

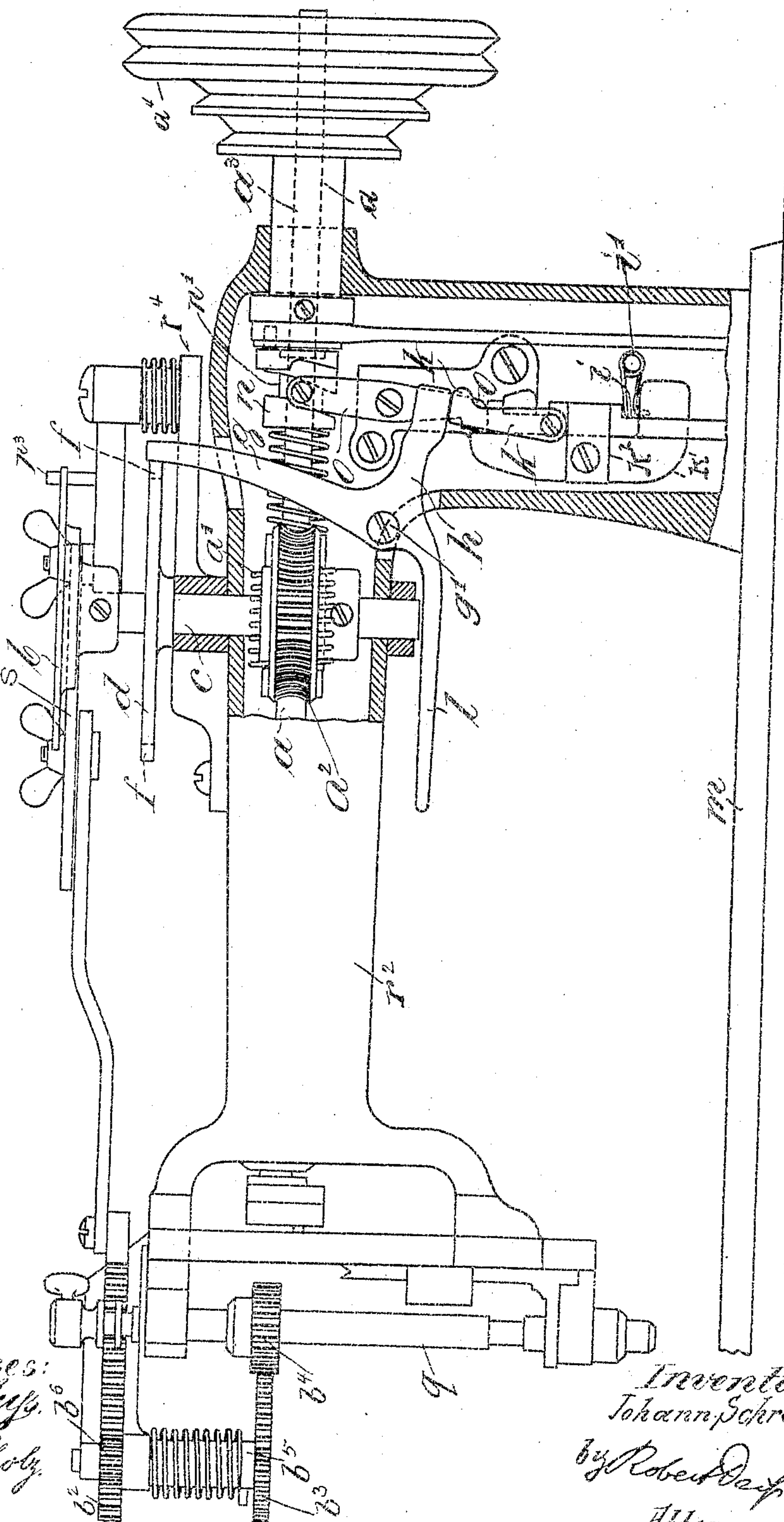
No. 894,401.

PATENTED JULY 28, 1908.

J. SCHROEDER.  
CRANK STITCHING MACHINE.  
APPLICATION FILED AUG. 29, 1906.

3 SHEETS—SHEET 1.

Fig. 1



Witnesses:  
Carl Ruff.  
Arthur Scholz.

