

No. 658,241.

Patented Sept. 18, 1900.

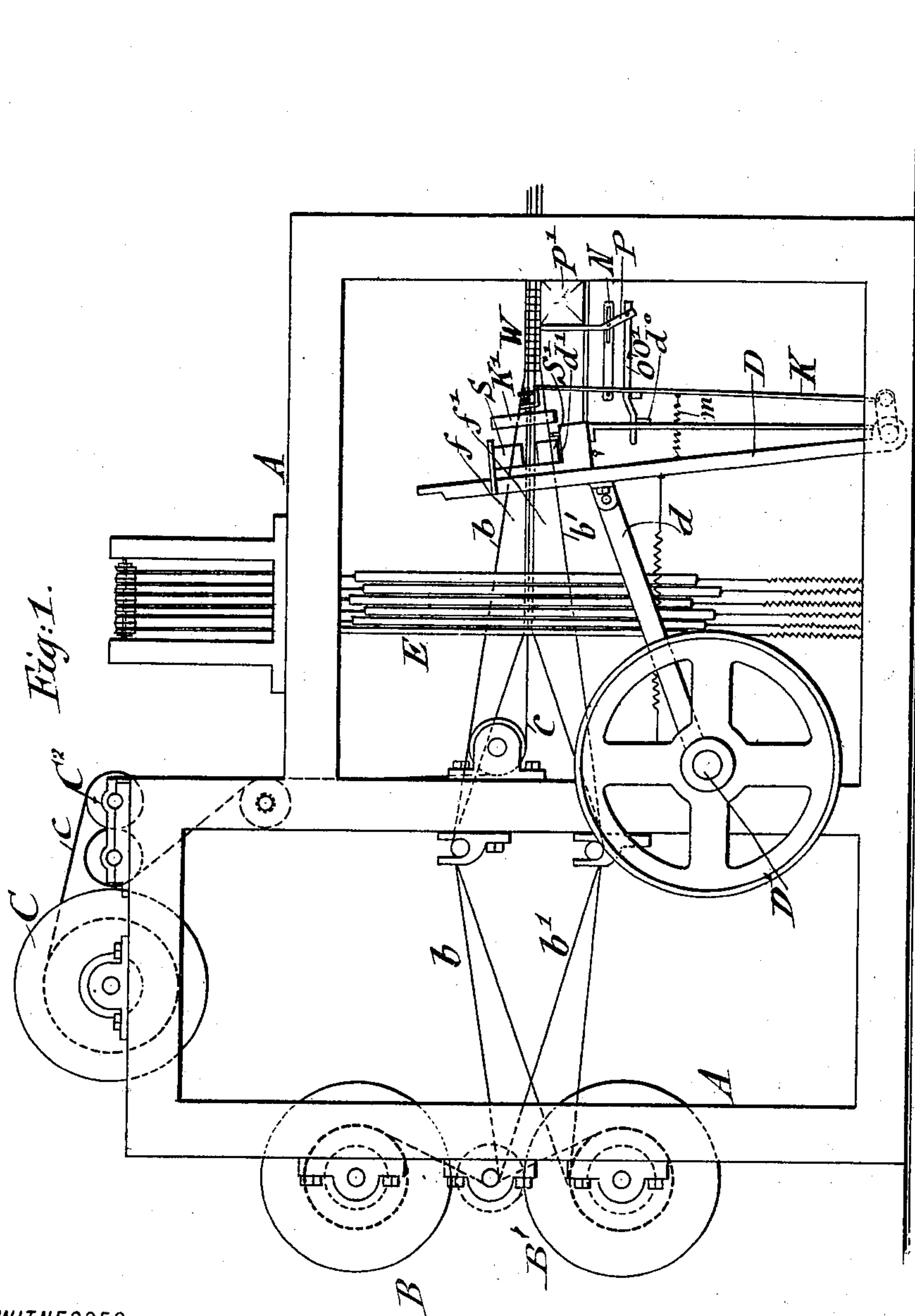
J. CORZILIUS.

LOOM.

