

No. 898,270.

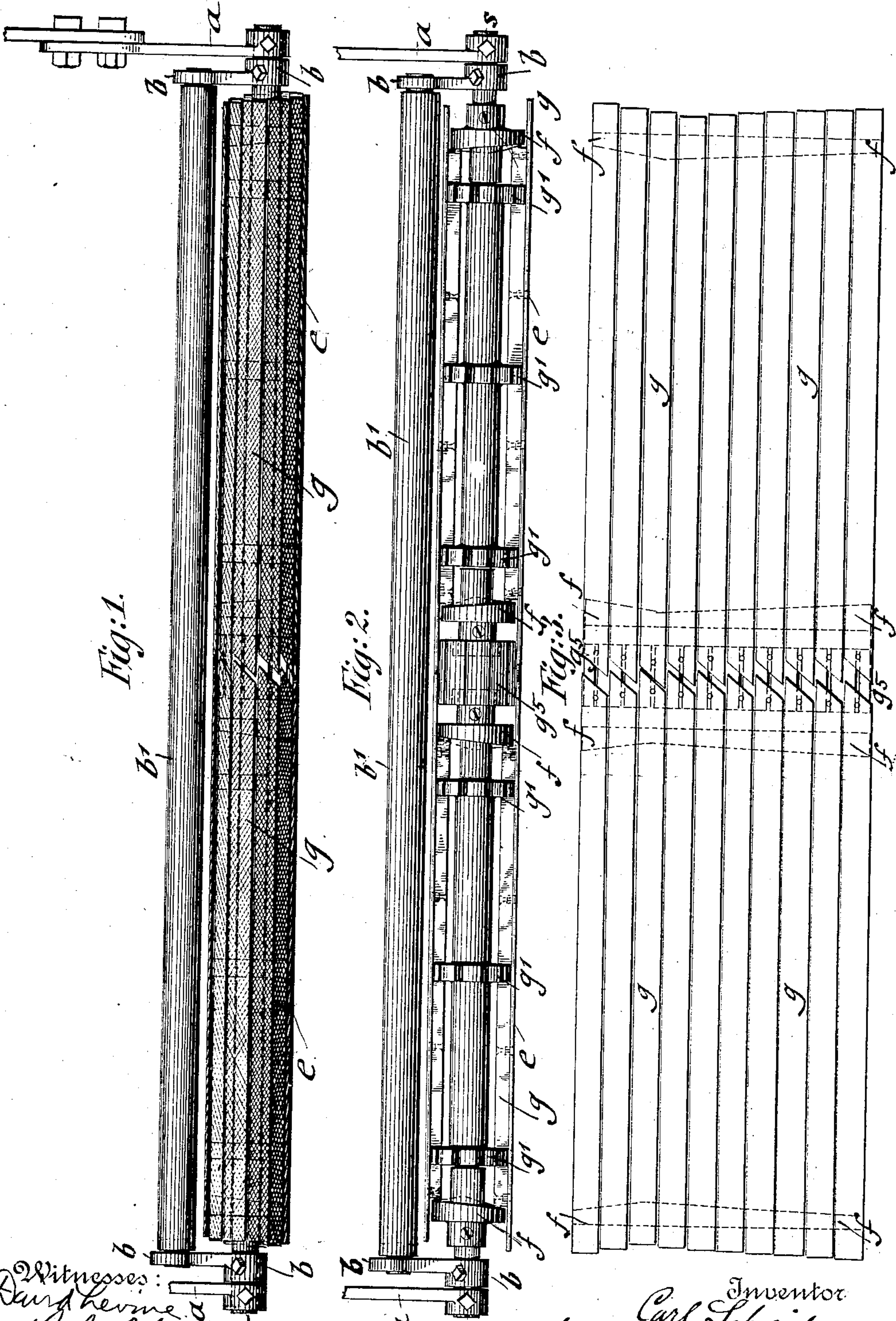
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C. SCHNEIDER.

EXTENSION ROLL FOR SILK AND OTHER LOOMS.

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2 SHEETS—SHEET 1.



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UNITED STATES PATENT OFFICE.

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EXTENSION-ROLL FOR SILK AND OTHER LOOMS.

No. 898,270.

Specification of Letters Patent.

Patented Sept. 8, 1908.

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To all whom it may concern:

Be it known that I, CARL SCHNEIDER, a citizen of the United States, residing in Jersey City Heights, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Extension-Rolls for Silk and other Looms, of which the following is a specification.

