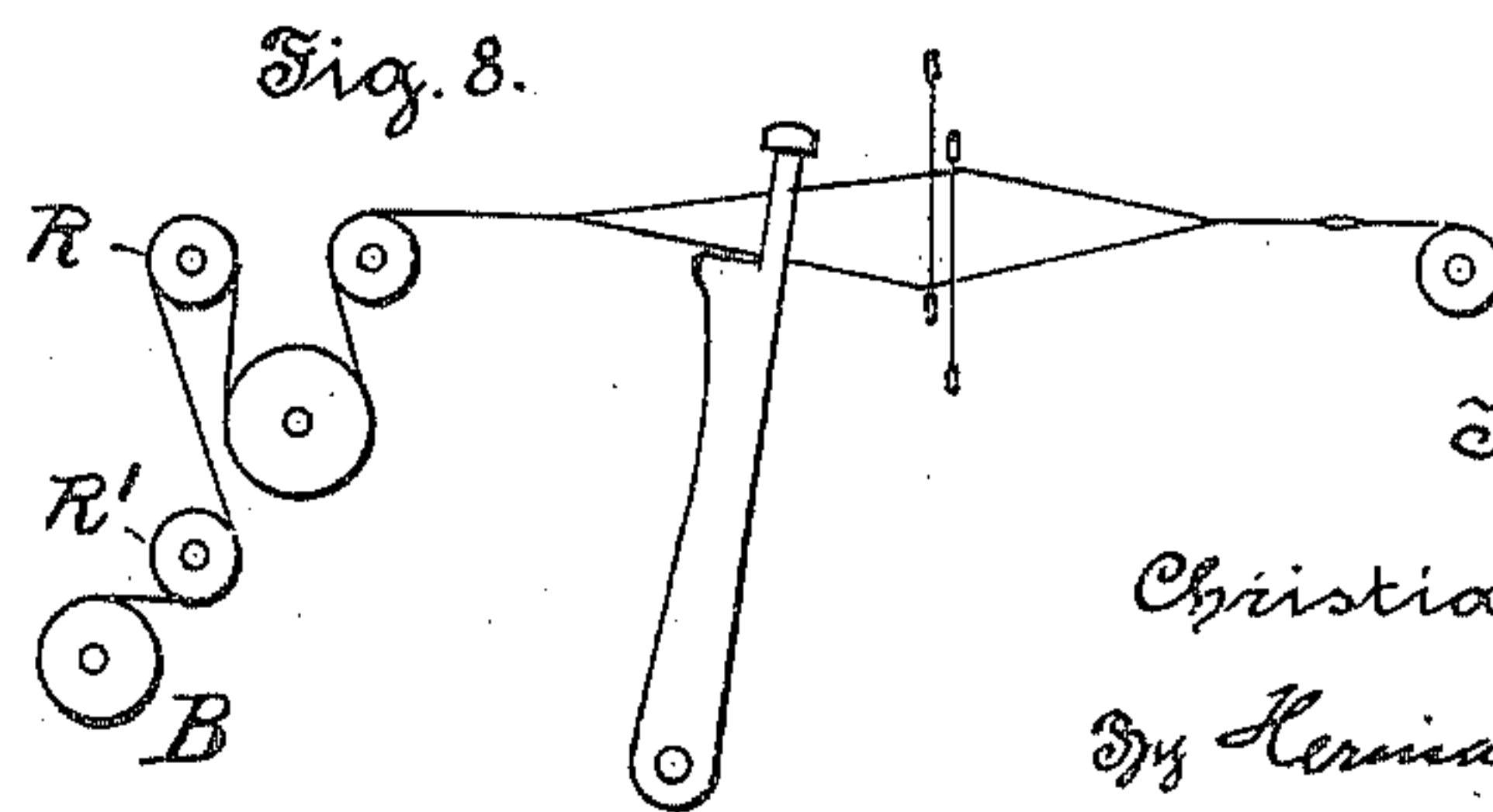
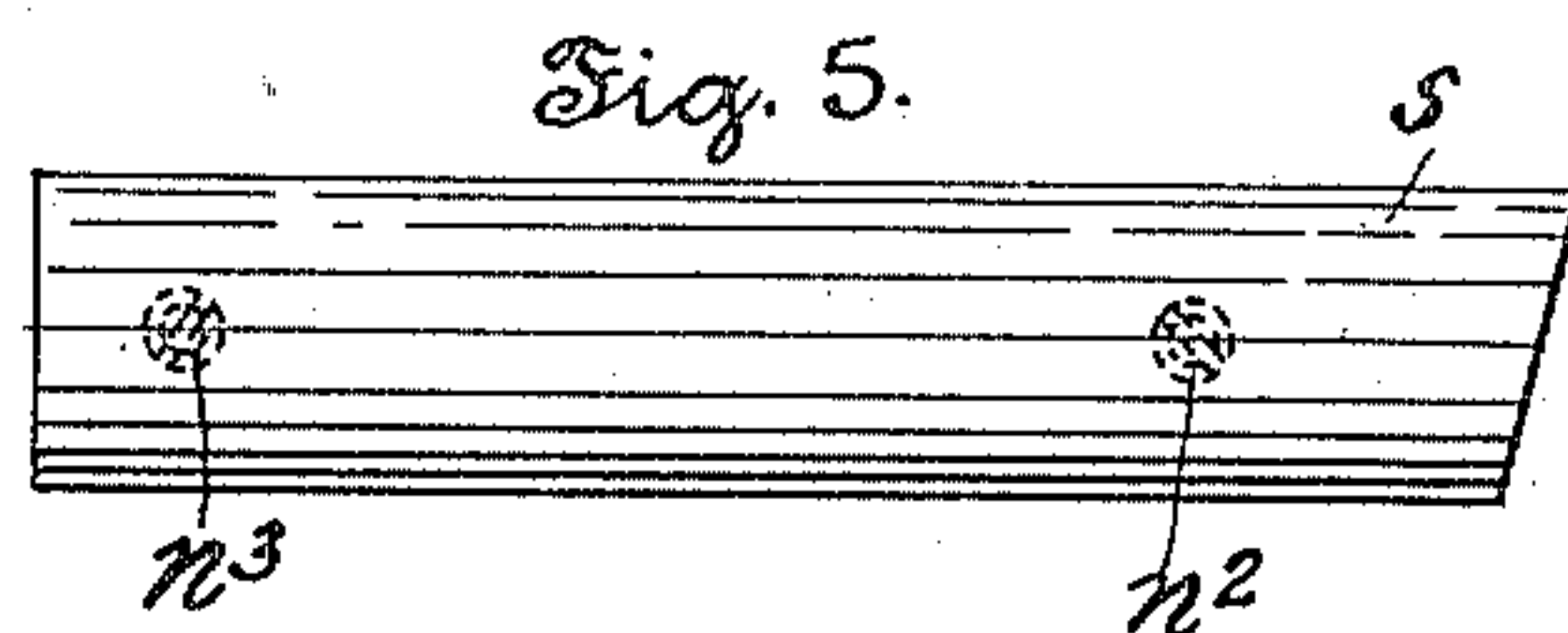