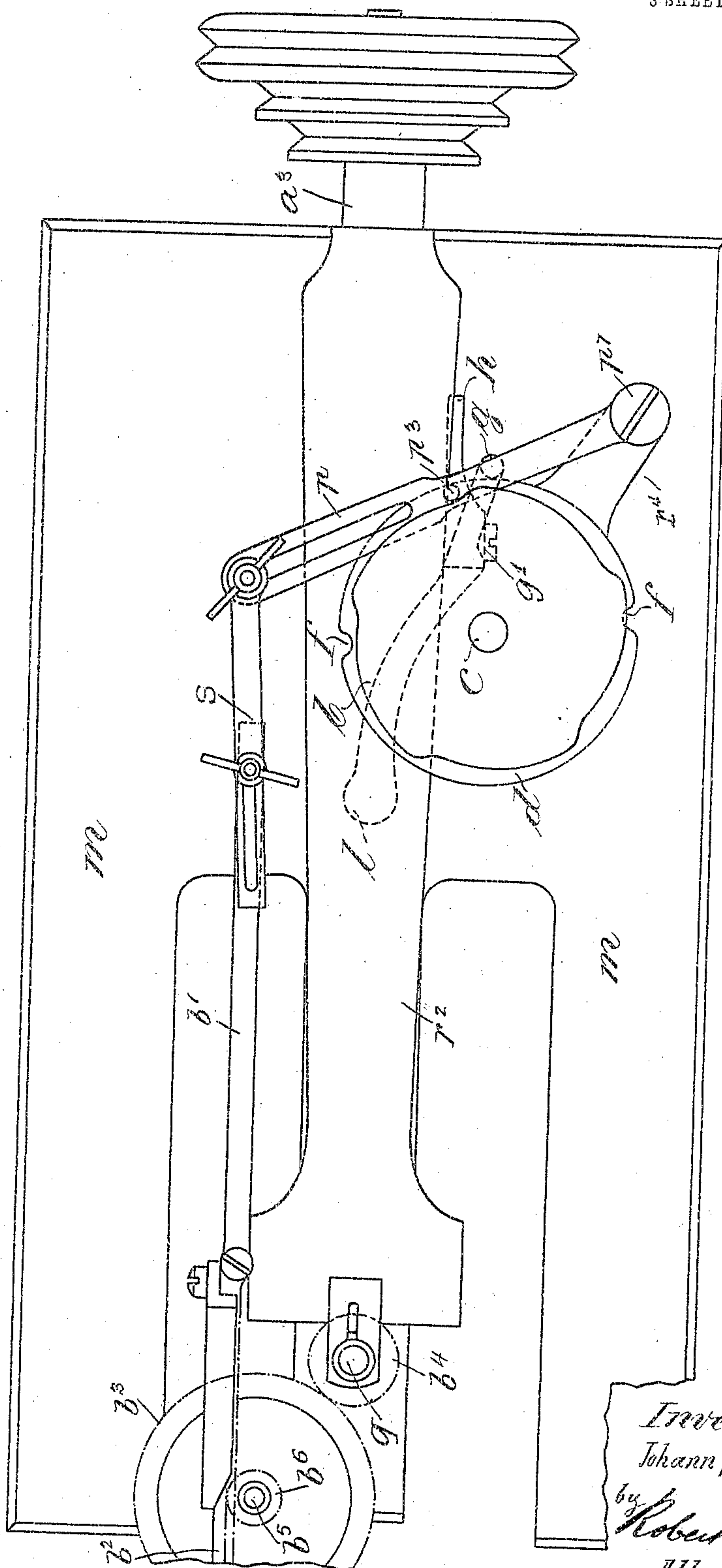
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 3.

