

No. 641,780.

Patented Jan. 23, 1900.

H. A. KLEMM.
OVEREDGE SEWING MACHINE.

(Application filed Sept. 3, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

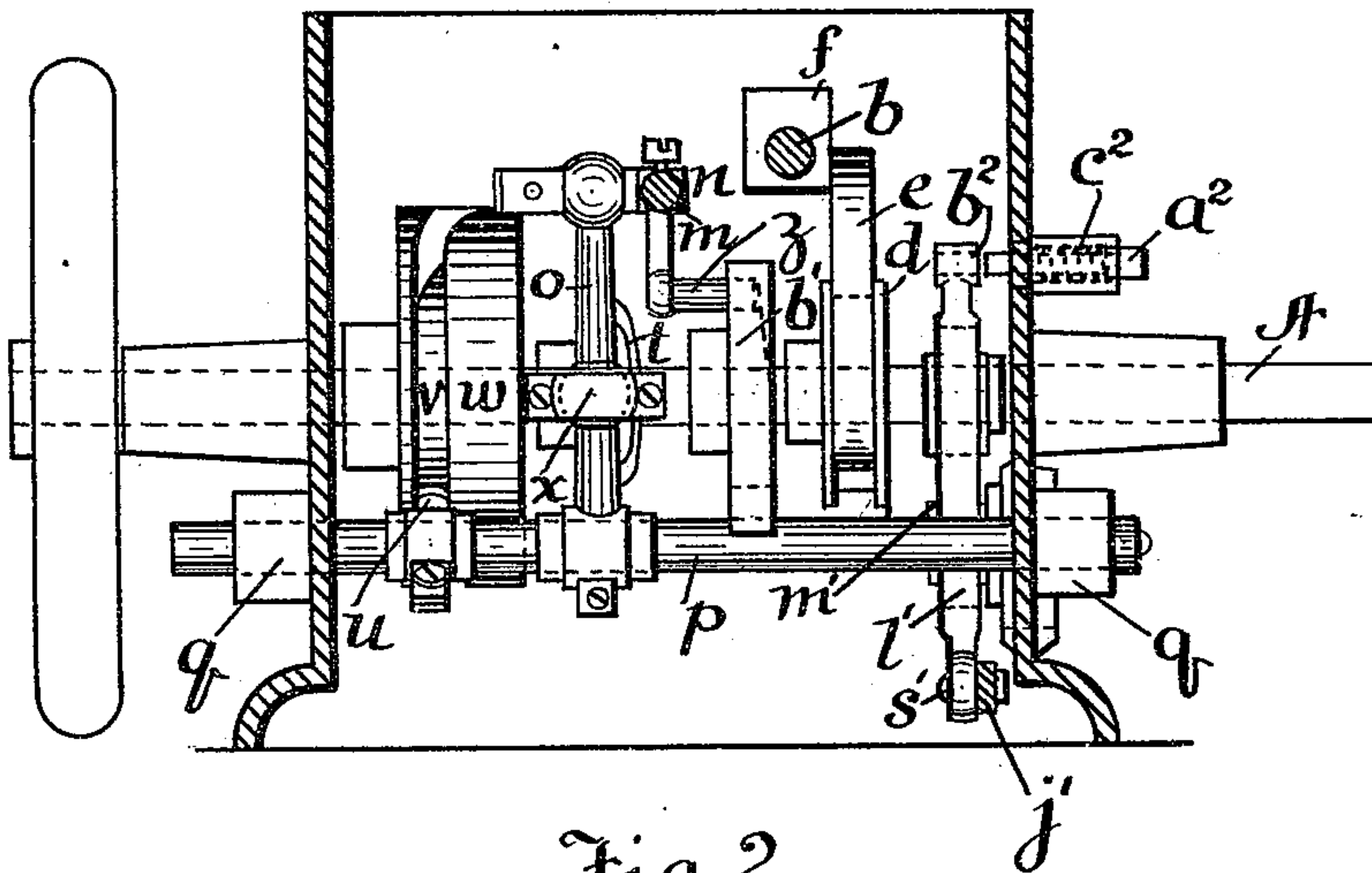
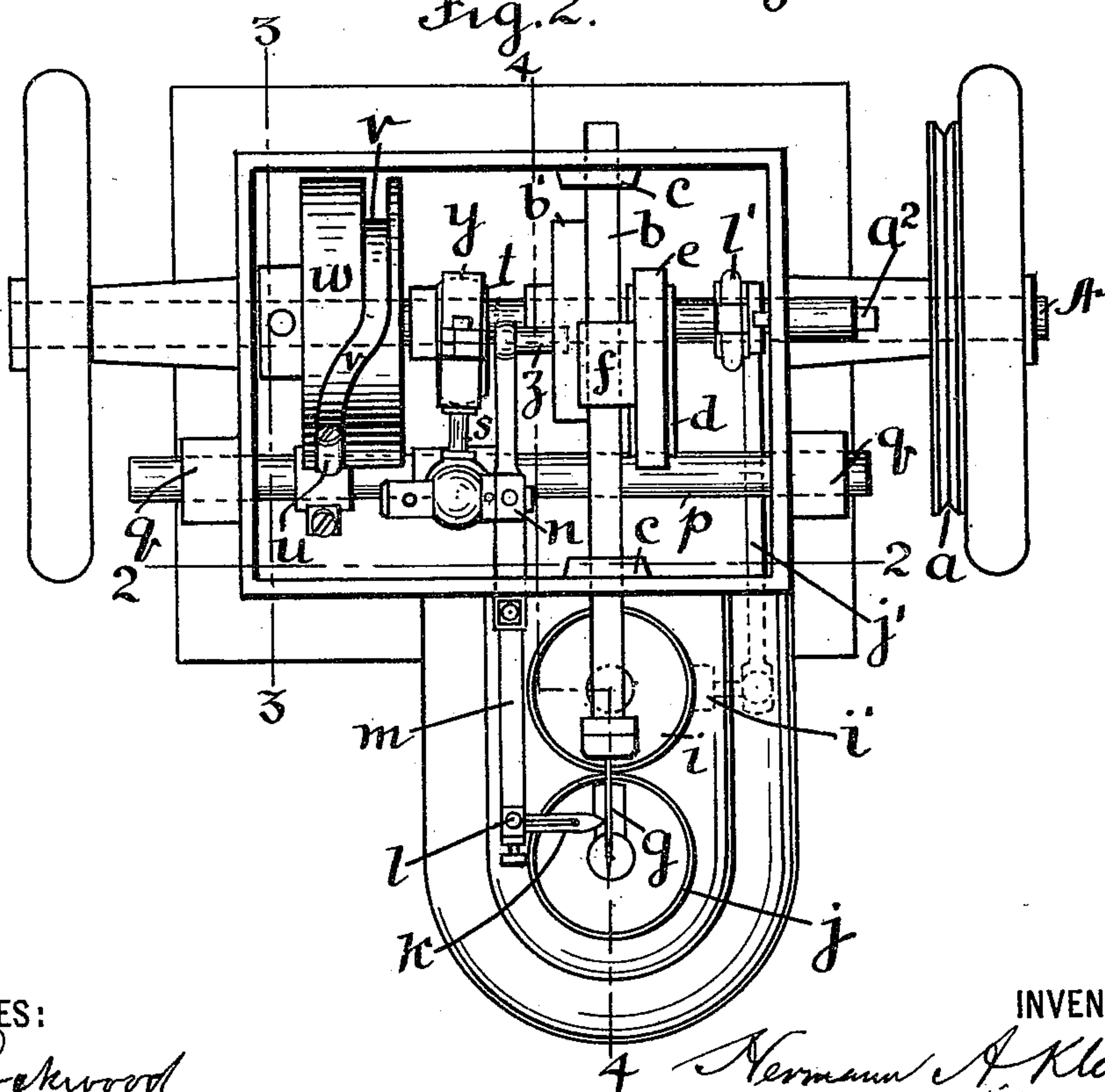


