

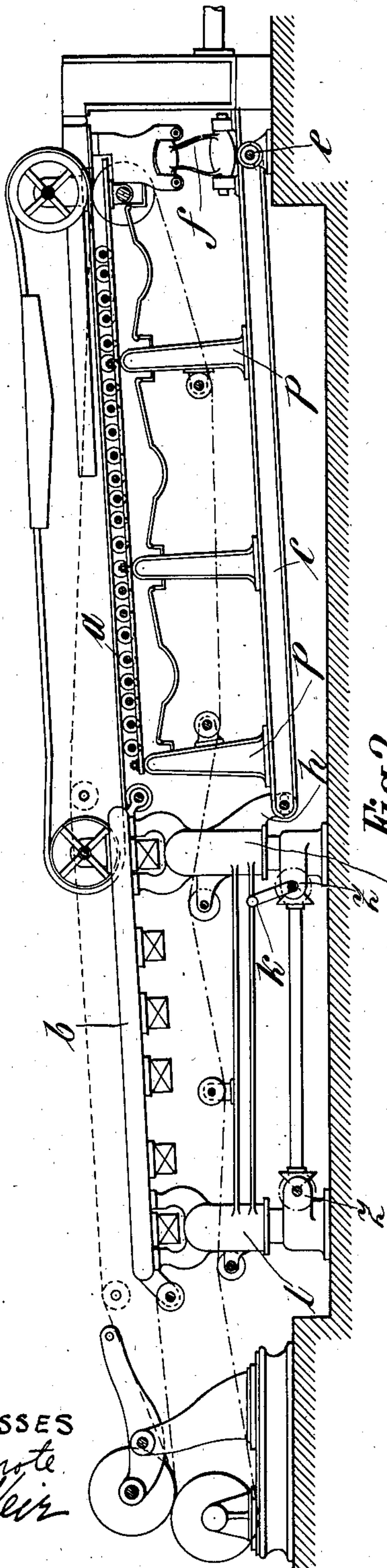
P. PRIEM.
PAPER MAKING MACHINE.
APPLICATION FILED OCT. 6, 1910.

978,779.

Patented Dec. 13, 1910.

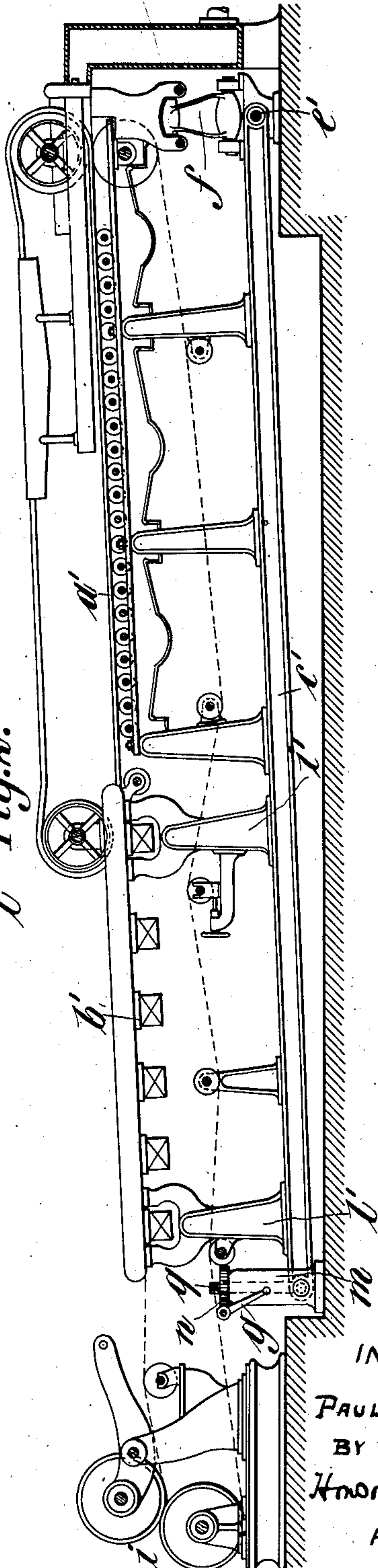
2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES
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Fig. 2.



