

(No. Model.)

3 Sheets—Sheet 1.

T. SHILLOCK.

SHEDDING MECHANISM FOR LOOMS.

No. 293,798.

Patented Feb. 19, 1884.

Fig 1

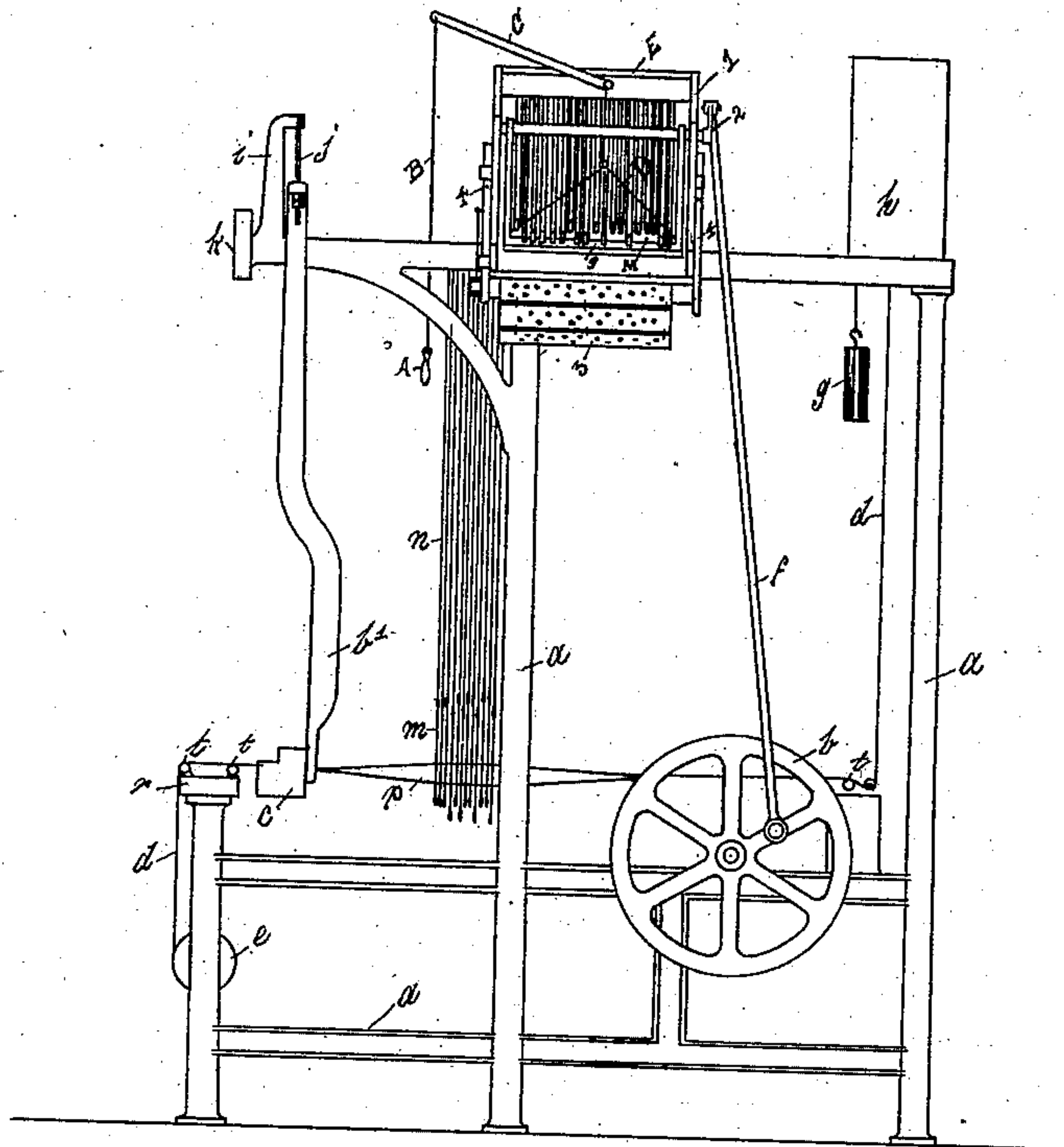
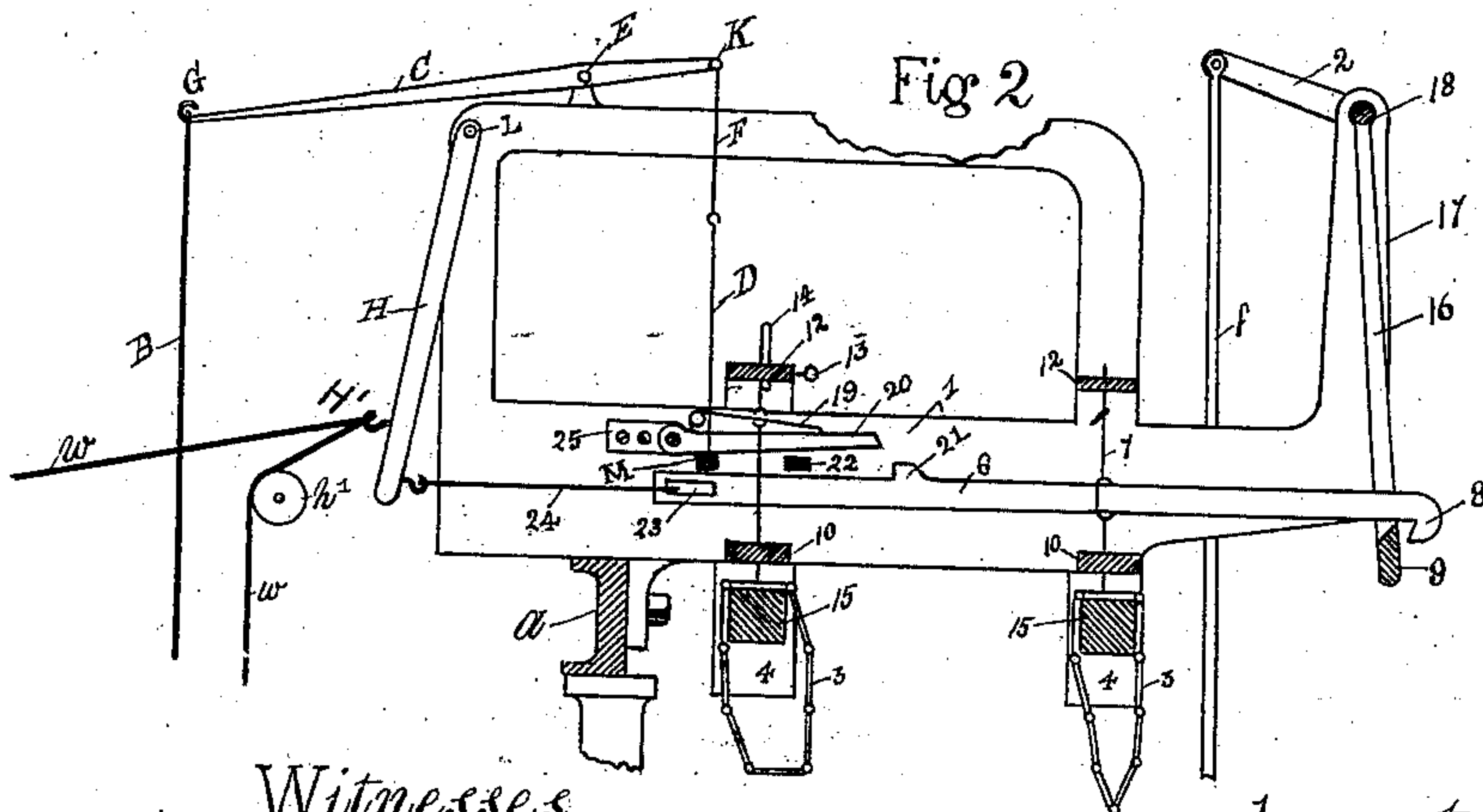