Fig. 2.



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Fig. 3.

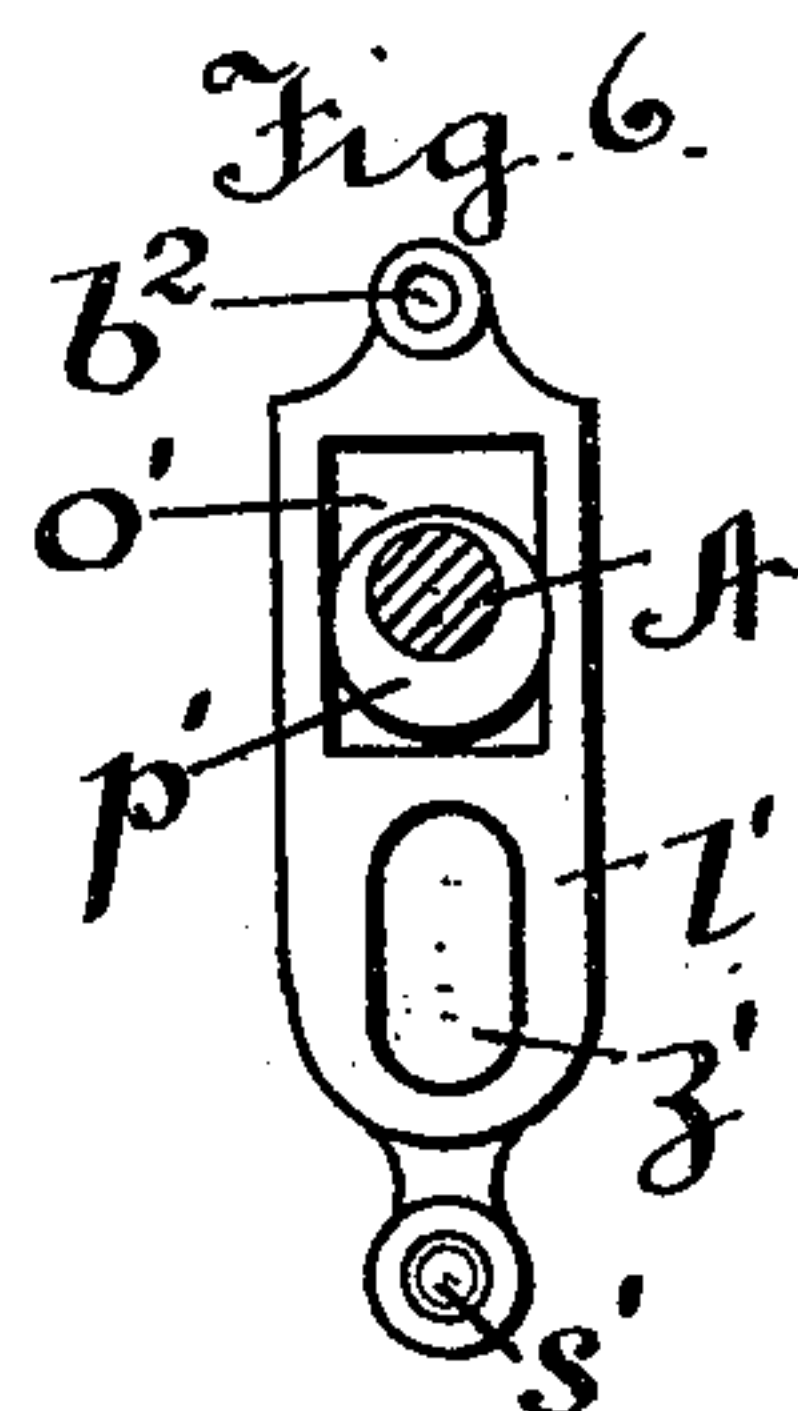
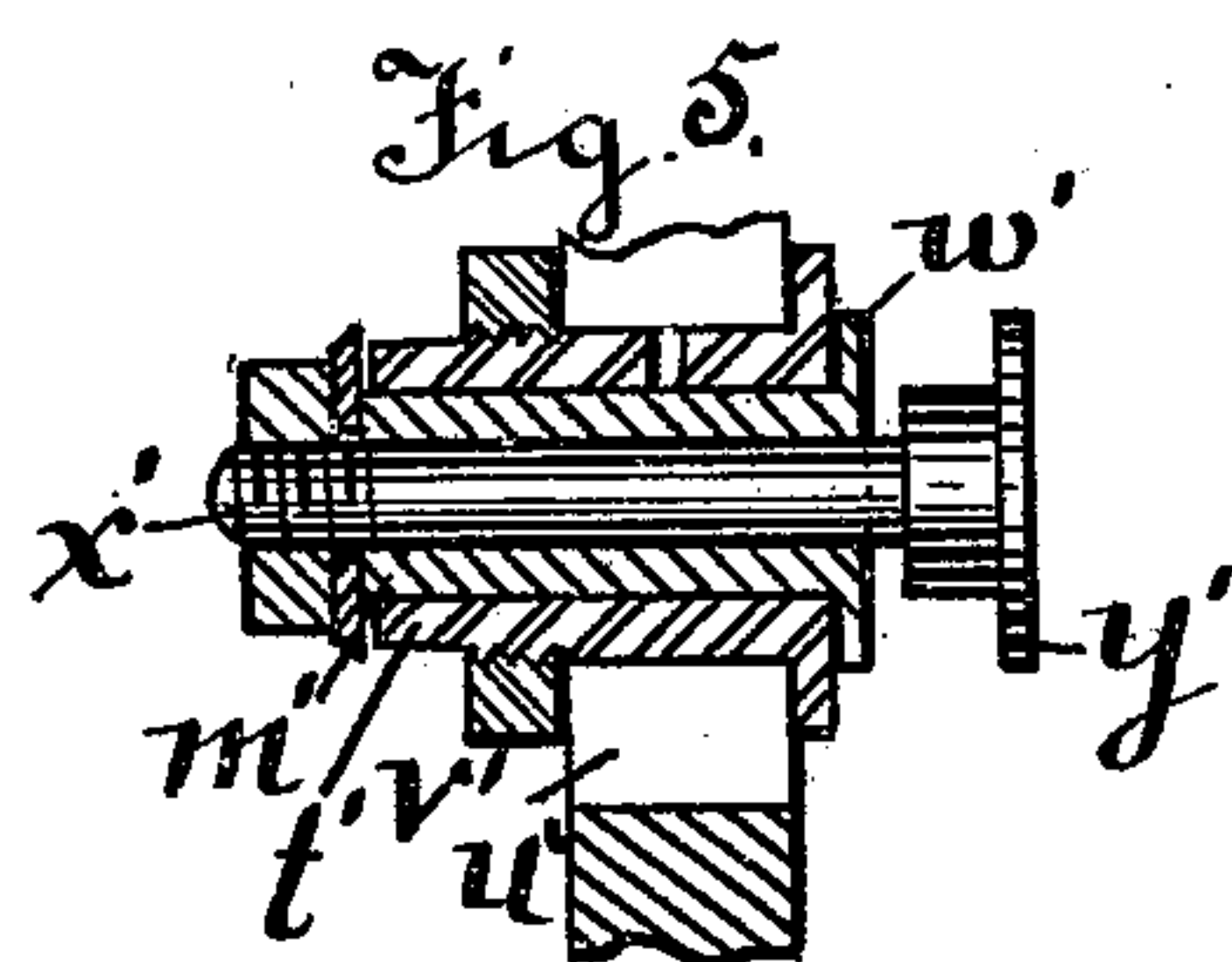