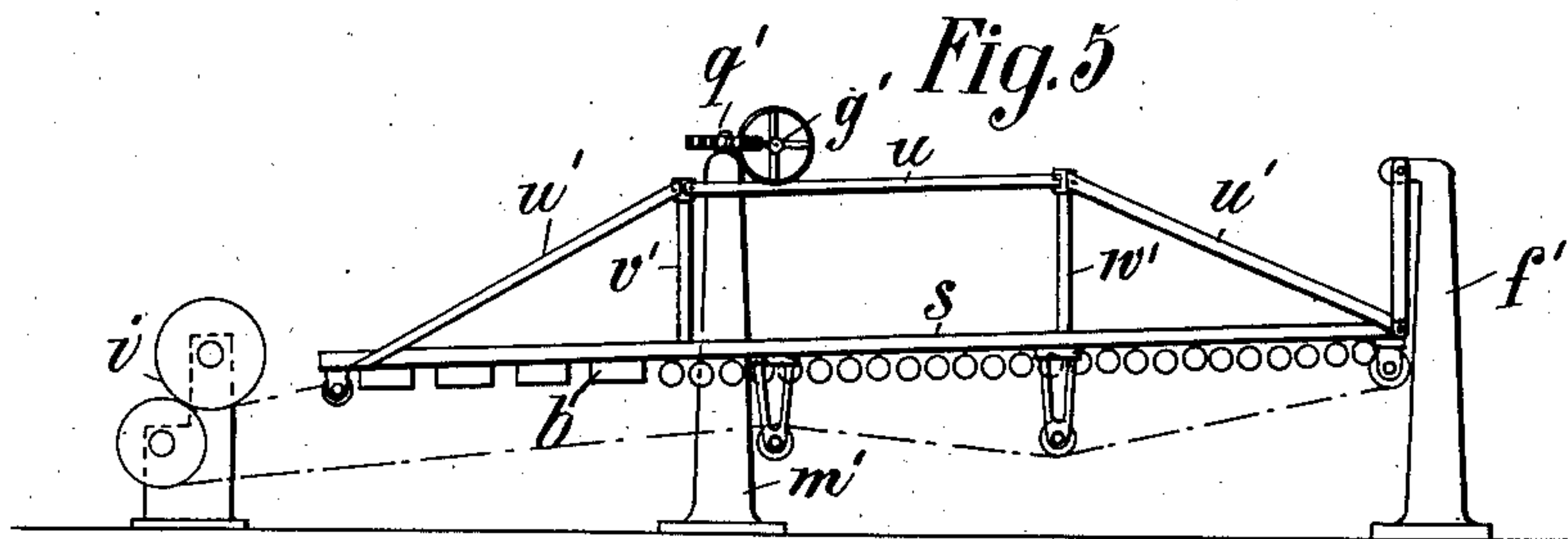
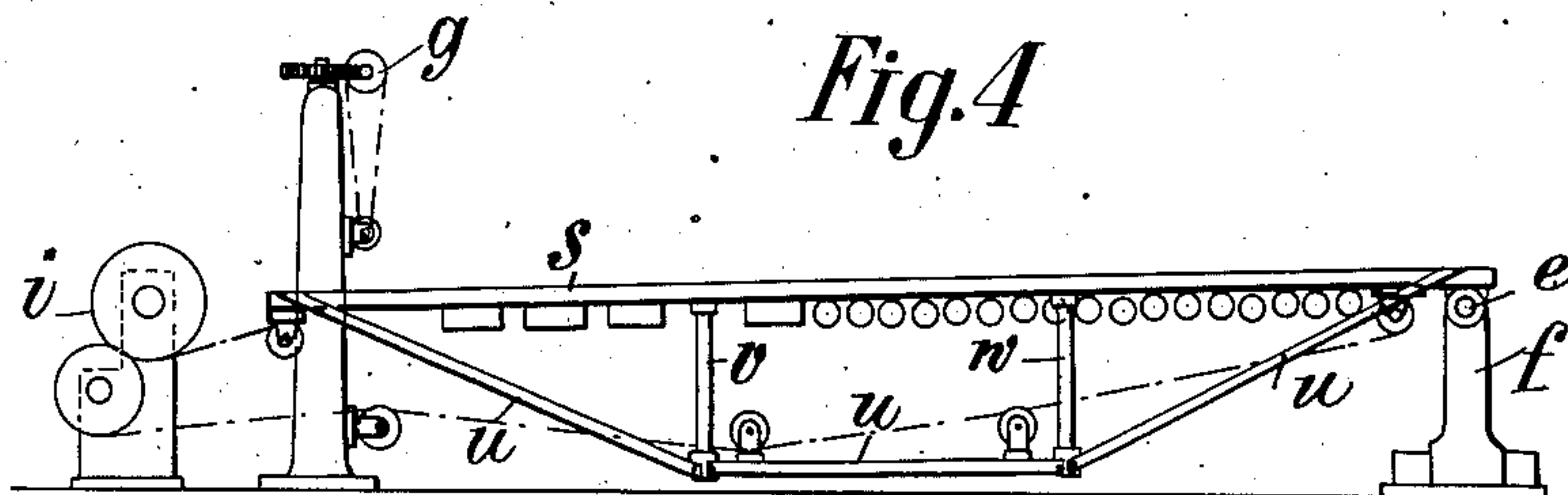
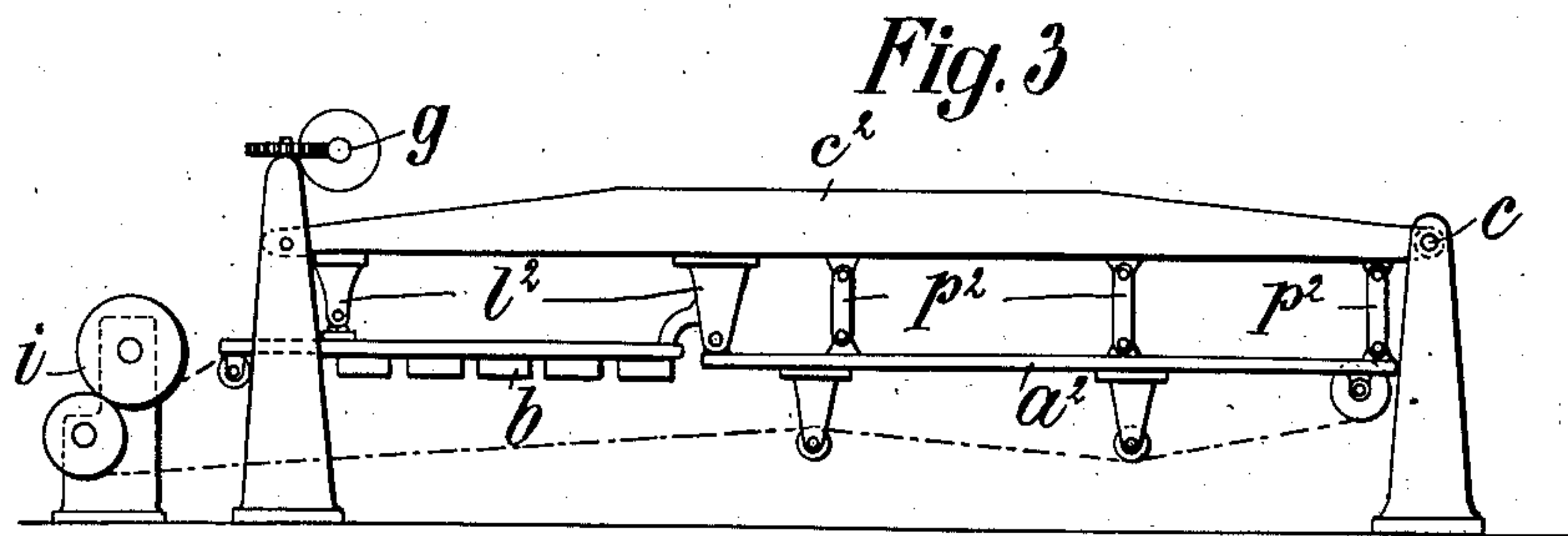
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UNITED STATES PATENT OFFICE.