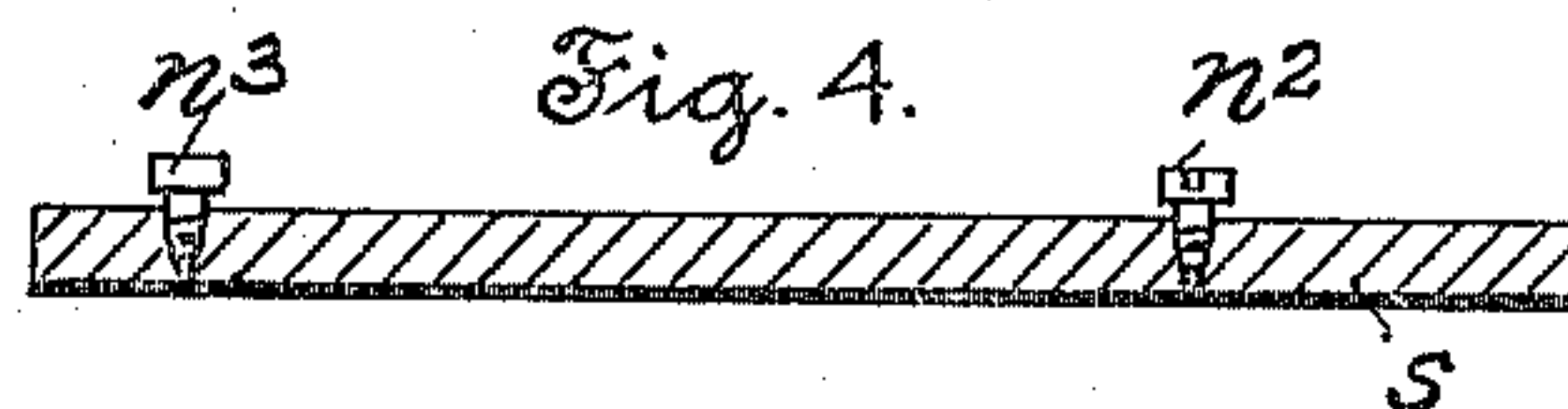