(Application filed July 20, 1897. Renewed Feb. 24, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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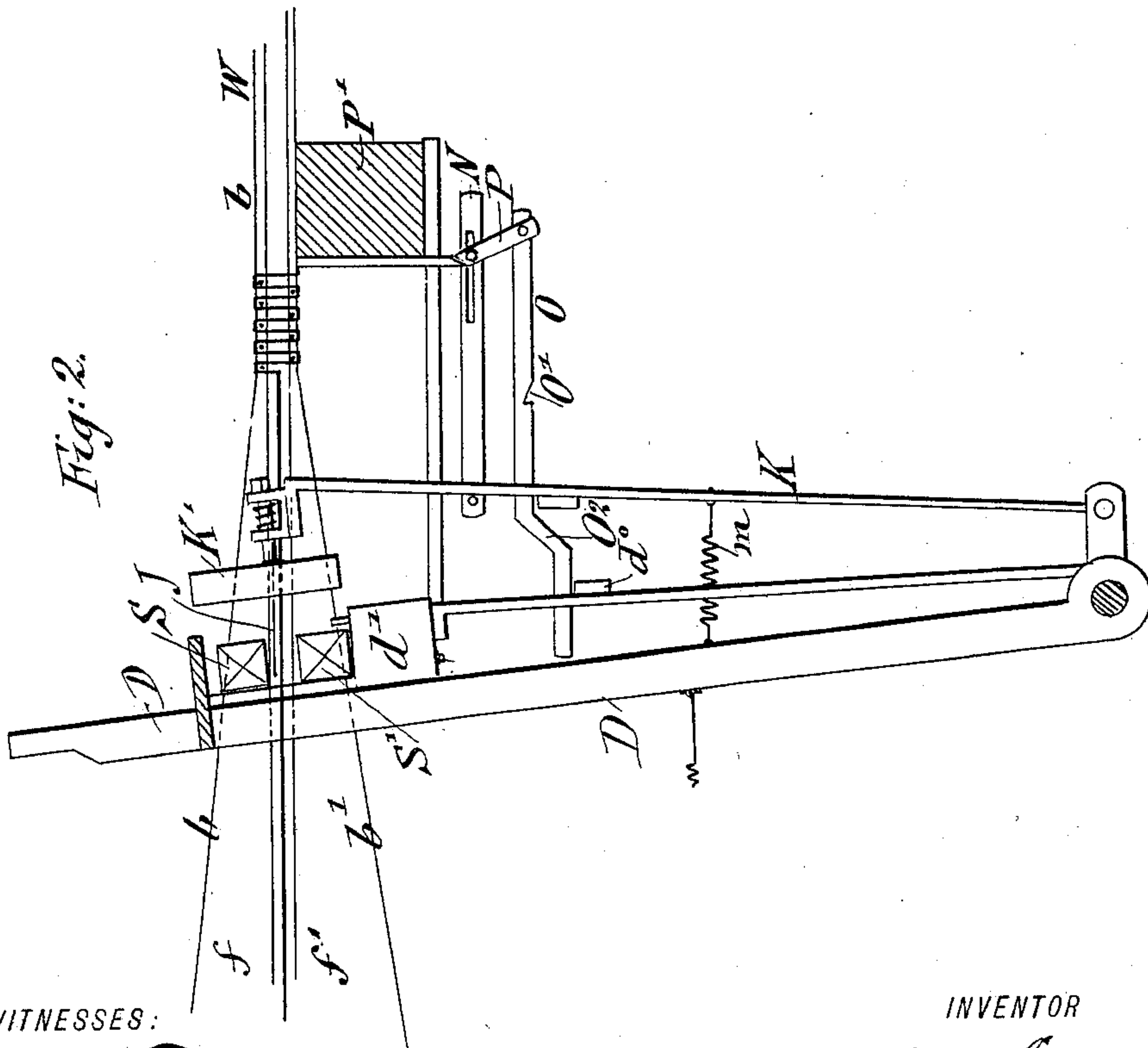
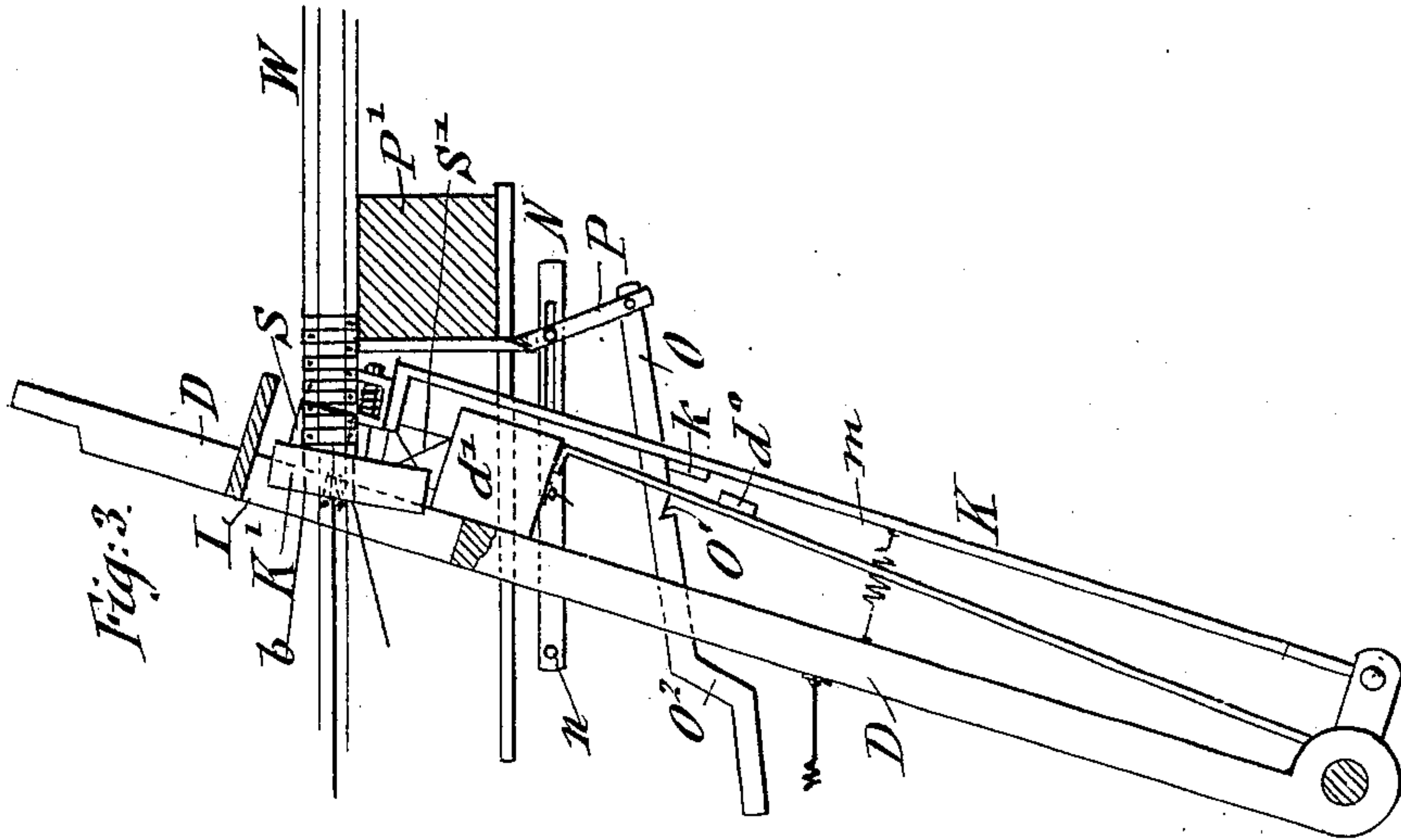
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(No Model.)

