

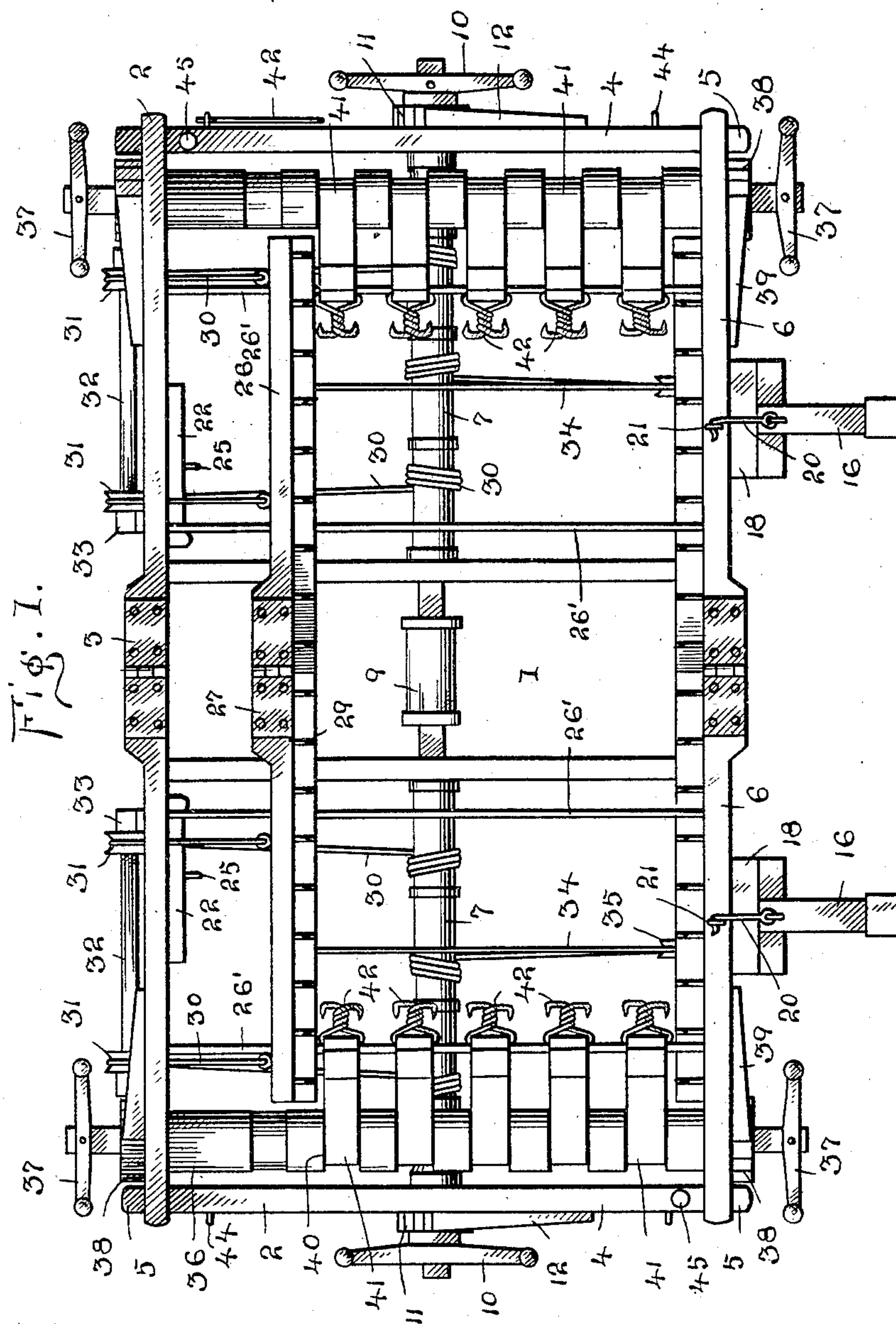
No. 697,695.

Patented Apr. 15, 1902.

F. VIOLETTE.
CURTAIN STRETCHER.
(Application filed July 13, 1901.)

(No Model.)

5 Sheets—Sheet 1.



Witnesses

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No. 697,695.