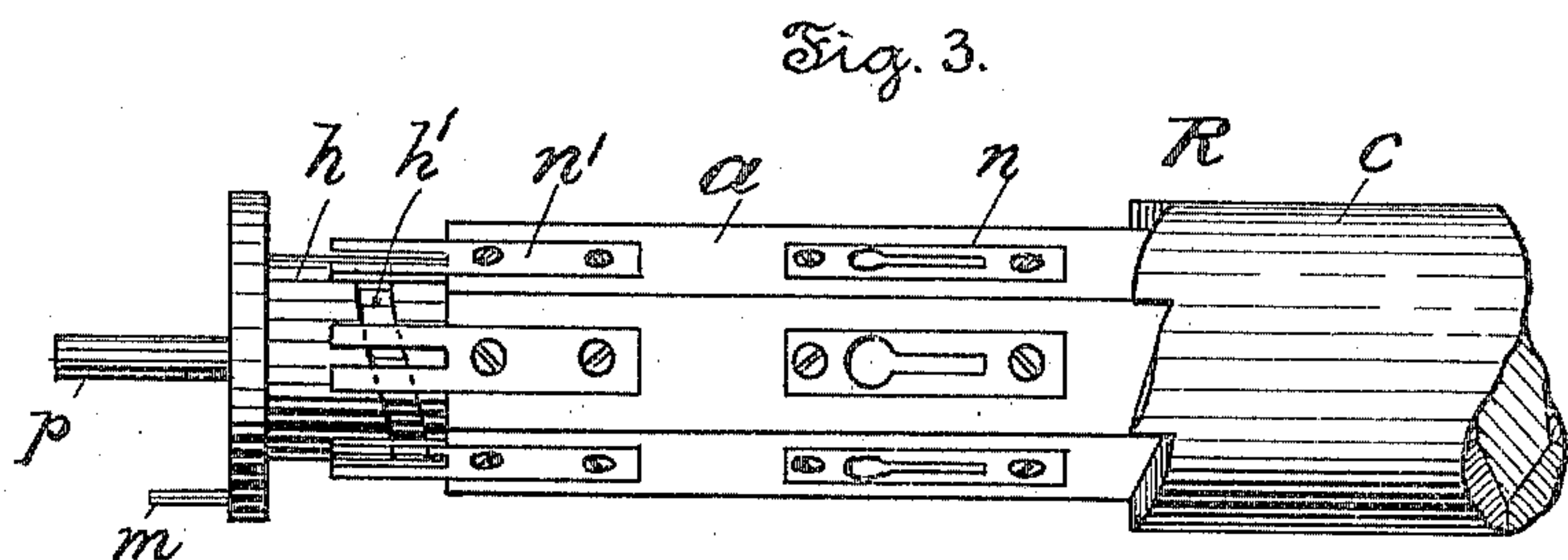
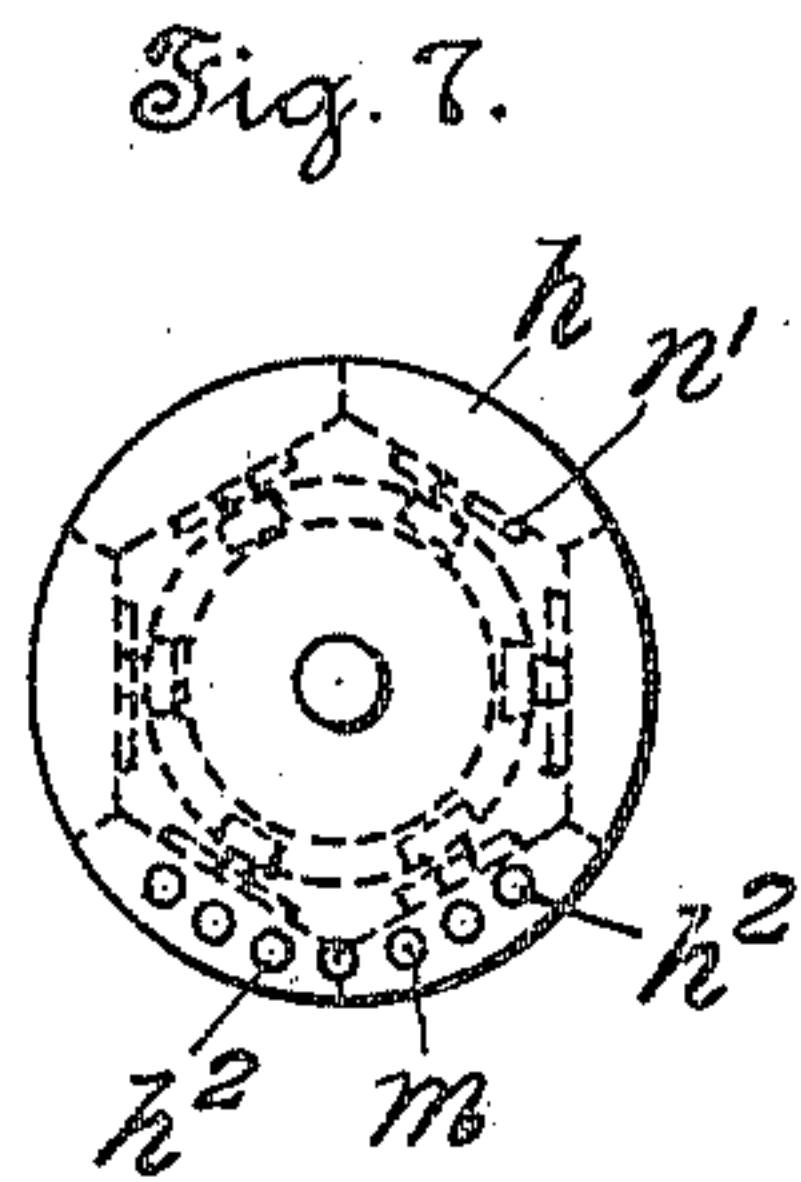
