

(No Model.)

2 Sheets—Sheet 1.

J. J. WHEAT.

SEWING MACHINE SHUTTLE MOVEMENT.

No. 285,537.

Patented Sept. 25, 1883.

Fig. 1.

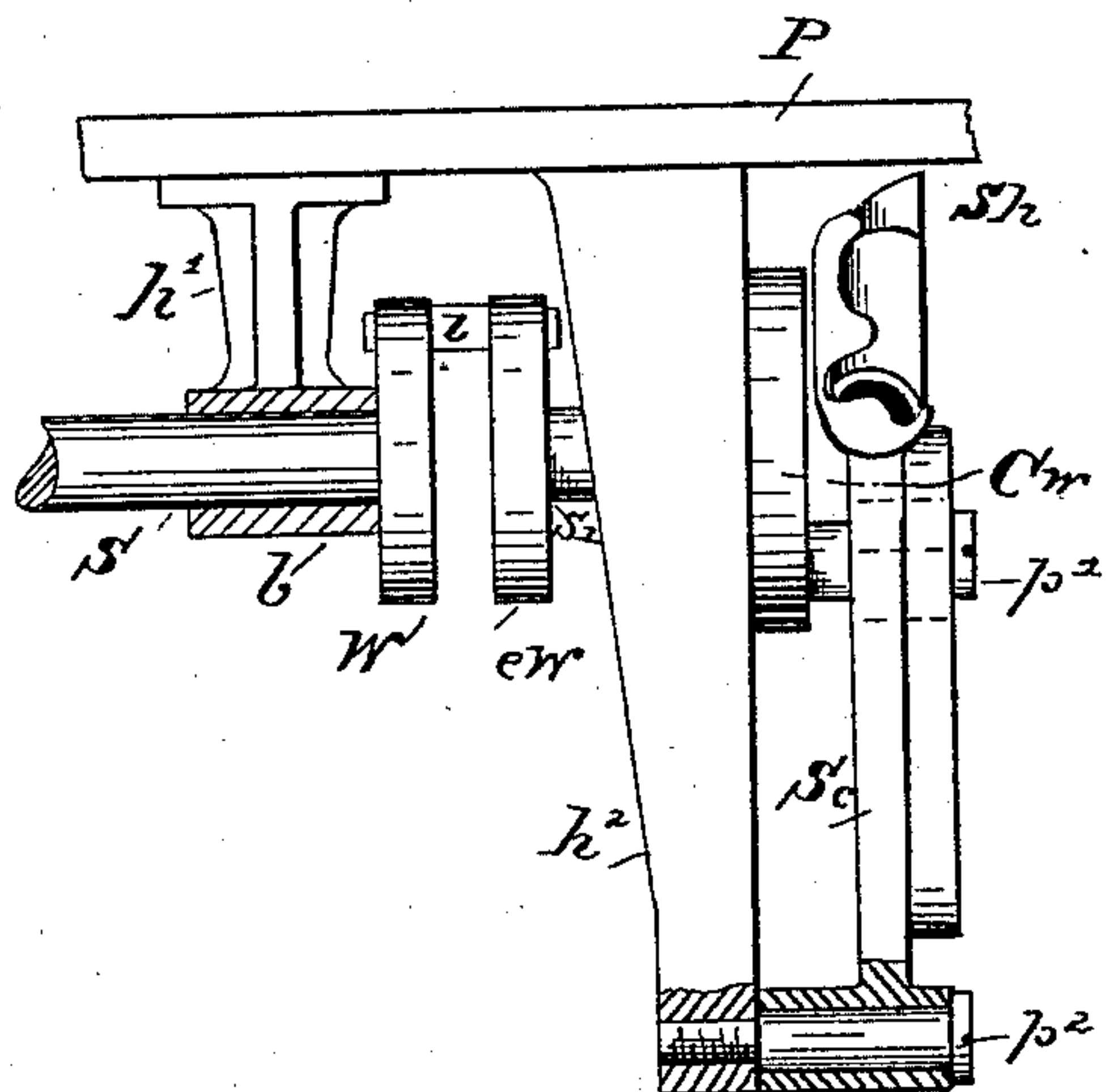


Fig. 2.