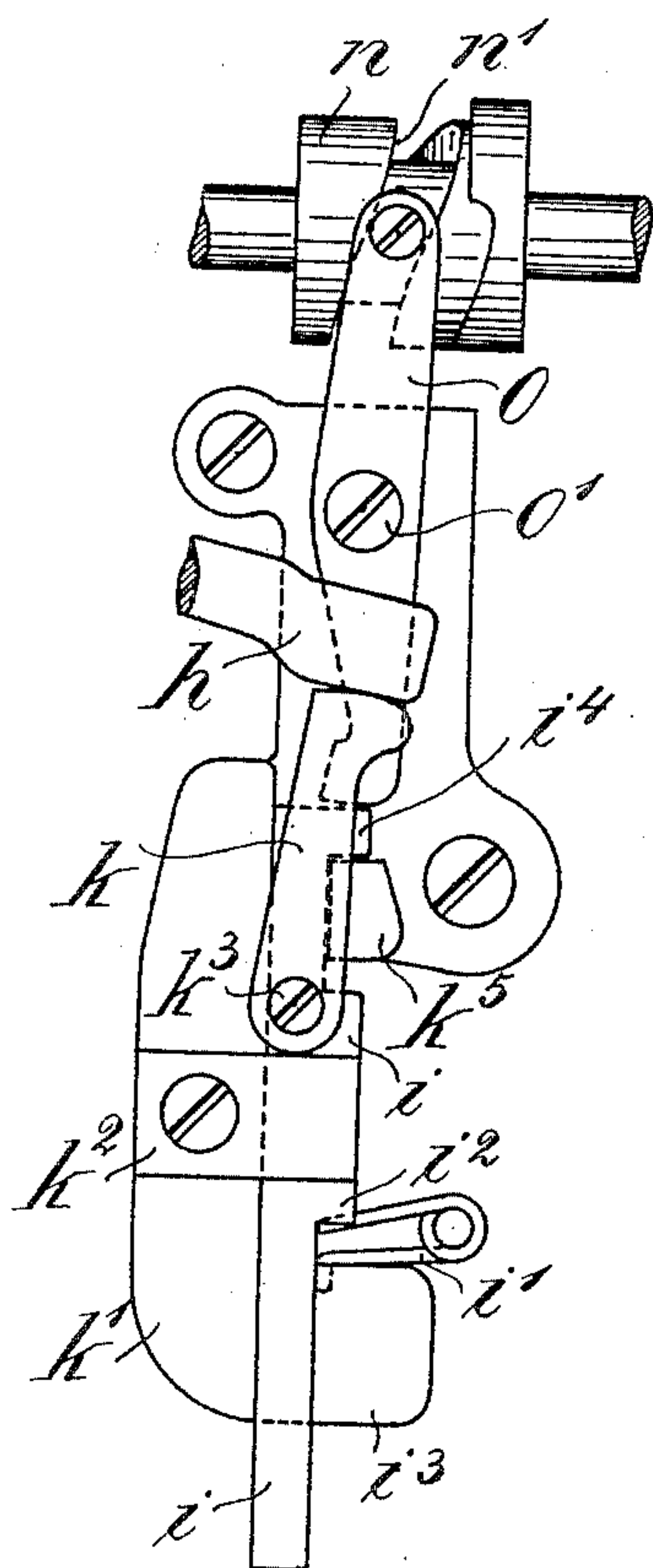
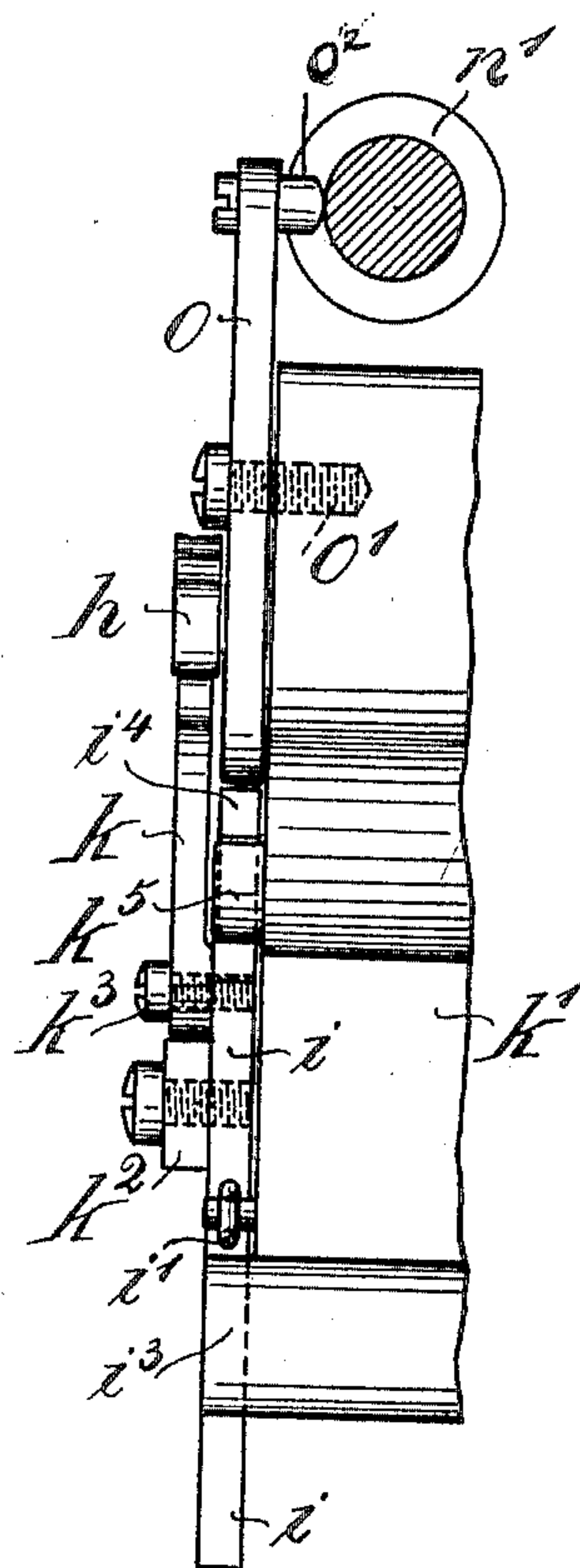