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PAPER-MAKING MACHINE.

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Specification of Letters Patent.

Patented Dec. 13, 1910.

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To all whom it may concern:

Be it known that I, PAUL PRIEM, a subject of the King of Saxony, residing at 13 Lindenstrasse, Heidenheim-on-the-Brenz, Germany, have invented certain new and useful Improvements in Paper-Making Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention.

10 This invention has for its object an arrangement in longitudinal straining cloth paper-making machines, which enables the cloth to be adjusted to various inclinations, without the height of the breast-roll end
15 of the cloth being thereby altered.

Several forms of construction of the improved arrangement are shown in the accompanying drawings, in which:—

20 Figure 1 is a side elevation of a paper making machine embodying my invention. Figs. 2, 3, 4, and 5 are similar views of machines of modified construction.

In the machine illustrated in Fig. 1 only the inclination of the shake-frame *a* is variable, while the inclination of the suction part *b* remains constant. The standards *l* of the suction part are made so as to be telescopically extensible. Toothed wheels *g*, which are operated by means of a crank *k*,
30 a shaft and pairs of bevel wheels, engage with rack-bars (not shown), which are firmly connected with the displaceable hood-shaped upper parts of the standards *l* in such a way, that by rotating the crank *k*,
35 the suction part is raised vertically parallel with itself. An arm *h* is cast on each of the two right hand standards. The ends of the rails or girders *c* are pivoted to these two arms *h*, which girders are pivotal on
40 bolts *e* and carry by the intermediary of standards *p* and *f* the bars of the shake-frame; the standard or bracket *f* is pivoted in the ordinary way, so that it allows of the necessary shaking movement of the cloth.
45 By vertically displacing the suction part, the inclination of the shake-frame is altered. The suction part is given such an inclination that when the shake-frame is adjusted to the most inclined position which it may
50 be desired to give it while the machine is in operation, the part of the cloth lying on the shake-frame and that lying on the suction frame are approximately in the same direction and lie in one plane. If the suction part were to lie at a lesser inclination or
55 horizontally when the shake-frame was con-

siderably inclined, the cloth in consequence of the tension imparted to it would tend to adjust itself in a straight line and lift away from the first suction boxes and from the
60 last rollers of the shake-frame. Fig. 1 shows the machine with the shake-frame adjusted to the greatest inclination, while the position of the cloth when the shake-frame is lying horizontally is shown in dotted
65 lines in Fig. 1.

In the form of construction shown in Fig. 2 the standards *l'* carrying both the shake-frame and also the suction part are mounted on a single pair of girders *c'* piv-
70 otal on bolts *e'* at the breast roller end. The ends of the girders adjacent to the squeezing press are connected to the lower end of a screwed spindle *q* vertically mounted in
75 a standard *m*, the upper end of which screwed spindle is formed as a worm-wheel
n. By turning the crank *g* the worm wheel *n* is rotated and thereby the spindle *q* raised and the inclination of the cloth altered.

In the form of construction shown in Fig. 80 3 the pair of girders *c²* is arranged above the straining cloth. The suction part is carried by standards *l²* rigidly mounted on the girders. The shake-frame *a²* is suspended from the girders by means of flexible steel
85 bands *p²*, which allow of the necessary shaking motion.

In the forms of construction shown in Figs. 4 and 5, the rollers of the shake-frame and the suction boxes are supported by a
90 single continuous pair of rails *s*, which in Fig. 4 are stiffened by struts *u*, *v*, *w* and in Fig. 5 by a truss frame *u'*, *v'*, *w'*, in such a way that the flexion load may be freely carried by the rails and the arrangement of
95 standards (*p* and *l* of Fig. 1) is superfluous. In the form of construction shown in Fig. 5, the breast-roll end of the pair of rails is suspended on two pillars or standards *f'* of
100 suitable height by means of two flexible steel bands. The adjusting mechanism *m'*, *q'*, *g'* is not arranged at the end of the pair of rails which is adjacent to the squeezing press, but between the shake-frame and the suction
105 part, whereby the bending moment of the stiffened pair of rails is diminished.

The improved arrangement has the advantage over ordinary apparatus for a similar purpose that because of the breast-roll end of the shake-frame not being displaced in
110 height when the inclination of the cloth or apron is changed, the flow of paper pulp on

the cloth is in no way affected by changing the inclination so that the inclination of the cloth may be altered within wide limits even during the working, and thus, without the slightest loss of time, the inclination of the cloth, which at the moment appears to be the most suitable one, may be ascertained by testing during the working of the machine, which is impossible in the ordinary apparatus in which, when the inclination of the cloth is altered, the position of the breast-roll end of the shake-frame is also altered in height.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:

In a longitudinal straining cloth paper machine, the combination of a normally in-

clined suction frame, a normally inclined shake frame, a sub-frame extending from the breast roller end of the shake frame to the front end of the suction frame, said sub-frame being pivotally mounted at the breast roller end of the shake frame, means connecting with the suction frame for raising or lowering the end of the shake frame next to the suction frame, together with the whole suction frame, the plane of the two frames including in no position an angle of less than 180°.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

PAUL PRIEM.

Witnesses:

RICHARD LANG,
OSCAR CARLSON.