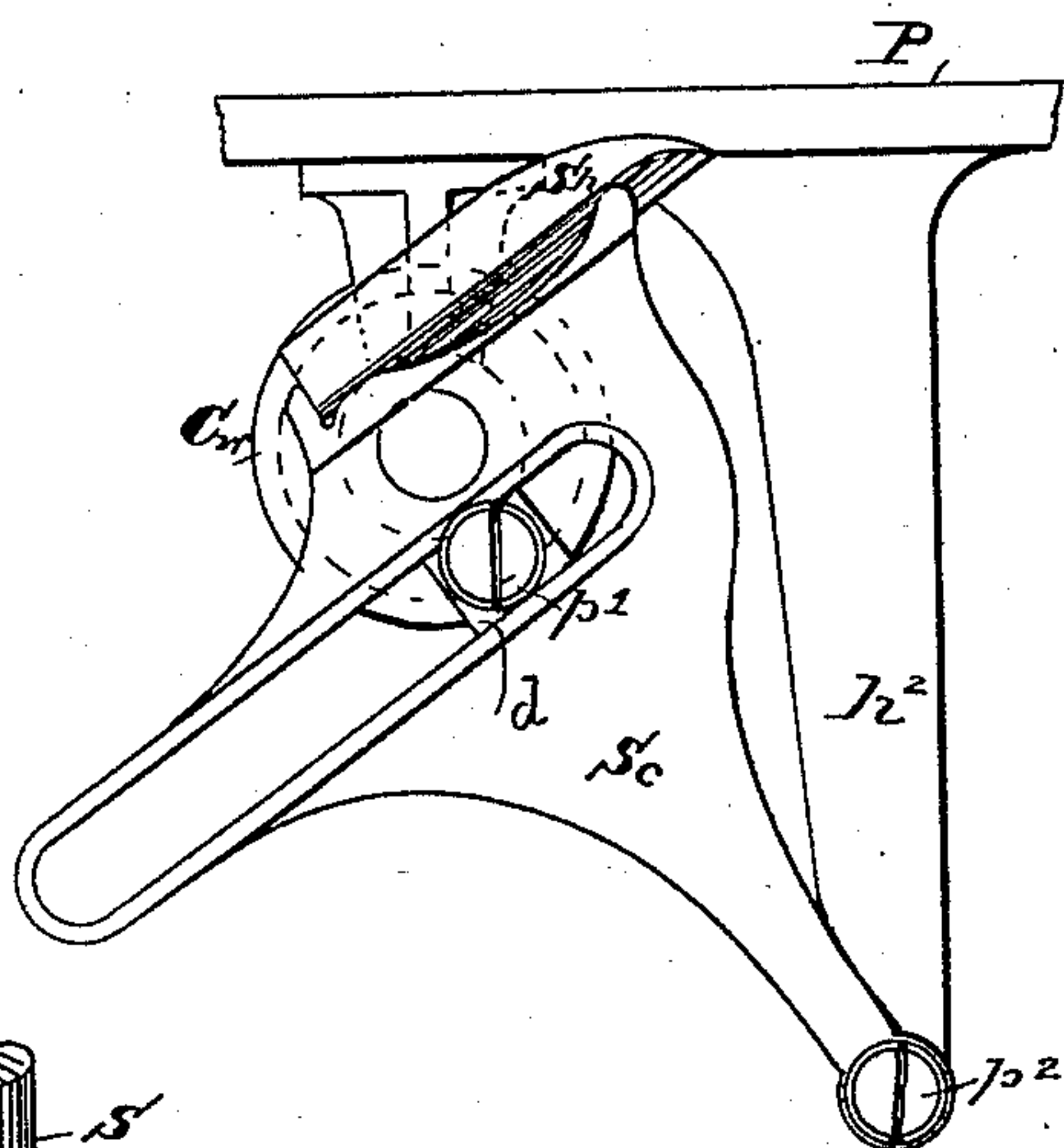