Fig. 4.



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*Emil Haysen*

Inventor:  
*Johann Schroeder*  
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# UNITED STATES PATENT OFFICE.

JOHANN SCHROEDER, OF BERLIN, GERMANY, ASSIGNOR TO THE FIRM OF BERLINER STICK-  
MASCHINEN-FABRIK SCHIRMER BLAU & CO., OF BERLIN, GERMANY.

## CRANK STITCHING-MACHINE.

No. 894,401.

Specification of Letters Patent.

Patented July 28, 1908.

Application filed August 29, 1906. Serial No. 332,505.

*To all whom it may concern:*

Be it known that I, JOHANN SCHROEDER, a subject of the King of Prussia, German Emperor, and resident of 35<sup>a</sup> Schwedterstrasse, Berlin, Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Crank Stitching-Machines, of which the following is an exact specification.

My invention relates to a stop motion mechanism for sewing machines, more especially, for embroidering machines, which stop motion mechanism permits the machine to be automatically arrested when having made a number of stitches as desired, for instance, after a pattern to be stitched by the machine is completed.

In order to make my invention more clear, I refer to the accompanying drawings, in which:

Figure 1 is a fragmentary sectional side elevation of a stitching machine provided with my improvement. Fig. 2 is a plan elevation. Figs. 3 and 4 are details in side-and front-elevation, respectively.

$a$  is the main driving shaft of the machine, which is to be coupled with and disconnected from the driving or belt pulley  $a^4$  and which operates in the well-known manner by means of a worm  $a'$  and a worm-wheel  $a^2$ , a disk  $b$ , the so-called pattern-disk, carried by a vertical shaft  $c$ .

$q$  is a hollow shaft which incloses the needle bar and which can be rotated by means of the toothed wheels  $b^3$ ,  $b^4$ . The needle bar itself is operated in the well-known manner by the driving shaft  $a$  and the hollow shaft  $q$  carries the thread-holder (not shown) which lays the thread in a certain manner upon the cloth as to produce the embroidery pattern. The tooth wheel  $b^3$  is mounted on the vertical shaft  $b^5$  carrying the pinion  $b^6$  meshing with the rack  $b^2$ .

$r$  is a link hinged at  $r'$  to the arm  $r^4$  and pivotally connected with the connecting rods  $s$  and  $b'$ , the latter being attached to the rack  $b^2$ . The connecting link  $r$  bears with a pin  $r^3$  against the pattern disk  $b$ .

