till any small strip does not remain behind any more. Afterward the operator brings in contact a moistened winding roll or cylinder with the web which is wound up automatically to a magazine-roll increasing in diameter. The trunnions of this magazine-roll run upward on a plane adjustable in its slanting position and length till the magazine-roll has obtained a certain diameter. The magazine-roll so formed leaves after this the inclined plane automatically, and the

roller does not rotate any more and may be replaced by another winding roll or cylinder lying against the roller mentioned, and the operation described is repeated again. The small yielding cylinders placed usually on the roller and behind the fan and equalizing the lengths of strips rest in bearings movable up and down and are moved by the roller. If this roller runs too fast, the length of thread situated between the roller and the drying-cylinder is shortened. The cylinders move themselves upward and equalize the lengths of thread.

An apparatus for working the process of rolling up characterized above is represented in the drawing annexed to the present description.

b represents small cylinders situated behind the last drying-cylinder *a*, round which the web, being still in a moist condition and divided into small strips, runs in the direction of the arrow. Behind the small cylinders *a* a roller *c* is arranged. The web runs from the drying-cylinder *a* between the cylinders *b* and the roller *c*, round this roller, and falls for the first into a receptacle *d*. Of course all small strips will not run free from defects—*i. e.*, at the beginning some strips will remain behind, which must be passed by the hand of the operator between the cylinders *b* and the roller *c*. If then the web runs entirely free from defects—*i. e.*, if none of the strips remains back—a winding-roll *e*, moistened on its surface, is brought in contact with the web, which is rolled up on such winding-cylinder.

The roller *c* is journaled within the brackets *g*, movable at *f* in the frame of the apparatus, these brackets being precisely adjustable by means of the screw-bolts *h*. The brackets *g* form in their upper horizontal part the supports or bearings for two or more winding-rolls *e* and are shaped as a slanting plane *i* on their front surface opposite to the drying-cylinder. The winding-roll moves or slides downward on such slanting plane, whereupon its trunnions meet the upper surface *k* of a sliding-way *l*, which may be adjusted in face of the brackets and placed in an oblique position for varying the length and

the slanting of such sliding-way. The web is rolled up automatically on the winding-roll *e*, sliding down on the slanting plane *i*, in the form of a magazine-roll increasing in diameter, the trunnions of this roll moving upward on the running-surface *k*. If the magazine-roll has reached the end of the running-surface and obtained a certain diameter, the trunnions of such magazine-roll fall into notches *m*, provided in the running-surface. The magazine-roll moved away from the roller *c* and standing still in its rotation can hereafter be placed within the notches *n* in the lower part of the sliding-way *l*. A second winding roll or cylinder is afterward allowed to slide down on the slanting plane *i*, and the formation of a new magazine-roll may be effected in the same manner as before. The adjustment of the brackets *g* and of the sliding-way *l* has for its object to place the inclined plane at a greater or smaller angle, according to the more or less loosely winding up of the magazine-rolls.

The cylinders *b* hold in movable bearings *o* and situated, usually, on the roller *c* are actuated from such roller. If by any cause the roller *c* runs too fast for a moment, the length of thread between such roller and the cylinder *a* is shortened, and the cylinders *b* move upward and act as an equalizer.

If during the operation of the machine some of the strips must be directed anew on the roller *c*, even the most experienced operator is not capable to give to the strips fed anew the length of thread precisely the same as that of the remainder strips. Therefore the parts *a*, *b*, and *c* are of such a relative arrangement that a fan *p* is produced between the drying-cylinder *a* and the cylinders and roller *b c* for the purpose of equalizing shorter and longer strips and to admit of running all strips as a uniform web to the magazine-roll.

What I claim is—

Process of rolling up webs divided into strips while still in a moist condition to magazine-rolls, characterized by this that the differences in length of the separate strips being still in a moist condition and fed from a suitable drying apparatus (cylinder or press) are equalized before their rolling up on a winding-cylinder, with the formation of a fan formed by the strips.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 4th day of May, 1903.

RUDOLF KRON.

Witnesses:

RUDOLF SCHMIDT,
PAUL ARRAS.