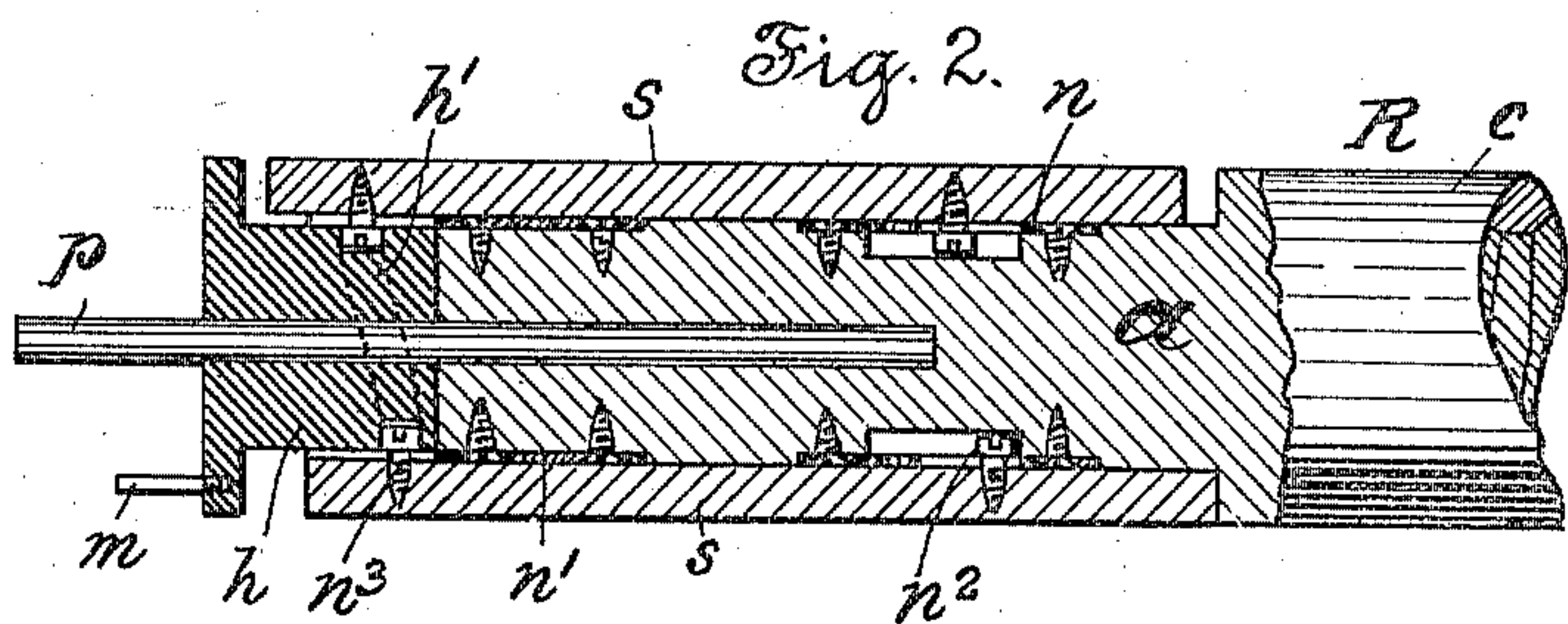