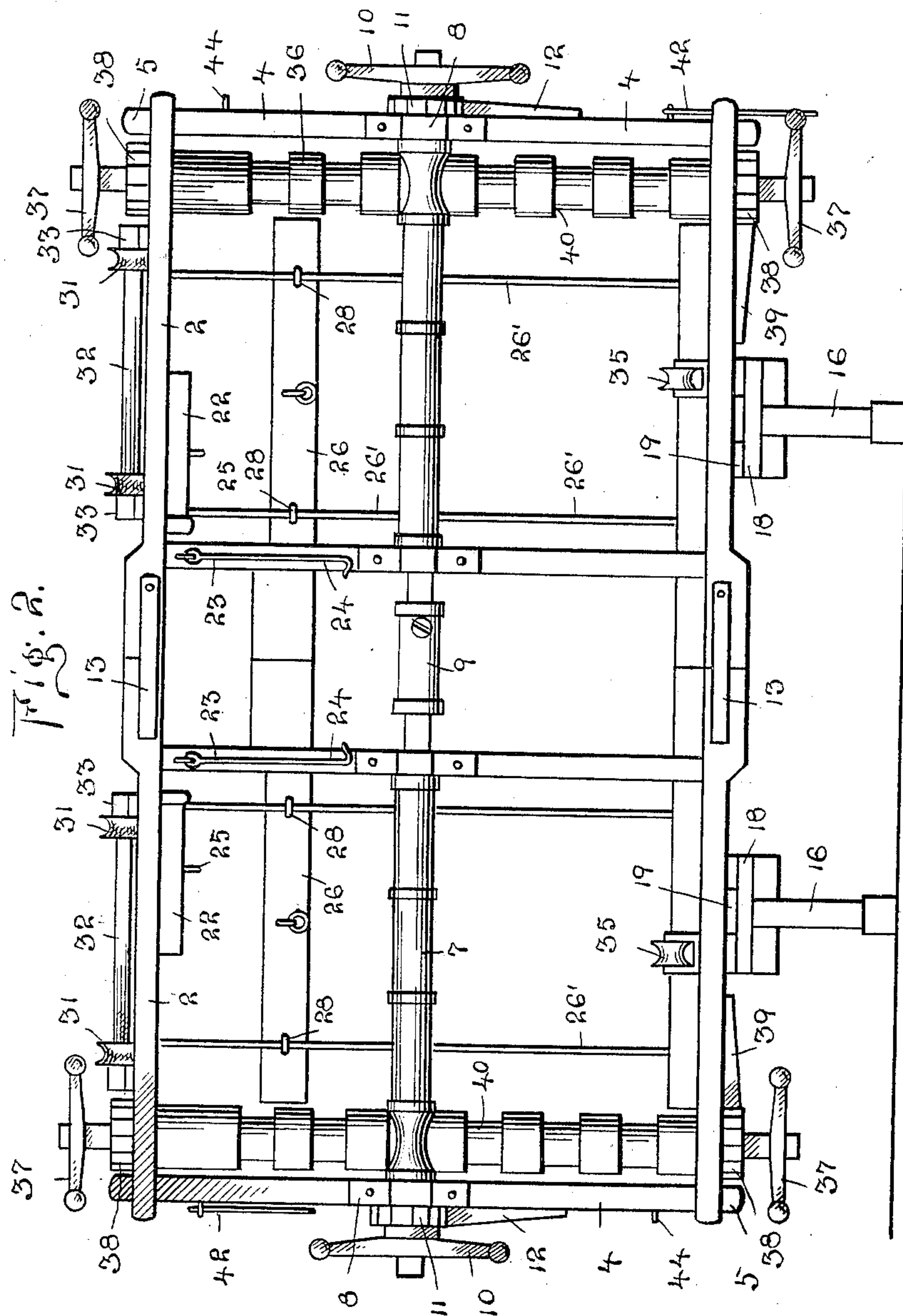
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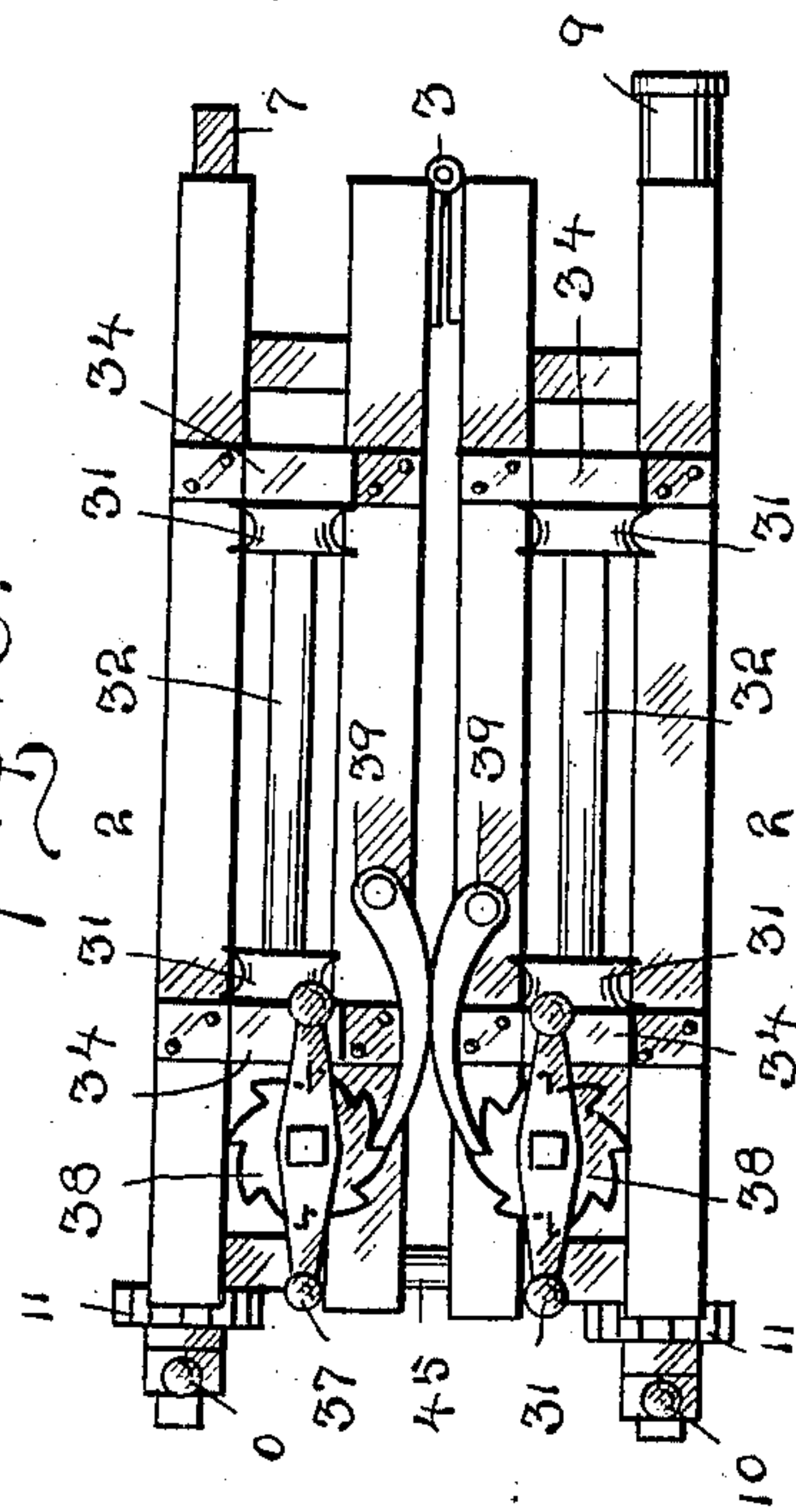