This invention relates to an improved extension-roll for silk and other looms by which wrinkles and other irregularities in the winding up of silk, cotton, or woolen goods, are obviated, and the cloth wound up on the roll in a smooth and uniform manner, without any unevenness; and for this purpose the invention consists in an extension-roll which is constructed in the manner to be hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a front-elevation of my improved extension-roll for silk and other looms, Fig. 2 is a plan-view of the extension-roll, with some of the spreading-strips removed so as to show the construction of the roll, Fig. 3 is a diagram showing the strips arranged in a plane and indicating the motion imparted to the same during one rotation of the roll, Fig. 4 is a vertical transverse section on line 4, 4, Fig. 7, drawn on a larger scale, Figs. 5 and 6 are details of the recessed guide-collars for supporting the spreading-strips, and Fig. 7 is a vertical longitudinal section through the middle portion of the extension-roll, drawn on a larger scale.

Similar letters of reference indicate corresponding parts throughout the different figures of the drawings.

The improved extension-roll *e* is suspended at the outgoing end of a silk or other loom by suitable hanger-straps *a*, which are made of two slotted overlapping straps connected by means of clamping-screws so as to be capable of adjustment within certain limits in order to regulate the position of the extension-roll. The lower ends of the hangers *a* are provided with openings for a shaft *s* on which said extension-roll is mounted and which is fixed to the hangers *a*. Adjacent to the hangers are arranged fixed arms *b*, which are fixed to the shaft *s*, and which support a friction-regulating bar *b*¹, said arms being located at a certain angle of inclination to the hangers and arranged to deliver the cloth from the take-up roller over the extension-roll to the cloth-roller *d*. The cloth-roller is

arranged in proximity to the extension-roll *e* in such a manner that the cloth which is passed around the extension-roll is held in contact with the same for about three-quarters of its circumference, while the remaining one-fourth part is left free. Motion is imparted to the cloth-roller by the friction of the fabric passing from the take-up roller to the cloth-roller, so that the fabric is kept tight as the same passes below the friction-regulating bar and over and around the extension-roll.

The extension-roll *e* is made of a number of T-shaped spreading-strips *g* which are guided in the recesses of ring-shaped collars *g*¹ that are placed loosely on the shaft *s* by means of sleeve-shaped hubs. The spreading-strips are provided with longitudinal shanks *h*^x that are inserted into the recesses of the collars *g*¹ and provided at their ends with shouldered portions so as to be engaged by the eccentric faces of cams *f*, the hubs of which are keyed to the shaft *s*. The extension-roll *e* is provided with two symmetrically arranged sets of spreading-strips *g* that are beveled at their inner adjacent ends and guided by means of pins *g*² in short grooves *g*³ of a central collar *g*⁵, which is placed loosely on the shaft *s* adjacent to the hubs of the cams *f*, as shown clearly in Figs. 2 and 7. The heads of the spreading-strips *g* are covered by canvas, or other fabric, which is cemented to the under-side of the strips, or secured thereto by lacing, stitches, or otherwise, so that the surface of the strips exerts a certain friction on the fabric to be stretched. The spreading-strips are connected to the longitudinal shanks by means of screws *h* which pass through holes in the shanks into interiorly-threaded nipples *h*¹ at the under-side of the strips, as shown in Fig. 7, so that the shanks are firmly secured to the strips. The central cams *f* engage the shouldered inner ends of the spreading-strips, while their outer cams engage the shouldered outer ends, the faces of the cams being so arranged that for three-quarters of the rotation of the extension-roll the strips move laterally in outward direction, while for the remaining one-quarter of the rotation they are moved inwardly into their former normal position by the faces of the outer cams. The inner and outer sets of cams impart a positive motion to the spreading-strips throughout the entire rotation of the extension-roll. The spread-

ing-strips are moved by the pull exerted by the cloth-roller on the fabric as the same passes from the friction-bar over the spreading-strips, so that the fabric is gradually wound up, as shown in Fig. 4. The friction exerted on the fabric in connection with the lateral motion of the spreading-strips stretches the fabric, spreads the same in lateral direction so as to remove all the small wrinkles, creases and unevennesses, and winds it up smoothly and evenly on the cloth-roller. The outward motion of the spreading-strips takes place while the fabric is in contact with the surface of three-fourths of the spreading-strips, while during the inward motion of the spreading-strips the fabric passes on to the cloth-roller.

By the automatic action of the spreading-strips on the fabric, the same is spread and stretched in a reliable and effective manner, so that the extension-roll forms a very useful accessory to the loom and delivers the fabric in a smooth and stretched condition to the cloth-roller.

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

An extension-roll for looms, consisting of a supporting-shaft, a central collar provided with grooves, two sets of spreading-strips provided with longitudinal shanks and with pins at their inner ends guided in the grooves of the central collar, recessed collars on the supporting-shaft at both sides of the central collar for guiding the shanks of the spreading-strips, and two sets of cams keyed to the shaft and engaging the inner and outer ends of the spreading-strips for imparting a laterally reciprocating motion to the same during the motion of the fabric over the spreading-strips.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

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