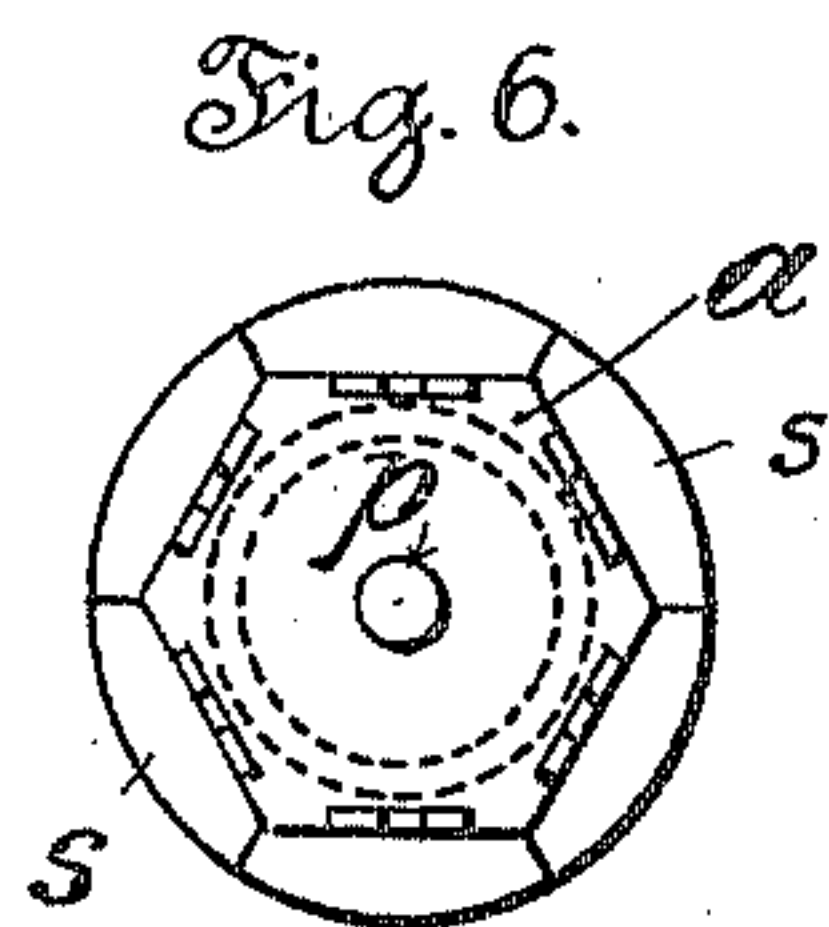
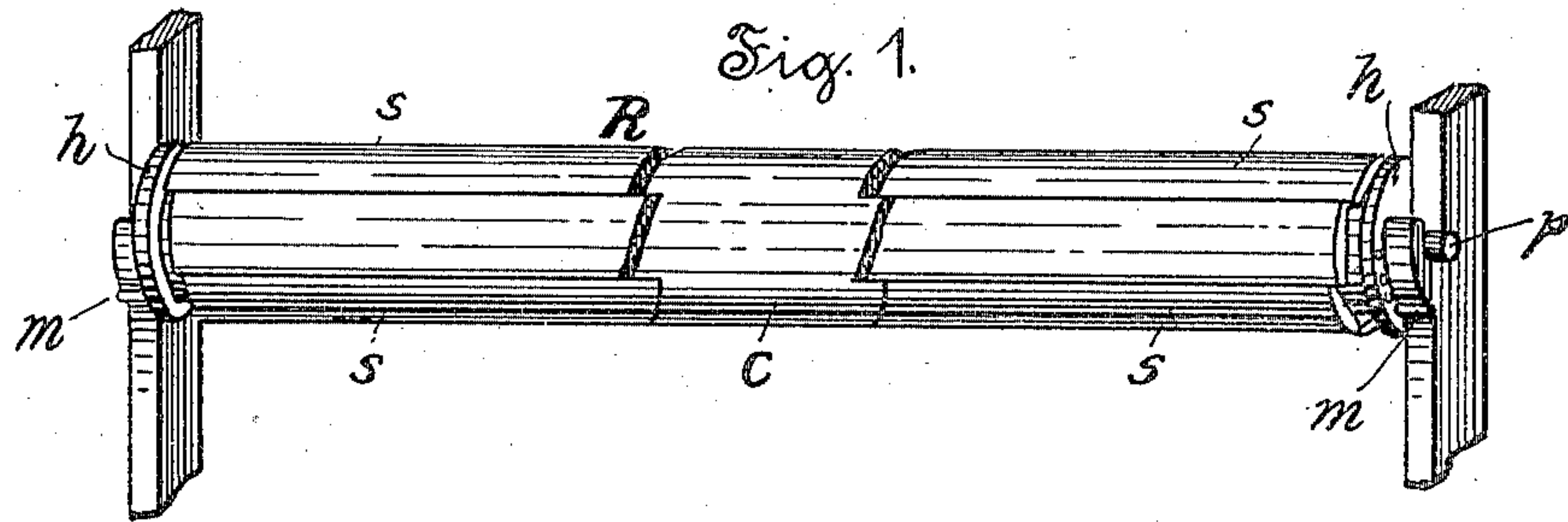