3 Sheets—Sheet 2.



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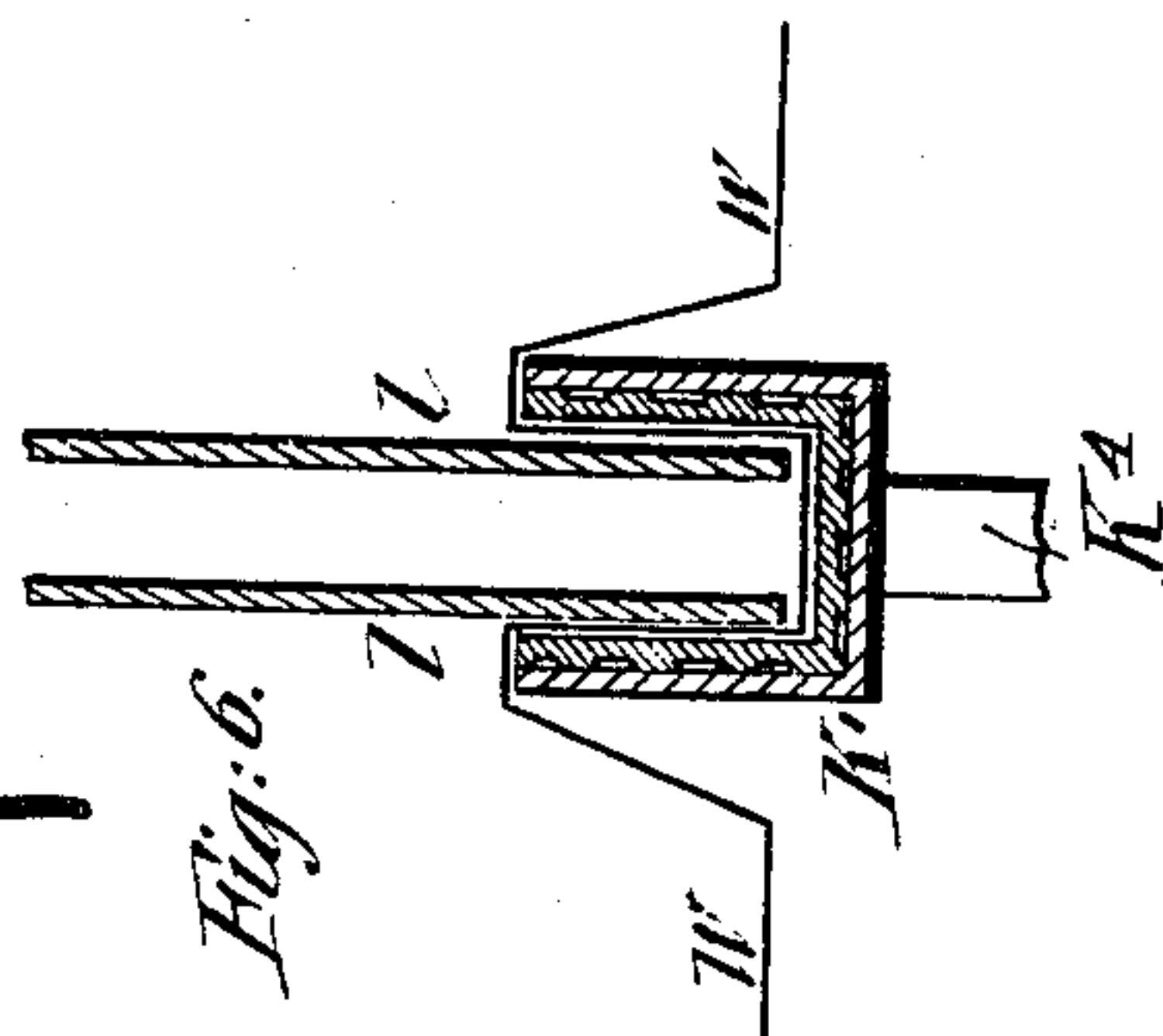
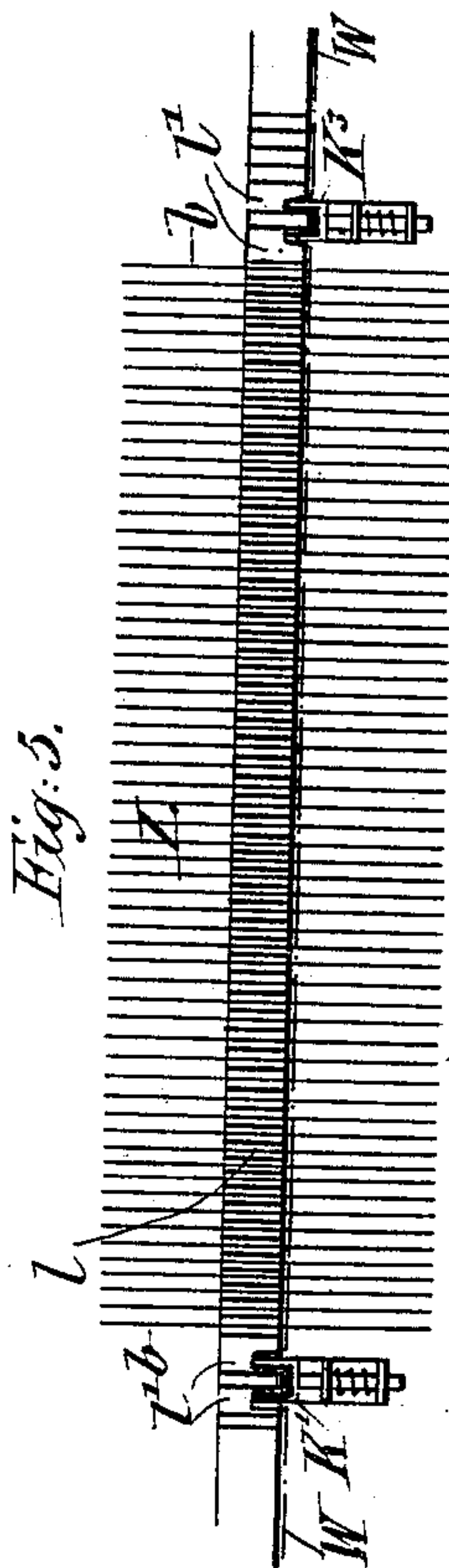