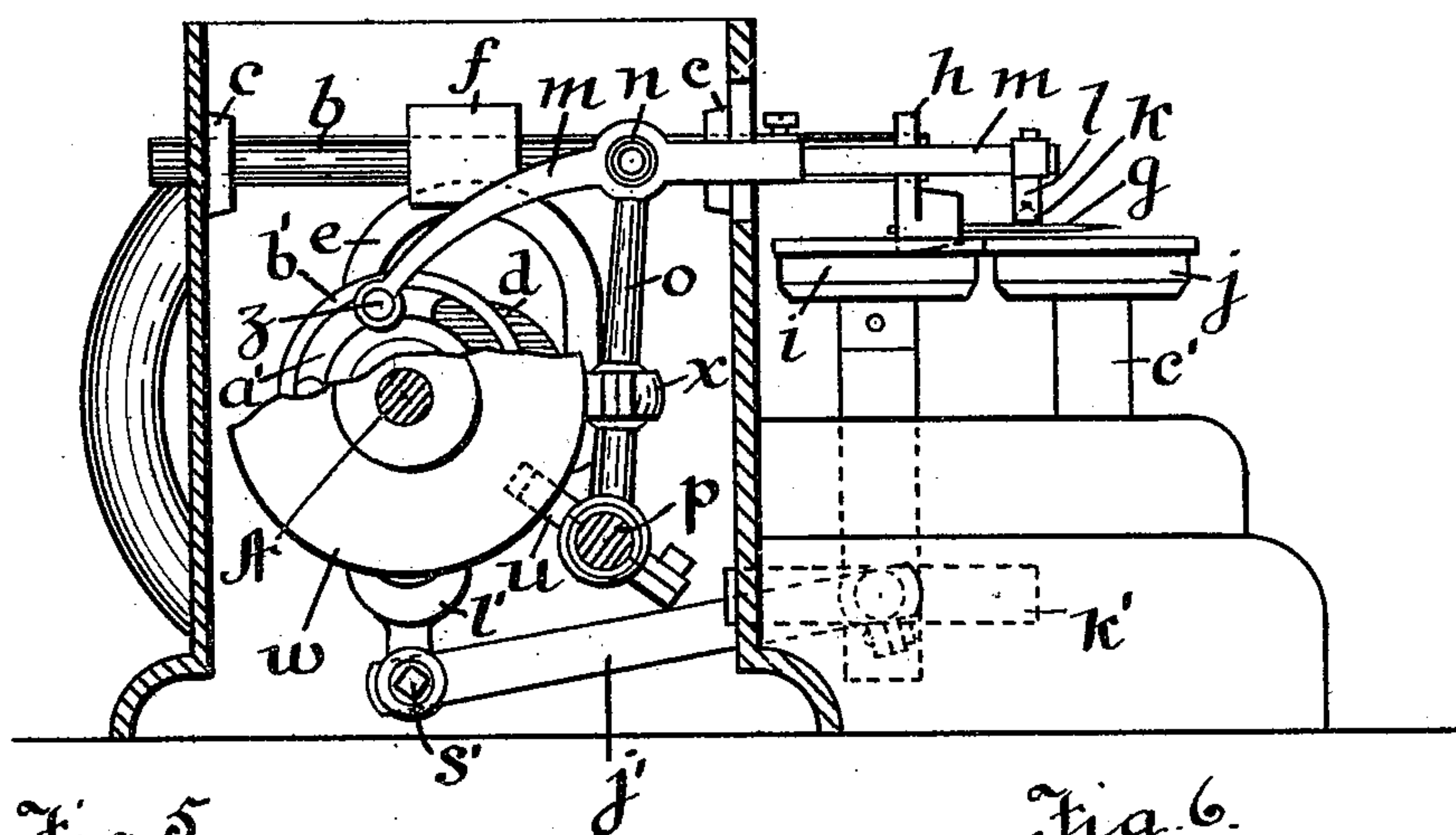
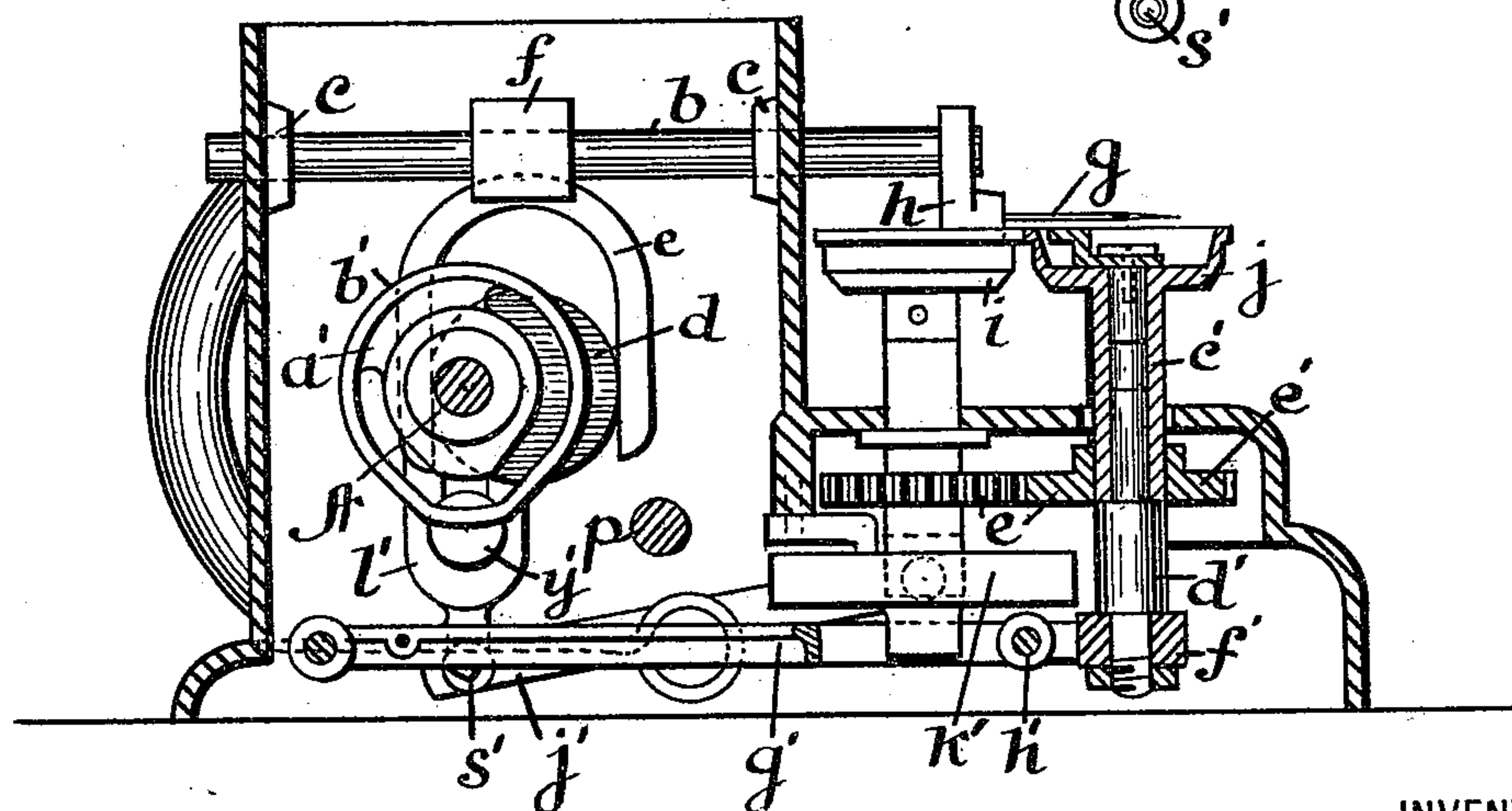