C. KROMER.  
STRETCHING AND EQUALIZING ROLL FOR LOOMS.  
APPLICATION FILED JUNE 13, 1908.

951,402.

Patented Mar. 8, 1910.



Witnesses:  
E. Bormann.  
M. Bormann.

Inventor:  
Christian Kromer  
By Hermann Bormann  
Att'y.



# UNITED STATES PATENT OFFICE.

CHRISTIAN KROMER, OF PHILADELPHIA, PENNSYLVANIA.

STRETCHING AND EQUALIZING ROLL FOR LOOMS.

951,402.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed June 13, 1908. Serial No. 438,302.

*To all whom it may concern:*

Be it known that I, CHRISTIAN KROMER, a subject of the Emperor of Germany, but having declared my intention of becoming a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Stretching and Equalizing Rolls for Looms, of which the following is a specification.

My invention relates to rolls used on cloth-stretching machines, but more particularly to such as are provided on silk or other looms to smooth and stretch the silk before it is wound on the beam, as is well understood by weavers; and the objects of my invention are to improve the efficiency and to make such rolls lighter, simpler in construction and thereby decreasing its cost to about one-third their present price. Heretofore these rolls have been made totally of metal save the covered slides by which the cloth is stretched, and it is a well known fact that owing to their complex construction they were very expensive and unnecessarily heavy. I overcome these disadvantageous features by simplifying the construction and making the whole roll of well seasoned wood with few metal fittings adapted to operate the various slides with which the surface of the roll is covered.

My invention will be more fully understood when taken in connection with the accompanying drawings, in which:

Figure 1, is a view illustrating my improved stretching roll, showing the surface slides as actuated by cams. Fig. 2, is a longitudinal section of one end of the roll, showing the pintles or short shafts on which the roll rotates, the cam and guide-plates for the slides. Fig. 3, is a view of one end of the roll with the slides removed, and showing the wood-core of the roll with its guide-plates, cam and parts of the fixed center portion. Fig. 4, is a side view of a slide. Fig. 5, is a top view of a slide. Fig. 6, is an end view of the roll with the cam removed. Fig. 7, is a side view of the cam showing the holes for the setting pin, and Fig. 8, is a diagrammatic view of a loom showing the application of my improved rolls.