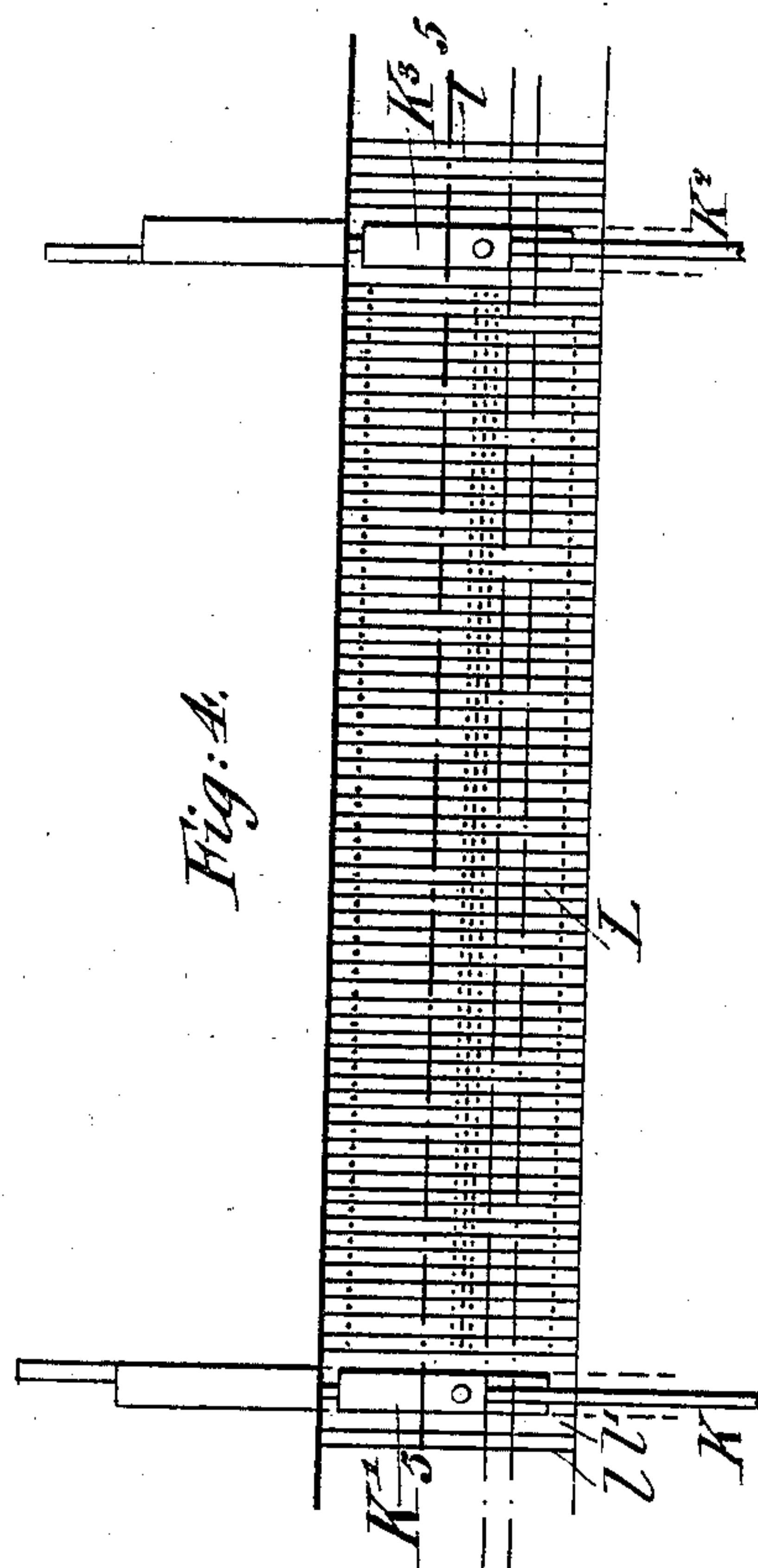
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3 Sheets—Sheet 3.