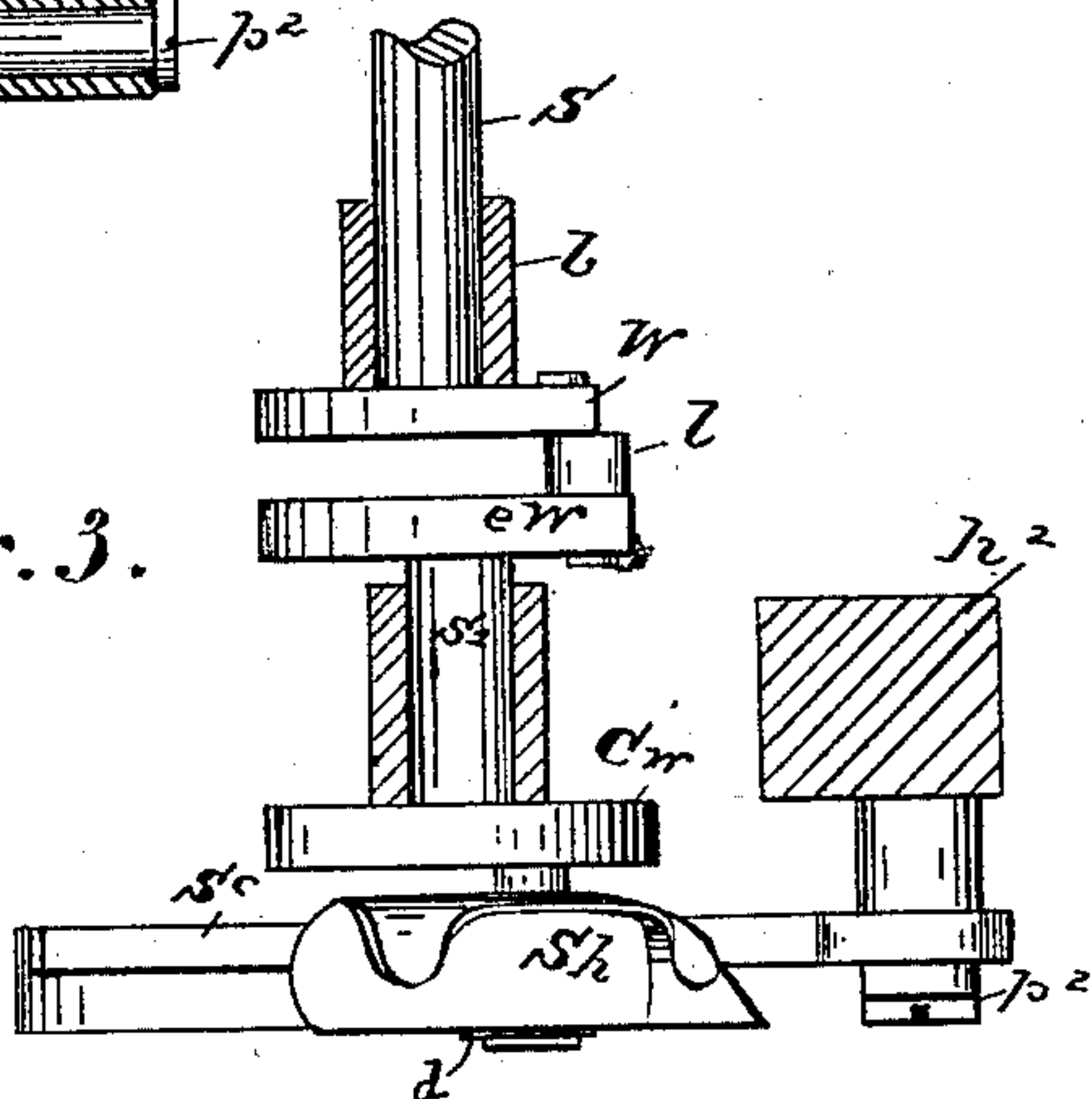