Fig 2



Witnesses

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John Taylor & Co.

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Fig 3

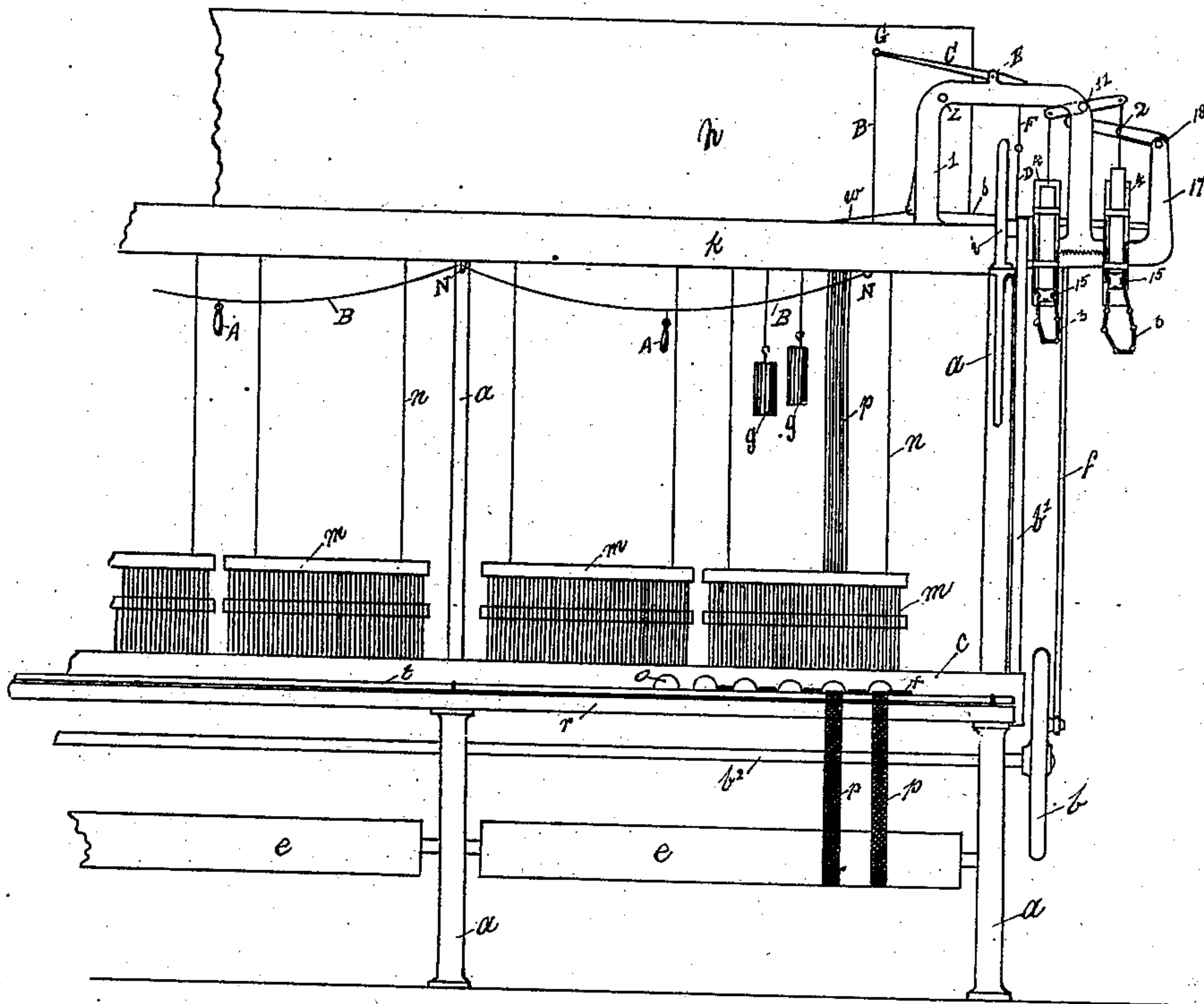
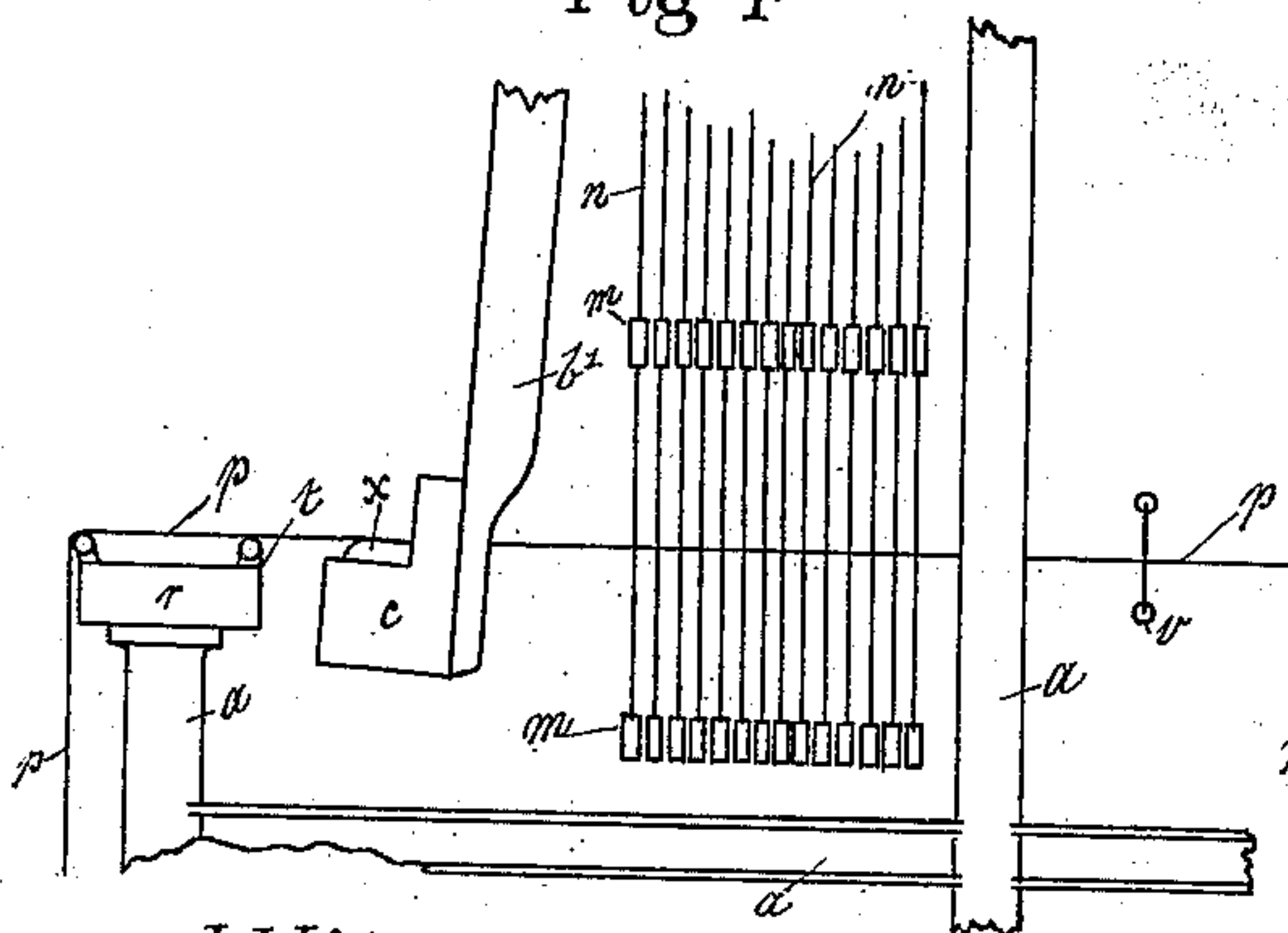