WITNESSES:

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Fig. 6.

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UNITED STATES PATENT OFFICE.

JAKOB CORZILIUS, OF PATERSON, NEW JERSEY, ASSIGNOR TO THE BAGDAD RUG COMPANY, OF NEW JERSEY.

LOOM.

SPECIFICATION forming part of Letters Patent No. 658,241, dated September 18, 1900.

Application filed July 20, 1897. Renewed February 24, 1900. Serial No. 6,410. (No model.)

To all whom it may concern:

Be it known that I, JAKOB CORZILIUS, a citizen of Germany, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Looms, of which the following is a specification.

This invention relates to that class of looms which are designed for weaving double-pile fabrics for the production of plushes, velvets, carpets, and similar pile fabrics. In looms of this class the objection was heretofore encountered that the weft or filling was not drawn taut and straight from selvage to selvage, so that the cross-grain of the pile fabric was formed irregular and uneven, rendering the same unsightly. To overcome this latter defect, my invention consists in two tension devices arranged one at each side of the lay, which tension devices act upon the weft-threads after they are shot across by the shuttle and clamp the same against the end dents of the reed as the lay beats the same up.

The invention also consists of certain details of construction and combinations of parts to be hereinafter described and then particularly claimed.

In the accompanying drawings, Figure 1 is a side elevation of my improved loom. Fig. 2 is a side elevation of the main portion of my invention, parts being in section, the lay being shown as in its rearward position before the weft or woof is beat up. Fig. 3 is a side view of the same parts, showing the lay in its forward position. Fig. 4 is a detail front elevation looking toward the lay. Fig. 5 is a transverse section on line 5 5, Fig. 4; and Fig. 6 is an enlarged detail on same section-line.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents the frame of the loom, B B' the two beams for the linen warps $b b'$, and C is the beam for the pile-warp c , which is conducted over guide-rollers C'. The lay D is oscillated from the power-shaft D' through the medium of a con-

necting-link d in the usual manner, while the heddles E, by which the warp-threads are shifted so as to make the sheds $f f'$ for the passage of the shuttles, are of the usual construction, and are operated in the usual manner by mechanism well understood.

In connection with the loom tension devices are arranged at each side of the lay which act to hold the weft or filling taut after the same is picked across the shed by the shuttles S S' and while the lay is moving forward for beating up the weft or filling threads. These tension devices consist of a movable bar K, which is pivoted to a bracket on the lay and carries at its upper end a spring-actuated U-shaped or grooved shoe or presser device K', while at the other side of the lay is another pivoted bar K², (see Figs. 4 and 5,) which is also provided at its upper end with a grooved or U-shaped spring-actuated presser-shoe K³. Each shoe has a shank K⁴, which is guided in a suitable guide K⁵ at the upper end of its carrying-bar K, between which guide and a stop or abutment K⁶ on the shank K⁵ is arranged the contracting-spring K⁷, which tends to hold the shoe in forwardly-projected position. The presser shoes K' K³ are arranged in the same transverse line at each side of the lay, but extend parallel with the dents l of the reed L, some of the dents l being cut out at l' at each end of the reed L, so as to form recesses into which the flanges of the presser-shoes of the tension devices can move. Both of the tension devices are under the tension of springs m , fixed to a suitable portion of the frame A of the loom. By means of its spring m the tension device K' is always held in position toward the lay, but is prevented from further movement toward the same, as is also the other tension device K³, by means of stops n , projecting from adjustable stop-bars N, so that the presser-shoes K' K³ will not move into the sheds $f f'$ to interfere with the proper picking of the shuttles. Said tension devices K' K³ as soon as the lay takes its natural forward movement and reaches the same are moved forwardly with the lay against the tension of