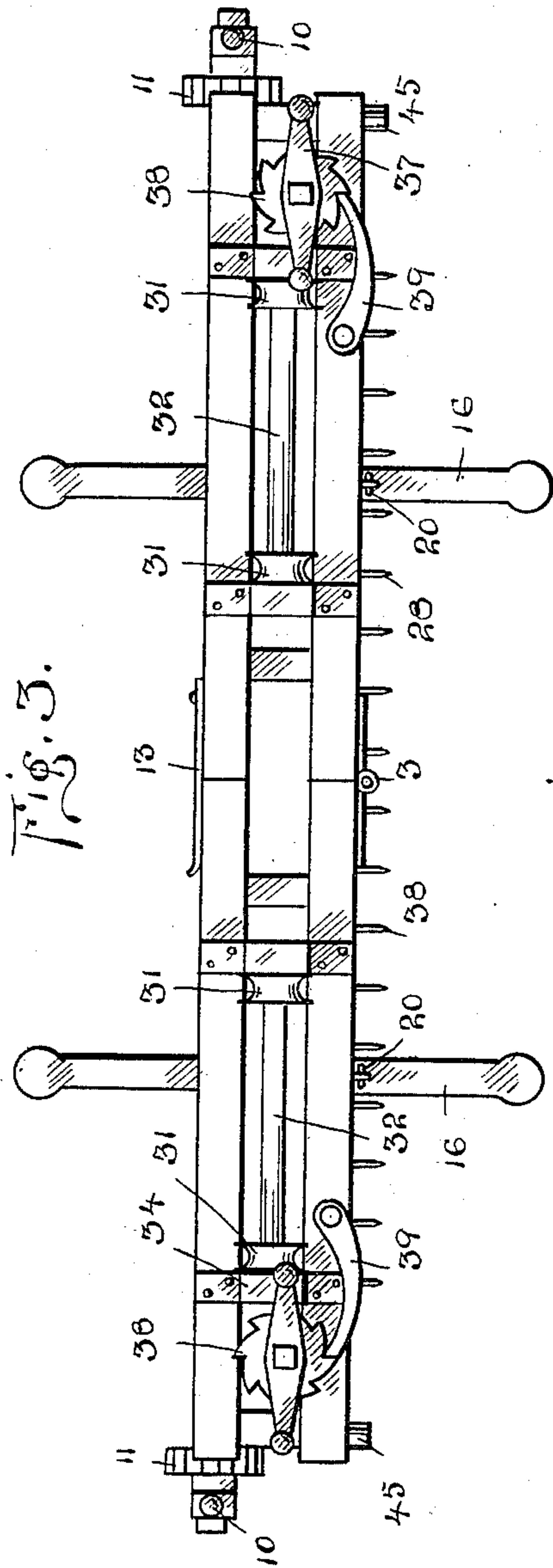
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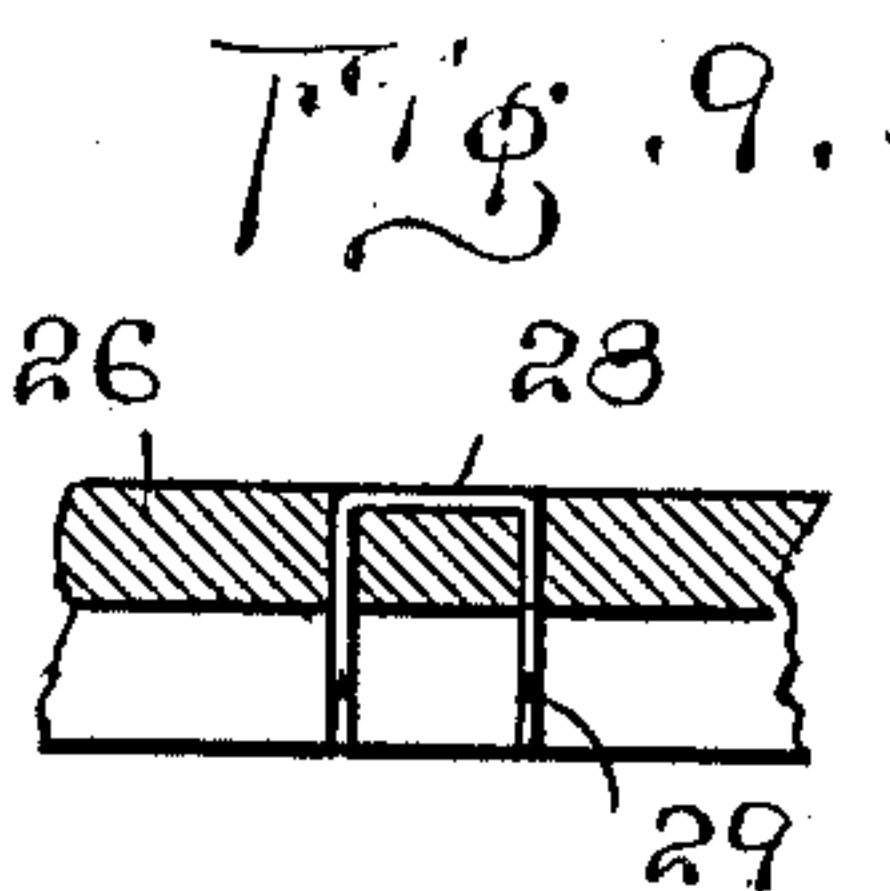