Fig. 4.



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UNITED STATES PATENT OFFICE.

HERMANN A. KLEMM, OF NEW YORK, N. Y.

OVEREDGE SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 641,780, dated January 23, 1900.

Application filed September 3, 1898. Serial No. 690,161. (No model.)

To all whom it may concern:

Be it known that I, HERMANN A. KLEMM, a citizen of the United States of America, and a resident of New York, borough of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Overedge Sewing-Machines, of which the following is a specification.

My invention consists of improvements in apparatus for actuating the looper whereby means of positive action without the use of springs may be provided in a simple and comparatively inexpensive construction, also improvements in the feed mechanism, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional elevation of the machine, the section being taken on line 2 2 of Fig. 2. Fig. 2 is a plan view. Fig. 3 is a sectional elevation on line 3 3 of Fig. 2 with parts broken out. Fig. 4 is a sectional elevation on line 4 4 of Fig. 2. Fig. 5 is a sectional view of the pivot mechanism of the feed-lever; and Fig. 6 is a side elevation of the feed-lever and the eccentric on the main shaft for operating said lever, the shaft being represented in cross-section.

A represents the main shaft, to which the power is applied by a belt on the pulley a.

b represents the needle-bar. It is mounted in the bearings c to be reciprocated in the usual manner by an eccentric d on shaft a working between the horns of the yoke e, attached to said bar by the hub f.

The needle g is carried in the lower end of the arm h, pendent from the forward end of the needle-bar b, so as to work across the feed-line of the goods between the feed-disks i and j and directly over the upper faces of said disks.

The looper k is carried by the arm l, pendent from the forward end of the looper-bar m. In my approved contrivance of apparatus for working the looper this looper-bar is pivoted at n on the upper end of a supporting-arm o, so as to vibrate in a vertical plane, and the supporting-arm is mounted on a rocking and reciprocating shaft p, having bearings q in opposite sides of the frame and being coupled by connecting-rod s with an eccentric t on the main shaft A for rocking the

arm o to impart the lengthwise movements of the looper-bar.

For effecting the lateral movements of the looper-bar the shaft p has a rigid arm u engaging the cam-groove v in the face of a disk w on shaft A, and the connecting-rod s is coupled with supporting-arm o by a ball-and-socket joint x, and the eccentric t and yoke y are similarly fitted to permit such lateral movement.