Fig 4

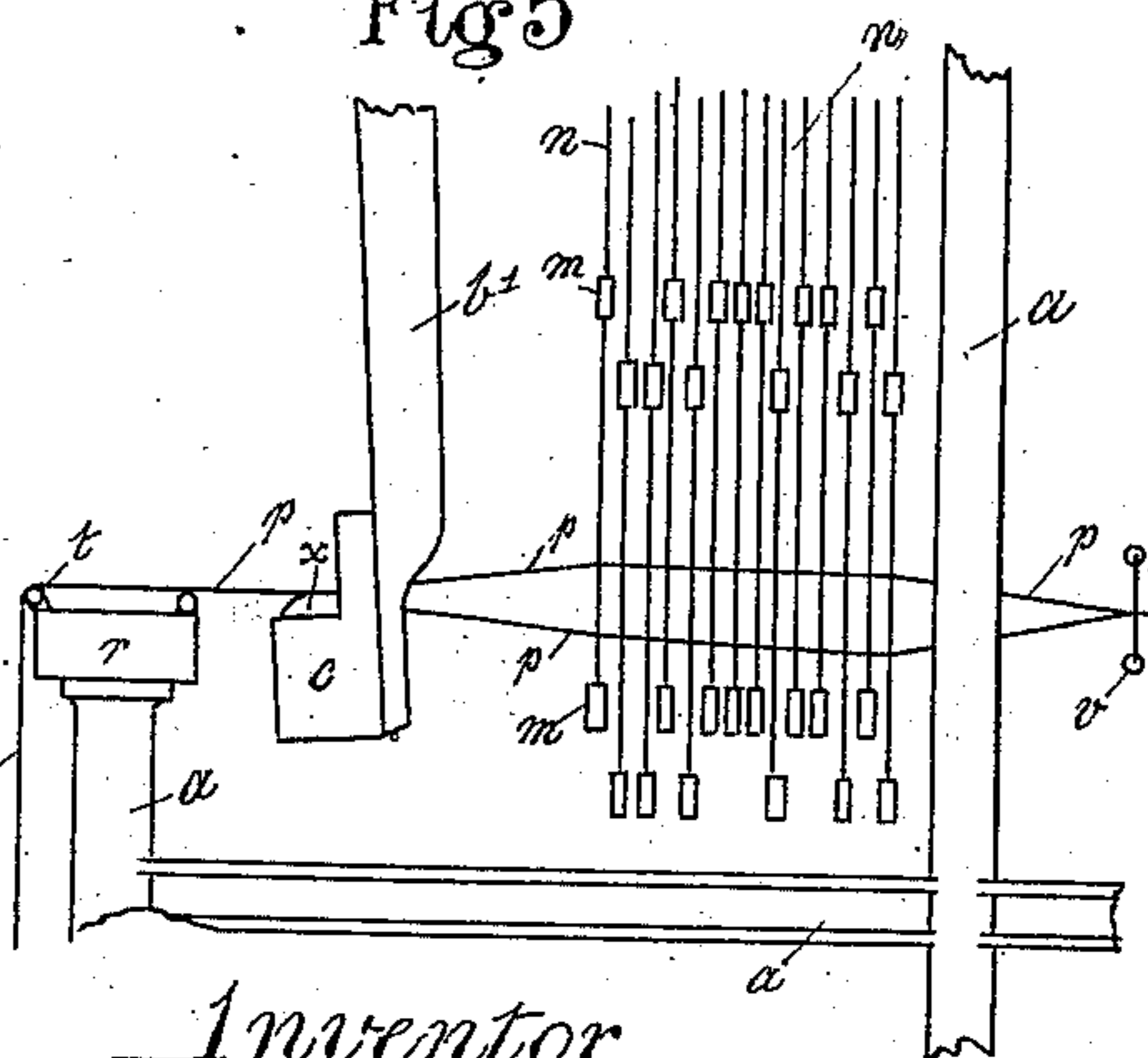


Witnesses

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Alvin Phillips

Fig 5



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Thomas