The vertical shaft  $c$  carries a disk  $d$  having according to the present form of my invention two recesses  $f$ . Against the circumference of the disk  $d$  bears the arm  $g$  of a three-armed lever pivoted to the machine arm  $r^2$  at  $g'$ .

Referring to the Figs. 3 and 4  $i$  is the throw-out slide mounted in guiding grooves of a casting piece  $k'$  made integral with the vertical part of the machine arm  $r^2$ . The slide  $i$  is secured in its position by the ledge  $k^2$  and is adapted to be moved vertically up and down.

$i'$  is a spring pressing with its one end against the projection  $i^2$  of the slide  $i$  and with its other end against the projection  $i^3$  of the casting piece  $k'$ . At its upper end the slide  $i$  is provided with a nose  $i^4$ , and the lug  $k^5$  forms an abutment for the nose, when the slide is completely depressed.

$k$  is a catch pivotally secured by means of the screw bolt  $k^3$  to the slide  $i$  and adapted to support the arm  $h$  of the three-armed lever. The third arm  $l$  of this lever is arranged above the plate  $m$  carrying the cloth to be stitched. The driving shaft  $a$  is coupled with the hollow shaft  $a^3$ , carrying the cord-pulleys  $a^4$ , by means of a spring controlled slidably mounted drum  $n$  provided with a curved groove  $n'$  and adapted to be moved longitudinally on the shaft  $a$ .

As will be readily understood the sleeve or drum  $n$  slides loosely over a feather on the shaft  $a$  and is provided with projections at its righthand end in Fig. 1 engaging in corresponding recesses on the sleeve  $a^3$  to which the driving pulleys  $a^4$  are fixed. In this way the clutch action between the sliding drum  $n$  and the sleeve  $a^3$  is obtained.

$o$  is a vibrating lever engaging by means of a pin  $o^2$  with the groove  $n'$ . The vibrating lever is pivoted at  $o'$  to the machine standard and arranged above the slide  $i$ .

When the machine is working the arm  $g$  bears, as seen in Fig. 1, against the circumference of the disk  $d$ , thereby maintaining the throw-out slide  $i$  in its lower position by means of the arm  $h$  and the catch  $k$ . The throwout slide  $i$  thereby does not hinder the vibrating lever  $o$  from its vibrations, imparted to it by the curved groove of the vibrating lever operating drum  $n$ . If however the arm  $g$  arrives due to the rotation of the disk  $d$  at the recess  $f$  after, for instance, a pattern is completed, the arm  $g$  can enter the recess  $f$  and the throw-out slide  $i$  is moved upwardly owing to the arrangement of the spring  $i'$ . In this position the upper end of the slide  $i$  is within the oscillatory path of the vibrating lever  $o$  which is prevented from



vibrating thereby. As now the lever is arrested the vibrating lever operating drum is compelled to follow to the position occupied by the upper end of the vibrating lever, viz. 5 the drum is shifted longitudinally to the left-hand side and is thereby disconnected from the sleeve  $a^3$  whereby the machine is immediately stopped. For putting the machine again into operation, the operator pushes the 10 arm  $l$  with the back of the hand by which the cloth is held. The arm  $g$  is thereby disengaged from the recess  $f$  and at the same time the throw-out slide  $i$  is moved downwards by means of the arm  $h$ . The lever  $o$  is released 15 and the slidable drum  $n$  couples the shaft  $a$  with the belt pulleys.

Having thus fully described the nature of my said invention, what I desire to secure by Letters Patent of the United States is:—

20 In a sewing machine, a stop motion device comprising a grooved drum slidably mounted

on the main shaft of the machine, a spring for moving said drum longitudinally of the shaft, a driving member mounted on the main shaft, means whereby the driving 25 member and drum may be coupled and uncoupled, a vibrating lever pivoted to the machine standard, one end of which engages in the groove in the drum, a spring controlled slide mounted in the standard adapted to 30 engage one end of the vibrating lever, a multiple armed lever one arm of which bears on the top of the slide, a notched disk operated by the main shaft and adapted to be engaged by an arm of the multiple armed lever, sub- 35 stantially as described.

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

JOHANN SCHROEDER.

Witnesses:

B. V. CASSEN,

LOUIS VANDORE.