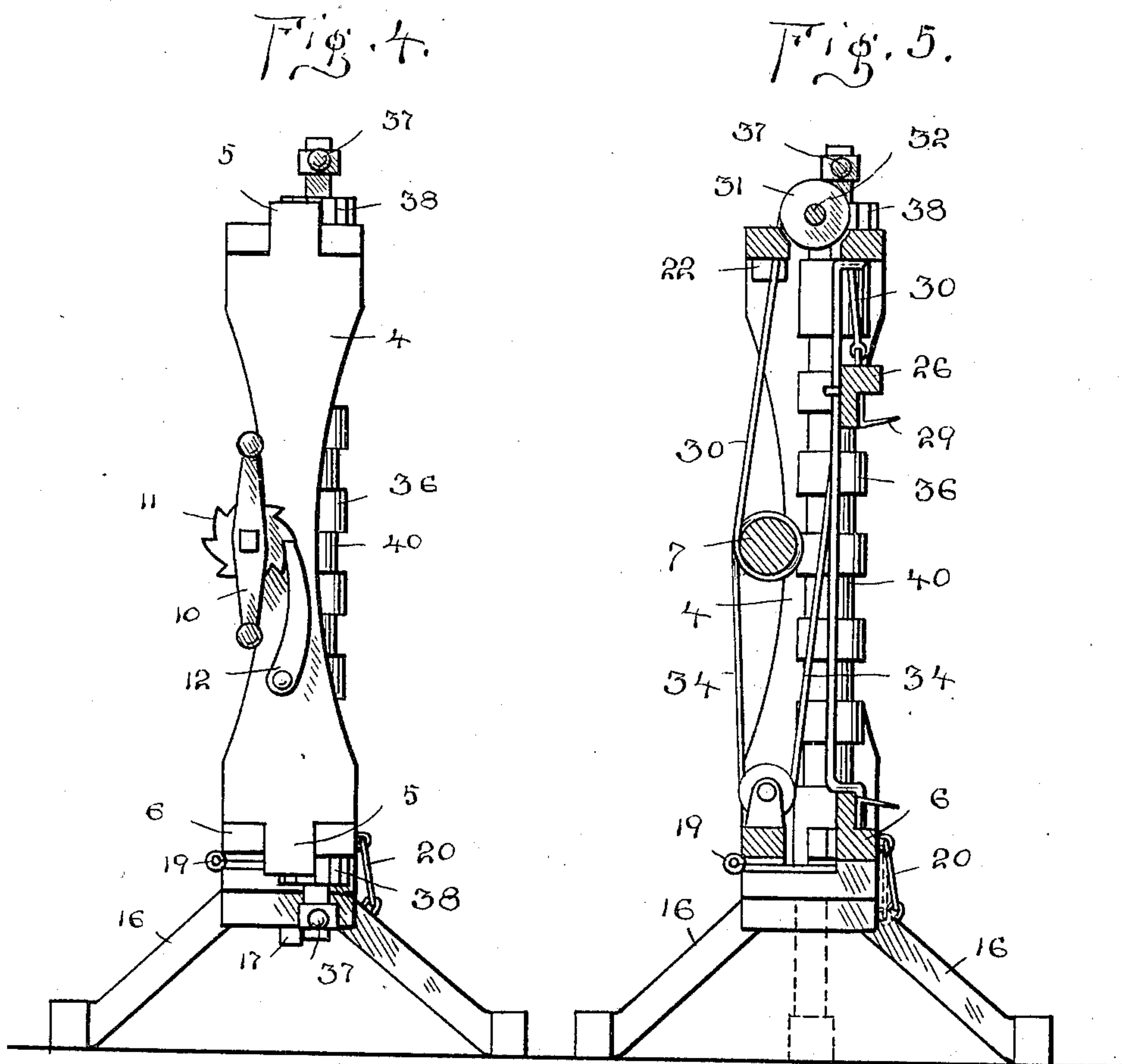
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5 Sheets—Sheet 4.