Fig. 3.



WITNESSES.

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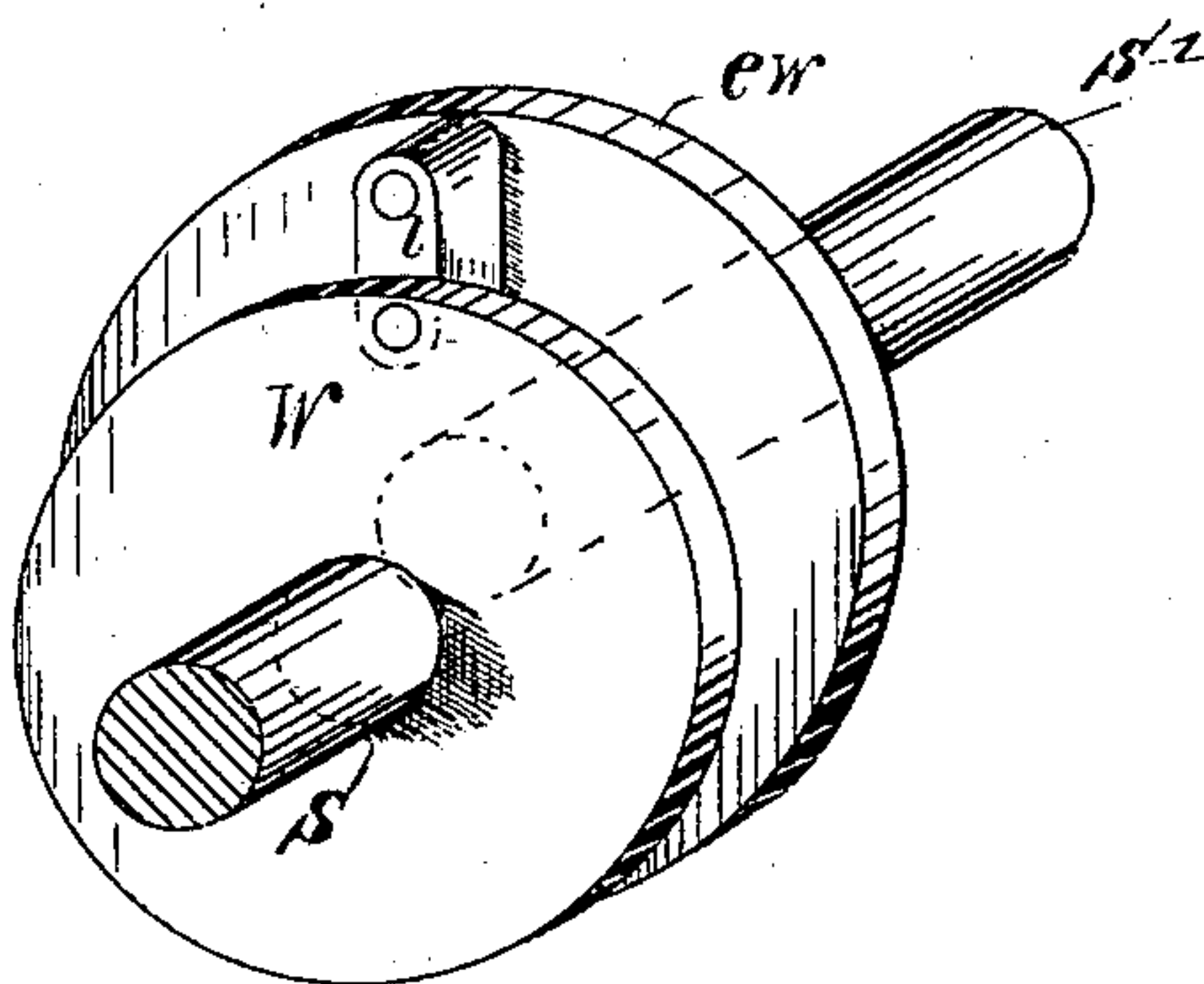
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Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN J. WHEAT, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO CHARLES LILLY, OF SAME PLACE.

SEWING-MACHINE SHUTTLE MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 285,537, dated September 25, 1883.

Application filed March 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. WHEAT, of Indianapolis, Indiana, have invented a new and useful Improvement in Shuttle Movements for Sewing-Machines, of which the following is a description, reference being made to the accompanying drawings, in the several figures of which like letters indicate like parts.

My invention relates to devices for carrying shuttles; and it consists in the peculiar construction of the carrier and the mechanism for oscillating the shuttle and slowing it at the proper point to allow the thread to be taken from the bobbin for the succeeding stitch.