Referring now to the drawings for a further description of my invention,  $a$  is the core of the roll  $R$  made of well-seasoned wood, with a pintle or shaft  $p$  securely attached or driven into each end of said core;

the latter is polygonal in cross-section and the number of sides of this polygonal core depends upon the finished size of the stretching-roll.

From experience I have found that the surface of one slide  $s$  should not be more than about two inches, so that a four inch roll will have a core of six sides or hexagonal in cross-section, as for instance shown in the accompanying drawings. The center portion  $c$  of this core is made perfectly round and of the size of the finished roll as shown in Figs. 1, 2 and 3; for the reason that the folds and unevenness in the woven cloth or silk generally appear about six inches from each side of the center line, and even if a fold should occur nearer the center of the cloth the movable slides  $s$  hereinafter more fully described will tend to draw the same out and smooth the cloth before it is wound on the beam and to facilitate this action of stretching, I preferably polish the wooden surface of this center portion  $c$ , while the surfaces of the slides are covered with felt or similar friction producing material. The edges of this portion  $c$  are serrated to fit the ends of the slides  $s$ , which are cut at an angle to prevent the impression of a straight line on the cloth and also to facilitate the stretching from near the center of the cloth or silk. The slides  $s$  at each end of the roll  $R$  of which there are as many as there are sides to the core  $a$  are neatly fitted and trued to the sides of the said core  $a$  and receive full bearing thereon. To hold and guide these slides  $s$  in their longitudinal movements along the sides of the polygonal core  $a$ , guide-plates  $n$  and  $n^1$  have been provided and secured in recesses in the sides of the core  $a$ , and these plates  $n$  and  $n^1$  have slots to receive the shanks of studs or stud-screws  $n^2$  and  $n^3$  secured to the said slides  $s$ .

To move the slides  $s$ , cams  $h$  are loosely mounted on the pintles  $p$  and the heads of the studs  $n^3$  engage the groove  $h^1$  of said cams  $h$ . These cams are prevented from turning by the pins  $m$  protruding from the face of the cams  $h$  and impinge against a part of the frame of the loom, so that, as the cloth or silk wrapped one-half or three-fourths around such roll, the slides  $s$  in contact with the cloth move away from the center of the cloth and thereby stretch or remove wrinkles and folds from the same, and as soon as the particular slides  $s$  are out of contact with the cloth, the cams  $h$  will cause



the slides *s* to assume their initial position, that is in contact with the central portion *c* of the roll. The cams *h* may be set or adjusted with regard to the position of the slides coming into contact with the cloth, and for this purpose tapped holes *h*<sup>2</sup> are provided in the face of the cams, Fig. 7, so that the pins *m* may be secured in any of them to obtain the movement of the slides *s* outward from the center of the cloth when such slides are brought into contact with the cloth and to move in the opposite direction to their initial position when the slides *s* are free of the cloth.

When the roll *R* is taken from the loom and its bearings, each slide *s* may be removed at will and for this purpose the guide-plates *n* are provided with an enlargement in the slot so that the head of the stud *n*<sup>2</sup> may disengage from the said plate, the slide in such case is only pushed outward by hand until the head of the stud registers with the said enlargement and the cam *h* being forced outward at the same time will permit of the removal of each slide. The slots in the plates *n* and *n*<sup>1</sup> however are of such length, that while the cams are in proper position on the pintles, when the roll *R* is in place in the loom the slides *s* are held snugly to the sides of the polygonal core.

In Fig. 8 is shown the application of two of my improved rolls *R R* to a loom, and it will

be seen that the top-roll *R'* is in such a position that the cloth covers about three-fourths of its circumference, and the slides *s* can effectively operate upon the cloth for the purpose of stretching and smoothing the same before it is partly wound around another of my improved rolls *R*<sup>1</sup> and then upon the cloth-beam *B*.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent is:

In a cloth stretching and equalizing roll for looms, the combination of a wood or other core of polygonal cross-section, a cylindrical center portion of a diameter of the finished roll and integral with said core, a pintle at each end of said core, a slide at each end of said core for each polygonal side of the core, guide plates on said core and studs on each of said slides to hold the same slidingly on the polygonal surfaces of the said core, a cam loosely mounted on the said pintle at each end of said core, a series of holes in the face of each cam and a stop pin for each cam, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CHRISTIAN KROMER.

Witnesses:

E. HAUSHEER,  
JOHN KURZ.