Hillock

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Fig 7

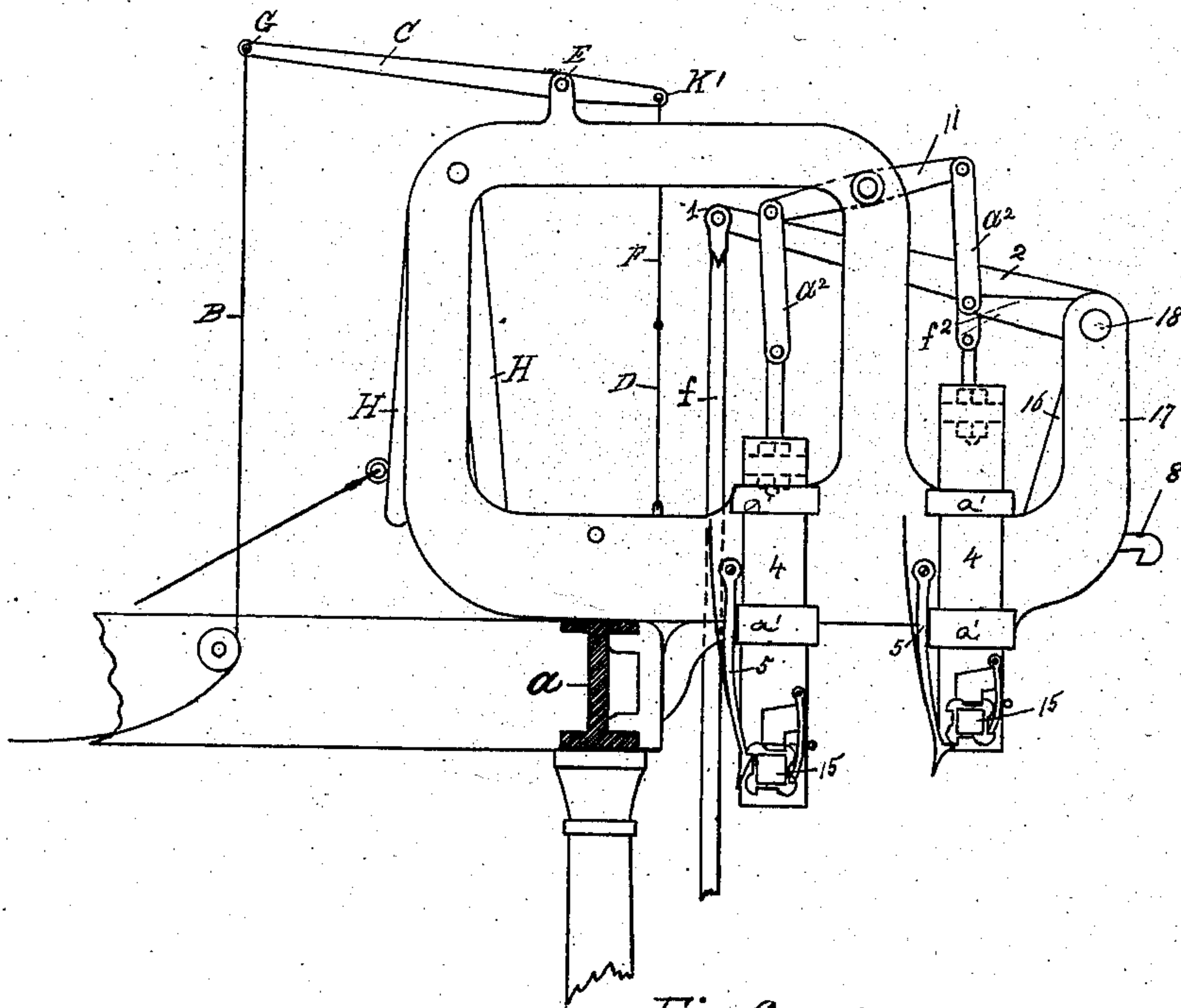
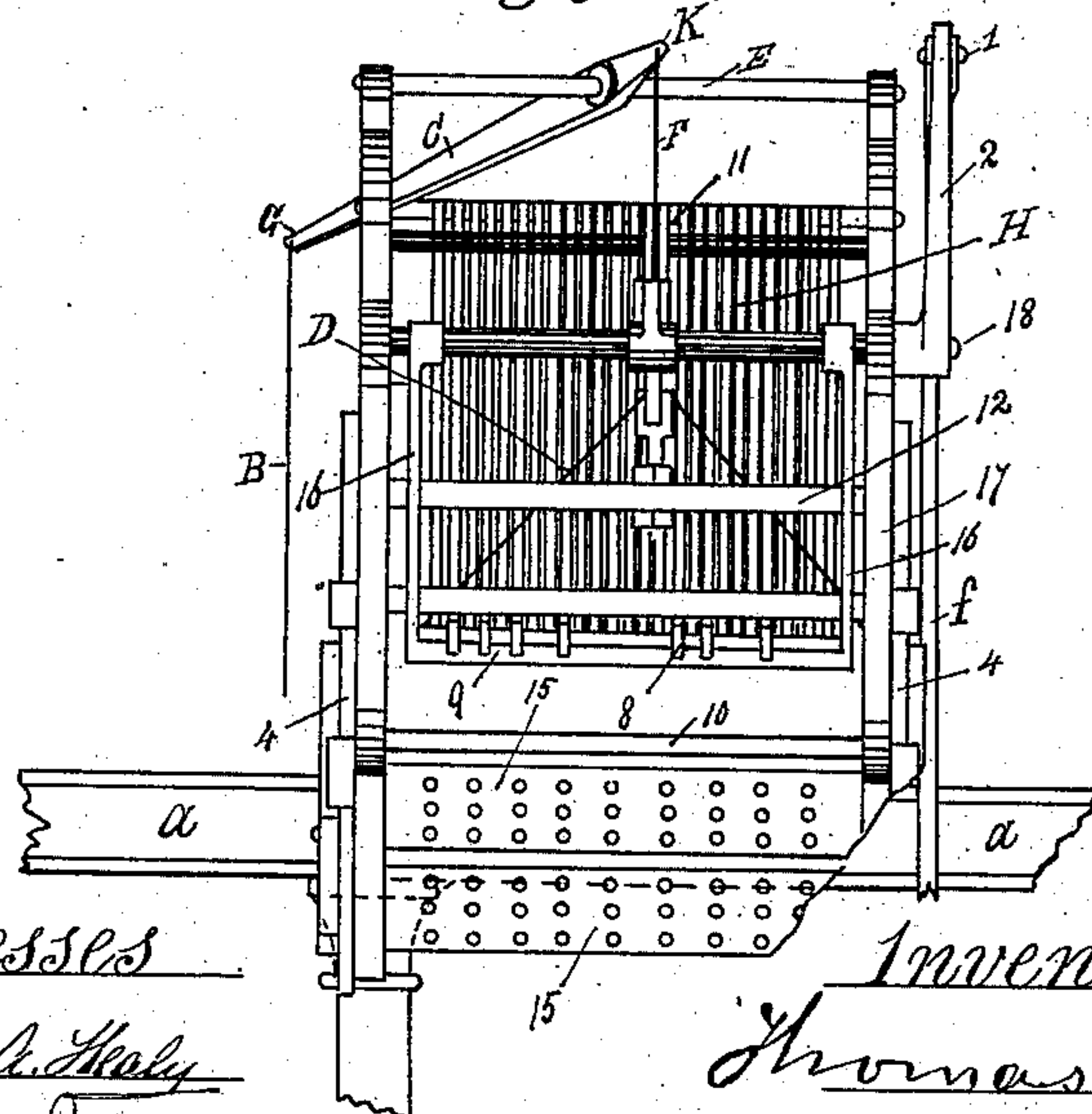