Witnesses
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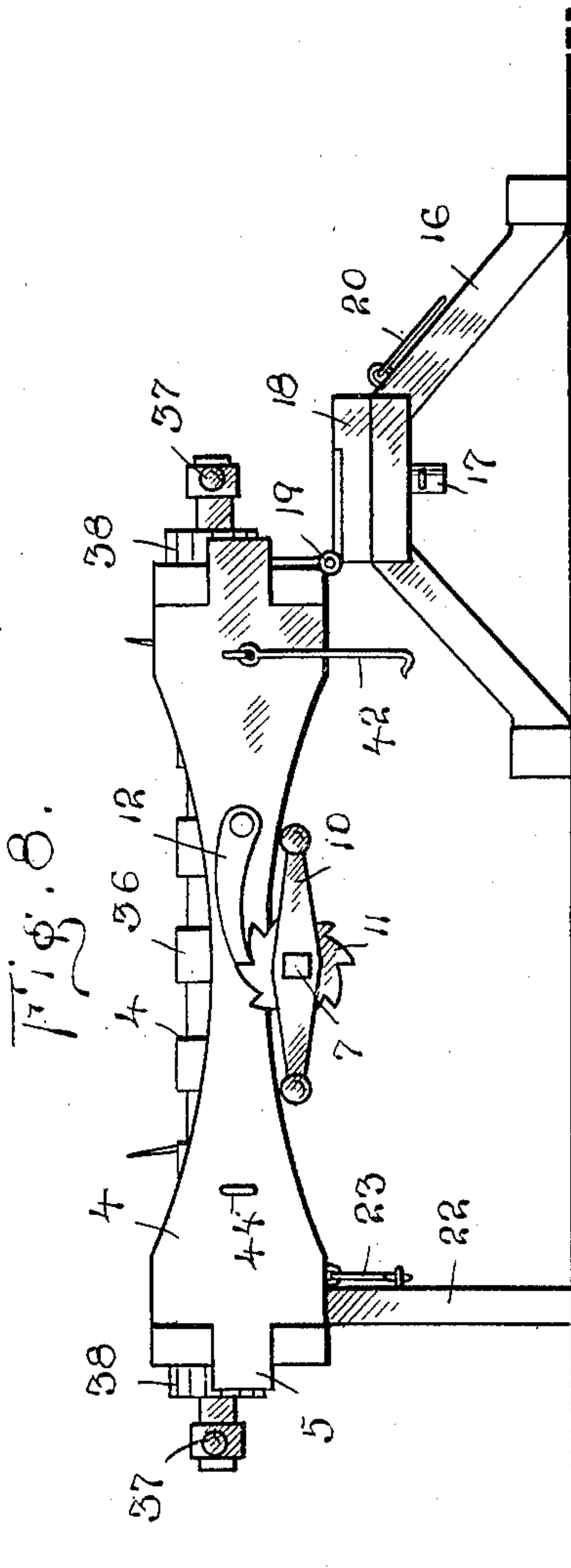
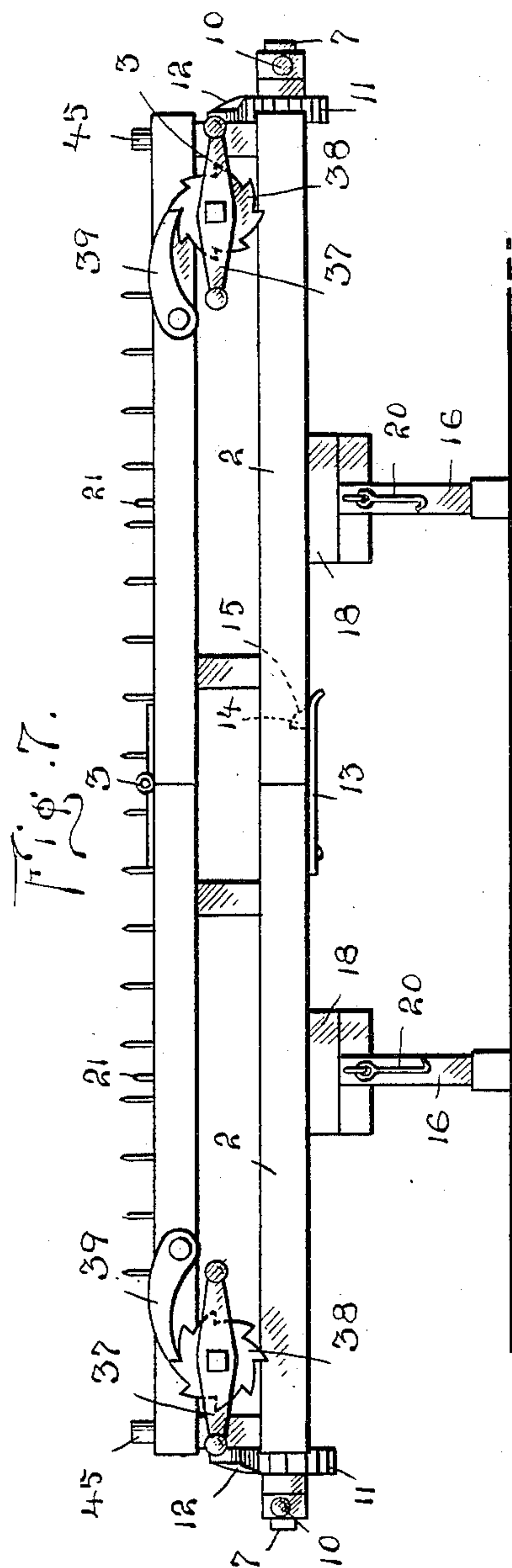
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(No Model.)