For causing the vibrations of the looper-bar in the vertical plane the rear end of the said bar has a lateral stud z engaging the cam-groove a' in one side of the cam-disk b', mounted on shaft A. (See Fig. 3) This cam-groove a' is cut entirely through the thickness of the disk in that part of its course where the groove if not cut through would be too shallow for the lateral traverse of the stud z unless the disk b' were made thicker than is desirable. It will be seen that this contrivance is a very simple construction for effecting the complicated sextuple movements of the looper in the required times and accelerated and retarded motions relatively to the needle and its movements, and the arrangement of the sliding support of the looper-supporting arm affords easy, accurate and lasting bearings.

By using the cam-groove a' in the side of the disk b' for imparting the vertical vibrations of the looper-bar such operation is obtained without any interference whatever with the lateral and lengthwise movements of said bar and without the provision of any special devices therefor, and by using the reciprocating and rocking shaft p for carrying the looper-bar-supporting arm with the universally-jointed connecting-rod positive lateral and lengthwise movements of the looper-bar are obtained by very simple means.

The feeding-disks i and j and the pawl mechanism for operating the driving-disk i are practically the same as represented in my Patent No. 571,322 and are not therefore illustrated nor described in detail herein, except that in the present case I have mounted the disk j by a sleeve c', revoluble on the fixed supporting-stud d' and geared by the spur-wheels e' with the shaft of disk i for positive motion of disk j also.

The standard d' is mounted on the short arm f' of lever g' , pivoted at h' , to be employed for opening and closing the feed-disks on the work, as usual.

- 5 The pawl-lever i' and the connecting-rod j' for actuating the disk i through the before-mentioned ratchet mechanism, (not shown, but understood to be organized within the disk k' on the shaft of disk i , same as in the
10 before-mentioned patent,) are also same as in said patent; but the arrangement of the feed-lever l' for working said pawl-lever to vary the length of the stitches is the subject of claims in this case. The said feed-lever is
15 arranged in an upright position on a pivot-sleeve m' and coupled in a slot o' of said lever, with an eccentric p' of the shaft A to impart vibration to the lever, which is at its lower end jointed to the connecting-rod j' at s' .
20 The pivot-sleeve m' is carried in a supporting-sleeve t' , that is adjustable up and down in a slot u' of the supporting-frame and is adapted to be secured in different positions by the clamping-nut v' to vary the throw of
25 the lever. The said pivot-sleeve m' has a head w' and is bored centrally for reception of a clamping-bolt x' , having a head y' , between which and head w' the lever l' is clamped to hold it in position, said lever being
30 slotted at z' to allow the pivot to be shifted along the lever to vary the feed. To shift the pivot, the sleeve t' is slackened to free it for shifting, the nut on the clamping-bolt x' is also slackened to release the grip of the lever
35 by the heads w' and y' , the lever is temporarily locked against shifting with the pivot by the push-pin a^2 , located in the frame in suitable relation to the upper end of the lever to be thrust into a socket b^2 thereon, and
40 while thus held the pivot is shifted up or down both in the slot u' of the frame and in the slot of the lever, and then both the sleeve and the lever-holding clamp are tightened up.

A spring c^2 withdraws the push-pin a^2 from the socket of the lever when the push-pin is
15 relieved of pressure after the adjustment of the lever.

What I claim as my invention is—

1. In an overedge sewing-machine, the combination with the horizontally-reciprocating needle-bar, and the horizontal feed-disks, of the vertically-oscillating and forwardly and backwardly swinging looper-bar, the forwardly and backwardly rocking and laterally-sliding supporting-bar whereon the
50 looper-bar is pivoted, rocking and reciprocating shaft carrying said supporting-bar, cam on the main shaft for reciprocating the needle-bar, and the eccentric and cam on said
55 main shaft for respectively rocking and sliding said supporting-bar.

2. The combination with the feed-lever having the slotted aperture for its supporting-pivot, said supporting-pivot, the supporting-sleeve t' for said pivot, adapted to be adjusted
65 along its support and relatively to the lever, the pivot-sleeve m' carried in the supporting-sleeve and having a clamping-head for the lever, and the clamping-bolt x' also having
70 a clamping-head for positively securing the lever between its head and the head of the pivot-sleeve and being inserted in the pivot-sleeve substantially as described.

3. The combination of the feed-lever, its supporting-pivot, said pivot being adjustable
75 along said feed-lever; the push-pin, said push-pin located in the case and adapted to engage and temporarily hold the lever while adjusting the pivot, and the eccentric for operating
80 the lever.

Signed by me at New York, N. Y., this 27th day of August, 1898.

HERMANN A. KLEMM.

Witnesses:

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C. SEDGWICK.