Fig 6



Witnesses

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Inventor

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by John English atty

UNITED STATES PATENT OFFICE.

THOMAS SHILLCOCK, OF PATERSON, NEW JERSEY.

SHEDDING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 293,798, dated February 19, 1884.

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

To all whom it may concern:

Be it known that I, THOMAS SHILLCOCK, a citizen of the United States, residing at Paterson, Passaic county, State of New Jersey, have
5 invented a new and useful Improvement in Shedding Mechanism for Looms, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 The object of my invention is to provide means whereby the hooked bars or jacks connected with the heddles may be released from the devices which retain them in their outward position, in order to lower such of the heddles
15 as may have been elevated, for the purpose of permitting the warps to be leveled, as will be hereinafter fully explained.

Figure 1 of the drawings is an end elevation of a loom having my invention applied thereto.
20 Fig. 2 is a section of the jacquard or shedding mechanism, showing my invention. Fig. 3 is a front elevation of a part of the loom. Fig. 5 is a partial end view with the shed open. Fig. 6 is an enlarged end view of some of the
25 parts shown in Fig. 1, and Fig. 7 is an enlarged side view thereof.

A represents handles, which are placed at suitable distances along the front of the loom, and are attached to a lifting-cord, B, that passes
30 through a series of loops, N, arranged on and secured to a beam, k, which is secured to the ends of the loom. One end of the lifting-cord is taken upward and fastened to the end G of a lever, C, that is pivoted on a rod, E, between
35 standards secured to the top of the jacquard-frame. The inner end, K', of the lever C is provided with a suitable eye to accommodate a link, F, which link is secured therein. The lower end of the link F is suitably connected
40 to a link, D, that spreads apart at the bottom and connects with the ends of a lifting-bar, M, that is suitably arranged under the pawls 20, hereinafter described. The bars or jacks 6 are limited in their inward movement by a stop,
45 22, fixed to the jacquard-frame 1, which engages the projections 21 upon the jacks.