5 Sheets—Sheet 5.



Witnesses
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UNITED STATES PATENT OFFICE.

FLORENCE VIOLETTE, OF MINNEAPOLIS, MINNESOTA.

CURTAIN-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 697,695, dated April 15, 1902.

Application filed July 13, 1901. Serial No. 68,236. (No model.)

To all whom it may concern:

Be it known that I, FLORENCE VIOLETTE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented new and useful Improvements in Curtain-Stretchers, of which the following is a specification.

This invention relates to improvements in curtain-stretchers.

10 The object of the present invention is to provide a curtain-stretcher through the medium of which curtains after being washed may be stretched without liability of becoming torn during the operation, and, further-
15 more, the invention contemplates in the provision of a curtain-stretcher such an arrangement and coöperation of parts that the stretcher may be readily folded or collapsed when not in use, so as to occupy but a mini-
20 mum amount of space.

A further object of the present invention is to provide a curtain-stretcher which is so constructed as to adapt the same either for use in a vertical position, or if a horizontal position is deemed preferable to permit the
25 stretcher to be used in such position.

With these general objects in view, and others which will appear as the nature of the improvements is better understood, the invention consists in the novel construction, combination, and arrangement of parts, as will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

30 In the drawings, Figure 1 is a side elevation of a curtain-stretcher constructed in accordance with the present invention, the same being shown as employed in a vertical position. Fig. 2 is a similar view of the stretcher looking at the reverse side thereof. Fig. 3 is a top plan view of the stretcher in the position shown in Figs. 1 and 2. Fig. 4 is an end elevation of the stretcher. Fig. 5 is a vertical transverse sectional view thereof. Fig. 6
45 is a top plan view of the stretcher folded or collapsed. Fig. 7 is a side elevation of the stretcher when employed in a horizontal position. Fig. 8 is an end elevation thereof, the stretcher being in the position shown in
50 Fig. 7; and Fig. 9 is a detail sectional view

illustrating the manner of securing the engaging hooks in their applied positions.

Referring to the drawings, the numeral 1 designates the frame of the herein-described stretcher, which frame is formed of a pair of
55 sections 2, and said sections are connected at their contiguous ends by means of hinges 3, whereby the sections may be folded upon each other in order to collapse the frame.

Each of the sections 2 comprises a pair of
60 transverse bars 4, said bars being provided at each of their ends with an outwardly-extending stud 5, and connected to the bars 4 and mounted upon the studs 5 at each side of the sections 2 is a pair of parallel longi-
65 tudinally-extending bars 6.