In the drawings, Figure 1 is a rear view of my device; Fig. 2, a side view; Fig. 3, a detail view somewhat enlarged, looking from the top; Fig. 4, a perspective side view of the connected wheels w and ew on a larger scale.

P is the cloth-plate of the sewing-machine, under and attached to which are two hangers, h' and h^2 . The former provides a bearing for the revolving shaft s , on the end of which is a wheel, w , connected by a link, l , with a crank-wheel, ew , which latter is attached to a shaft, s' , on the other end of which is fixed the larger crank-wheel Cw . This shaft s' is supported by a hanger, as shown in Fig. 2, the lower part also shown in cross-section in Fig. 3. A pin, p' , having a squared block, d , next its head, passes through such block, and is screwed into the crank-wheel Cw , as shown in Fig. 1.

The block d is fitted to move in the long transverse slot of the carrier Sc , as shown in Fig.

2. This shuttle-carrier Sc moves on a pivot, p^2 , screwed into the lower end of the hanger h^2 . On the top of this carrier a cradle is formed, in which the shuttle rests, as shown in Fig. 2, and the movement of this carrier causes the shuttle to oscillate in the arc of a circle.

Power being applied, the shaft s revolves, and with it the wheels w , ew , and Cw . The wheels w ew have their shafts out of line with respect to each other, as shown in Fig. 4. The movement of the crank-wheel Cw causes the block-die to revolve; and at the same time traverse the length of the slot in the carrier, and the carrier, with its shuttle, is thrown for-

ward toward the needle. As it passes the vertical point above the pivot p^2 , the shuttle slows up to the end of the stroke and enables the thread to be taken from the bobbin at a lower rate of speed, thus avoiding any jerking of the thread. This slowing-up movement is accomplished by means of the motion of the wheel ew , which is eccentric with relation to the motion of the wheel w , which actuates it through the connecting-link l . The relative positions of the centers of the pivot p^2 and the axis of the wheel Cw are such that a more rapid movement is given to the shuttle as its point passes the needle, the block d having then completed nearly a half-revolution. This rapid movement of the shuttle continues only until its heel has passed the needle, when the slowing-up mechanism begins to operate, allowing the block to complete its half-revolution, and then the shuttle is returned at a uniform rate of speed.

The relative positions of the shaft s' , crank-pin p' , and pivot p^2 are such that when the shuttle reaches its forward limit the crank-pin p' will not have traversed quite one-half the circle shown in dotted lines in Fig. 2, and that the time of the shuttle in its forward and back movement may be the same the slowing-up movement is introduced. The time of the shuttle is thus made to conform to the time of the crank-wheel w on the main shaft s .

What I claim, and desire to secure by Letters Patent, is the following:

1. The shuttle-carrier Sc , pivoted underneath the cloth-plate, and having a slot formed therein substantially at right angles to its vertical length, a squared block moving therein, and in which a crank-pin connected with the wheel Cw revolves, the shuttle Sh , and crank-wheel Cw , mounted on the shaft s' , all combined with means for operating the same, substantially as described.

2. In a sewing-machine, a shuttle caused to oscillate by means of a carrier pivoted below the cloth-plate, and actuated by means of a crank-wheel and a pin connected therewith, and revolving in a block adapted to traverse the length of a slot formed across such carrier

nearly at right angles to its vertical axis, the crank-wheel mounted on a shaft, s' , parallel but not in the same vertical plane with the main shaft s , the two shafts terminating at
5 their adjacent ends in crank-wheels connected by a common link, l , for slowing up the speed of the carrier, all combined and operating substantially as described.

3. The combination, in a sewing-machine, of
10 the wheels w and ew , mounted on shafts which are parallel to but not in the same vertical plane with each other, connected by link l , the crank-wheel Cw , carrier Sc , having a slot

formed therein nearly at right angles to its vertical length, a squared block moving in such
15 slot, the crank-pin p' , adapted to revolve in said block, the shuttle Sh , pivot p^2 , and means for actuating the same, substantially as described.

In witness whereof I have hereto set my
20 hand, March 21, 1883.

JOHN J. WHEAT.

Witnesses:

C. P. JACOBS,

CHRIS. C. HENDRICKS.