The loom is provided with the ordinary frame, a, and has journaled therein a driving-shaft, b², on which there is arranged a balance-wheel, b, provided with a stud to accommodate
50 connecting-rod f, which connects therewith. The opposite end of the rod connects with arm

2, which arm is arranged on shaft 18, journaled in standards 17 on the jacquard-frame 1. The arms 16, secured to the shaft 18, are connected
55 at their lower ends by a bar, 9, having a sharp or knife edge to engage with the hooked ends 8 of the bars or jacks 6, that are horizontally arranged. The hooked bars or jacks 6 are each provided with a hook, 8, on its outer end,
60 a slot, 23, on its inner end, and a stop, 21, on its upper edge. In the slot 23 there is arranged a hook, 24, the opposite end of which is provided with an eye to accommodate a hook arranged in the lower end of arm H,
65 which hooks therein. The arm H is pivoted on a pivot, L, secured to the frame 1, and is also provided with a hook, H', to which there are attached cords w, that work over pulleys h', the lower ends of the cords w being secured
70 to the rods n, which rods are attached at their lower ends to the heddles m. The standards 4 are mounted in guides a', secured to frame 1, so as to slide up and down, carrying or supporting the prisms 15 and pattern-cards 3.
75 The standards 4 are connected by links a² to the opposite ends of lever 11, which lever is pivoted to the frame 1. The needles 7 and 14 pass through holes formed in bars 10 and 12. The pawls 20 are pivoted upon a transverse
80 rod secured in frame 1, and have attached to them springs 19. The needles 14 have each a loop or eye formed in the center of the same, which surrounds one of the springs 19, and the jacks 6 pass through similar loops in the
85 dles 7.

The operation is as follows: The driving-shaft is put in motion in the ordinary way, and gives motion to the balance-wheel b, which,
90 by means of rod f, gives motion to the lever 2, which in turn reciprocates the shaft 18, and by means of said shaft the arms 16, which arms actuate the bar 9. The bar in its outward movement engages the hooks of such of the jacks as have not been raised by the pattern-cards 3 and needles 7, and, through the connection
95 hereinbefore described, causes the elevation of the desired heddles. The pattern-cards 3 are perforated according to the desired pattern, and act upon the needles 7 and 14 in the
100 usual and well-known manner. After being drawn outward by the bar 9, the bars or jacks 6 are there held, with their connected heddle-frame raised, by the engagement of the pawls

20 with the projections 21 until such time as it is desired to lower the heddle-frames. When not drawn outward and held by the pawls 20, the jacks are drawn inward by the weight of 5 the heddles and rest with their projections 21 bearing against the fixed stop 22. After a jack has been moved outward by the bar 9 to raise one of the heddles, and has been held by the pawl 20 as long as desired, the pawl 20 may 10 be raised to release the jack and permit the descent of the heddle by means of a suitable blank or imperforated place left on the pattern-cards 3, which act upon the needles 14. The lever 11 is vibrated by means of arm f^2 15 on shaft 18, and the prisms 15 are rotated by means of hooks 5, that are arranged on the frame 1, as shown in Fig. 7. During the working of the loom, should a protuberance appear upon the warp or a thread break, and the de- 20 fect be discovered in the lower plane of a shed, the weaver, by raising the bar M, may lift the pawls 20 and release the jacks 6, so as to permit such of the heddles as may be lifted to sink to their lowest position, thereby bringing the 25 warps to one level, as shown in Fig. 4. It frequently happens that the weaver, in operating on the warp of the lower shed, as looms are ordinarily constructed, soils and defaces the warp of delicate colors, for the reason that he 30 must pass his fingers down through between

the warp-threads forming the upper shed, and as a consequence soiled and imperfect goods are produced, whereas by my invention the weaver, by raising the bar M by means of the handles A, which are conveniently arranged 35 along the front of the loom, can cause the lifted warps forming the upper plane of a shed to descend to a common level with the other warps, either for making repairs or for bringing the warp-threads to an equal tension when 40 the loom is to remain idle over night or for a longer period, thus avoiding the stretching of one part of the warp-threads during a rest of the loom.

I claim and desire to secure by Letters Pat- 45 ent—

The combination, with the heddles, of the bars 6, having hooks 8 and stops 21, means for connecting the bars with the heddles, the pawls 20, springs 19, pins 7 and 14, the pattern-cards 50 for acting upon said needles, means for presenting the cards to the needles, the bar 9, means for operating the same, the bar M, wire D, link F, lever C, cord B, and handles A, substantially as set forth.

THOMAS SHILLOCK.

Witnesses:

JOHN INGLIS,

ALICE SHILLOCK.