Arranged upon each of the sections 2 and extending longitudinally thereof is a winding-shaft 7, said shafts being journaled in suitable bearings 8, carried by the transverse
70 bars 4; but in order that said shafts may be moved simultaneously, so that motion imparted to one will be communicated to the other, a coupling-sleeve 9 is employed, said sleeve being fixedly connected to one of the
75 shafts 7 and provided with a polygonal bore adapted to receive the polygonal end of the other shaft. It will thus be seen that when the sections 2 are open and positioned in the proper relation to each other the sleeve 9 re-
80 ceives the polygonal adjacent end of the other shaft 7, and it is thus obvious that as motion is imparted to one of the shafts 7 the same will be communicated to the other, so that simultaneous rotation of said shafts may be
85 effected. Each of shafts 7 at its outer end is provided with an operating-handle 10, and said shafts are also provided adjacent said handles with ratchet-wheels 11, designed to be engaged by pawls 12, pivotally connected to
90 the outer sides of the transverse bars 4.

When the sections 2 are open, it is necessary to employ suitable means for retaining the same in such position in order that the frame 1 may be maintained in its completed
95 state, and to this end each of the sections 2 is provided with a pivoted catch 13, which catch is provided with nuts 14, adapted to engage and be received by a notch 15, formed in the contiguous end of the other section,
100

and by arranging one of the catches 13 upon each of the sections 2 in lieu of arranging both of said catches upon one of said sections a more effective locking of the sections together is effected.

For effecting the proper support of the frame 1 each of the sections 2 is provided with a pair of oppositely-extending legs 16, each pair of said legs being swiveled, through the medium of a pin 17, to the bottom of a base-plate 18, and each of said plates is hingedly connected, as at 19, to the bottom side of one of the sections 2. Through this hinged connection between the legs and the sections it will be seen that the frame 1 may be either employed in a vertical position or in a horizontal position, as will appear more fully hereinafter. To lock the sections 2, however, upon the legs 16, each pair of the latter is provided with a pair of hooks 20, said hooks being designed to engage a staple or loop 21, carried by the section 2, and it will thus be seen that the legs 16 may be locked in engagement with said sections either when arranged transversely thereof or in longitudinal relation thereto. Should the frame be employed in horizontal position, it is necessary to provide a support for that side thereof which is adjacent to the side whereon the legs 16 are arranged, and to the accomplishment of this end the sections 2 are each provided with a leg 22, said legs being pivotally connected to said sections, so as to permit the same being swung out of the way. When, however, the legs 22 are in use, a brace 23 is employed for preventing the same swinging upon their pivots, said braces 23 being suitably connected to the sections 2 and provided with hooks 24, designed to engage staples 25, carried by the legs 22.

To effect stretching of the curtain in a direction transversely of the sections 2, a longitudinally-extending sectional slide-bar 26, mounted upon supporting-rods 26', is arranged upon the sections 2, the sections of said bar being hinged together, as at 27, so that said bar may readily fold when the sections are folded together. The bar 26 carries a series of engaging hooks 28, said hooks being arranged in pairs and preferably formed of stout wire. Each bar, however, constitutes a staple 29, the body portion of which is fixedly connected to the bar 26, while their extremities are bent at substantially right angles to the body portions in order to provide an engaging point. A series of the engaging hooks 28 is arranged at the side of the sections 2 opposite to that from which the bar 26 is operated, said hooks being thereby maintained in stationary position, so that the stretching of the curtain will be effected by the bar 26, and in order that the latter may be properly operated a pair of cords 30 is arranged at the ends of each section thereof, said cords passing over pulleys 31, carried by shafts 32, journaled in suitable bearings 33,

carried by the side bars 6 at one side of the sections 2. The ends of the cords 30 are suitably connected to the sections of the slide-bar 26, while the other ends of said cords are connected to the operating-shafts 7. The cords 30 are employed for moving the sections of the bar 26 away from the stationary engaging hooks 28; but in order that said bar may be moved toward said stationary hooks by the operation of the shafts 7 the sections of the bar 26 are also provided with cords 34, one of said cords being employed for each section and being connected thereto at a point between the points of connection of the cords 30 therewith. The cords 34 pass over pulleys 35, journaled at the sides of the sections 2 opposite to that whereon the shafts 31 are journaled, and said cords are connected to the shafts 7 at a point intermediate the points of connection of the cords 30 therewith. It will thus be seen that as the shafts are moved in one direction the bar 26 is moved away from the stationary engaging hooks 28; but immediately upon rotation of the shafts 7 being reversed the movement of the bar 26 is also reversed, so that the latter will move toward the stationary engaging hooks.