their springs; but as the lay is returned said tension devices $K' K^3$ are returned with the lay under the actuation of their springs, but are prevented from moving through the entire return stroke of the lay by means of the said stops n , against which the bars $K K^2$ come in contact. It will be apparent from the subsequent description that the tension devices $K' K^3$ need not both move directly inward with the lay; but one of the same may be caused to dwell or pause at an intermediate point of its inward movement. To effect this purpose, a latch O is pivoted to a bracket P on a beam P' of the frame A , which latch is provided with a recess O' . Near the free end of the latch is formed an inclined shoulder O^2 , which moves upon a plate d^0 on the lay D , so that when the lay is moved forward, and with it either of the tension devices is moved and shortly after the lay commences the return movement, the shoulder k on said tension device engages in the recess O' on the latch O with the result that the tension device is locked in outward position and does not return with the lay. When, however, the plate d^0 on the lay reaches the shoulder O^2 , the latch is raised thereby, the tension device released, and returned to inner position through the actuation of its spring. A similar latch mechanism is arranged at each side of the loom, so that both of the tension devices may be latched and caused to pause during the return stroke of the lay, or only one may be latched, as may be desired. When the lay has moved up to the tension devices after the simultaneous pick of the shuttles from opposite sides of the loom, the springs m press the shoes $K' K^3$ into the end dents of the reed, so as to draw the filling or weft-threads w taut between the same, while the lay beats the filling up against the built-up fabric W . The filling is thereby held taut across the fabric and a more perfect pile fabric produced. The filling-threads running from the respective shuttles will thus be held by a tension-shoe on the same side of the loom as the shuttle, while at the opposite side of the loom the filling-thread will be bound around the selvage. Heretofore the lay beat up the filling and when it returned the filling would be retained at the fell as beat up and would be drawn off the shuttle, so as to run along the selvage, so that when the lay beat up the filling again after another pick either there would be too much filling or else the filling would be so laid in that puckering would result. In the present invention this objection is overcome on the return stroke of the lay, as the tension devices act as drags, so as to exert a pulling action on the filling, and in consequence, therefore, the tension devices can be designated "drags." During the return stroke of the lay the combined tension and drag devices pull out some of the filling which runs to the shuttles diagonally from where it

was beaten up at the fell, and the amount pulled out can be regulated by calling one or both of the latches O into action, so that one or both tension or drag devices may be caused to pause and only a small portion—that is to say, fell—of the previously-beat-up filling will be drawn out again. If the latches are not in use, still more of the filling will be drawn out, until the dragging or pulling action is limited by stops n . This action does not cause the opposite selvages of the fabric to be drawn tight or puckered, as the whole transversely-running filling lap or length is not drawn out. In this way only the required length of filling is used, as the portion running from the shuttle to the opposite side of the fabric will be shorter than if it were not pulled out by the dragging action of the combined tension and drag devices. It will of course be evident that on the next beat of the lay the filling partly drawn out will be beat up again to form the fell, and on the return the described action will take place.

Having thus described my invention, what I claim is—

1. In a loom, the combination, with the reed of the lay, of tension devices, means for holding the same away from the lay, during the pick of the shuttles, and means for moving said tension devices toward the lay, when the same moves forward to beat up the filling, said tension devices coöperating with the end dents of the reed, substantially as set forth.

2. In a loom, the combination, with the reed of the lay, of tension devices, means for holding the same away from the lay, during the pick of the shuttles, and springs connecting the tension devices and lay, for moving said tension devices into the end dents of the reed, when the lay moves forward to beat up the filling, substantially as set forth.

3. In a loom, the combination, with the lay and the shuttles, of pulling or dragging means acting on the filling between the lay and fell so as to draw it away from the fell, when the lay is moving back, substantially as set forth.

4. In a loom, the combination, with the lay; of a tension device, consisting of a movable rod provided with a U-shaped shoe for the weft-threads, coöperating with the end dents of the reed, and means for causing said tension device to meet the lay when the same moves forward to beat up the filling, substantially as set forth.

5. In a loom, the combination, with the lay, of tension devices for the weft-threads coöperating with the end dents of the reed of the lay, and stops for holding said tension devices in retracted position away from the reed during the pick of the shuttles through the shed, substantially as set forth.

6. In a loom, the combination with the lay, and a plate extending transversely of the same, of tension devices for the weft-threads

coöperating with the end dents of the reed,
pivoted latches constructed with shoulders
and recesses, said latches resting upon the
plate on said lay, and shoulders on the ten-
5 sion devices adapted to engage the recesses
in the latches, substantially as set forth.

In testimony that I claim the foregoing as

my invention I have signed my name in pres-
ence of two subscribing witnesses.

JAKOB CORZILIUS.

Witnesses:

JAMES BEVERIDGE,
PETER KORZILIUS.