As before premised, the bar 26 is employed for effecting stretching of the curtain transversely of the sections 2; but it is necessary that a longitudinal stretching should be had, and for this purpose a transversely-extending shaft 36 is journaled at the outer end of each of the sections 2, said shafts being provided at their outer ends with operating-handles 37 and also having ratchet-wheels 38, with which the pivot-pawls 39, carried by the sides of the sections 2, are adapted to engage for locking the shafts against rotation. The shafts 36 are provided with a series of annular grooves 40, and connected to said shafts 36 within the grooves 40 is a series of straps 41, having at their ends a series of engaging hooks 42. The hooks 42 are designed to engage the ends of the curtain, and when so engaged and rotation is imparted to the shafts 36 it will be seen that the latter will wind thereon the straps 41 in order to stretch the curtain in a longitudinal direction.

To lock the sections 2 together when folded upon each other, a hook 43 is carried by each of said sections at its outer end, each of said hooks engaging staples 44, arranged upon the other section, and through the medium of these hooks and staples it will be seen that the sections 2 are prevented opening when folded. To prevent contact of the ends of the sections 2 when folded, a buffer 45 is carried by each of said sections and adapted to contact with the other section.

With the parts assembled in the manner illustrated and described it will be seen that the sections 2 may be locked into engagement with the legs 16 when open through the medium of the hooks 20, the legs being of course positioned transversely of the sec-

tions to properly support the latter. The curtains are of course previously placed upon the sections 2, said curtains being engaged by the hooks 28, and after being so engaged
 5 the bar 26 is moved away from the stationary hooks 28 by the operation of the shafts 7, as previously explained. The curtain is thereby stretched in a transverse manner, and when
 10 this has been effected the longitudinal stretching is accomplished through the medium of the shafts 36 and the straps 41. Any number of curtains may be arranged upon the frame, and the same are effectually stretched without liability of wrinkling or becoming torn during
 15 the stretching operation. Should it be desired to place the stretcher in the open air, this may be readily done by employing in connection with this stretcher suitable guy-ropes for preventing overturning of the stretcher.
 20 Should it be desired to employ the frame 1 in a horizontal position, the legs 25 are swung down and the frame is unlocked from engagement with the legs 16 and swung to a horizontal position. This position is sometimes preferable to the vertical position, and it will thus
 25 be seen that the herein-described stretcher provides means for employing the same in either the vertical or horizontal position.

While the form of the invention herein
 30 shown and described is what is believed to be a preferable embodiment thereof, it will be understood that various changes in the form, proportion, and minor details of construction may be resorted to, and the right
 35 is therefore reserved to modify or vary the construction of the invention as falls within the spirit and scope thereof.

Having thus fully described my invention, what I claim as new, and desire to secure by
 40 Letters Patent, is—

1. In a curtain-stretcher, the combination with a sectional frame; of means for locking the sections together; a central sectional roller on the frame; stationary engaging hooks carried by the sections of the frame; a slide-bar
 45 arranged upon said sections; engaging hooks carried by said slide-bar; shafts journaled on the sides of the frame; a flexible strip connected to the slide-bar and central roller and
 50 passing over the rollers of the frame whereby movement of the slide is effected; and means for effecting longitudinal stretching of the curtain.

2. In a curtain-stretcher, the combination
 55 with a sectional frame provided with means

for engaging a curtain; of a sectional slide-bar carried by said frame and provided with means for engaging the curtain, a central longitudinal sectional shaft, means connecting the slide and roller whereby transverse
 60 stretching of the curtain is effected; shafts carried by said sections and arranged transversely thereof; and straps carried by said shaft for engaging the curtain to effect longitudinal stretching thereof.

3. In a curtain-stretcher, the combination with a sectional frame provided with means for engaging a curtain; of a sectional slide-bar carried thereby and also provided with
 70 means for engaging the curtain; shafts extending longitudinally of said sections; connections between said shafts and the slide-bar for operating the latter; and means for coupling said shafts together for simultaneously operating the same.

4. In a curtain-stretcher, the combination with a sectional frame provided with means for engaging the curtain; of a sectional slide-bar carried thereby and also provided with
 80 means for engaging the curtain; shafts arranged upon said sections and extending longitudinally thereof; a coupling-sleeve carried by one of said shafts and adapted to receive the other whereby said shafts are simultaneously operated; suitable connections
 85 between the slide-bar and said shafts for operating the former; and transversely-arranged shafts carried by the sections and provided with means for engaging the curtain to effect longitudinal stretching thereof.

5. In a curtain-stretcher, the combination with a sectional frame provided with means for engaging a curtain; of a slide-bar carried by said frame; and also provided with
 90 means for engaging the curtain; means for locking the sections of the frame together; shafts carried by said sections and extending longitudinally thereof; means for coupling said shafts together to effect simultaneous
 100 operation of the same; transversely-arranged shafts also carried by the sections; and straps carried by said shafts and provided with means for engaging the curtains to effect longitudinal stretching thereof.

In testimony whereof I affix my signature
 105 in presence of two witnesses.

FLORENCE VIOLETTE.

Witnesses:

F. L. PALMER,

C. I. NEWHOUSE.