

No. 741,438.

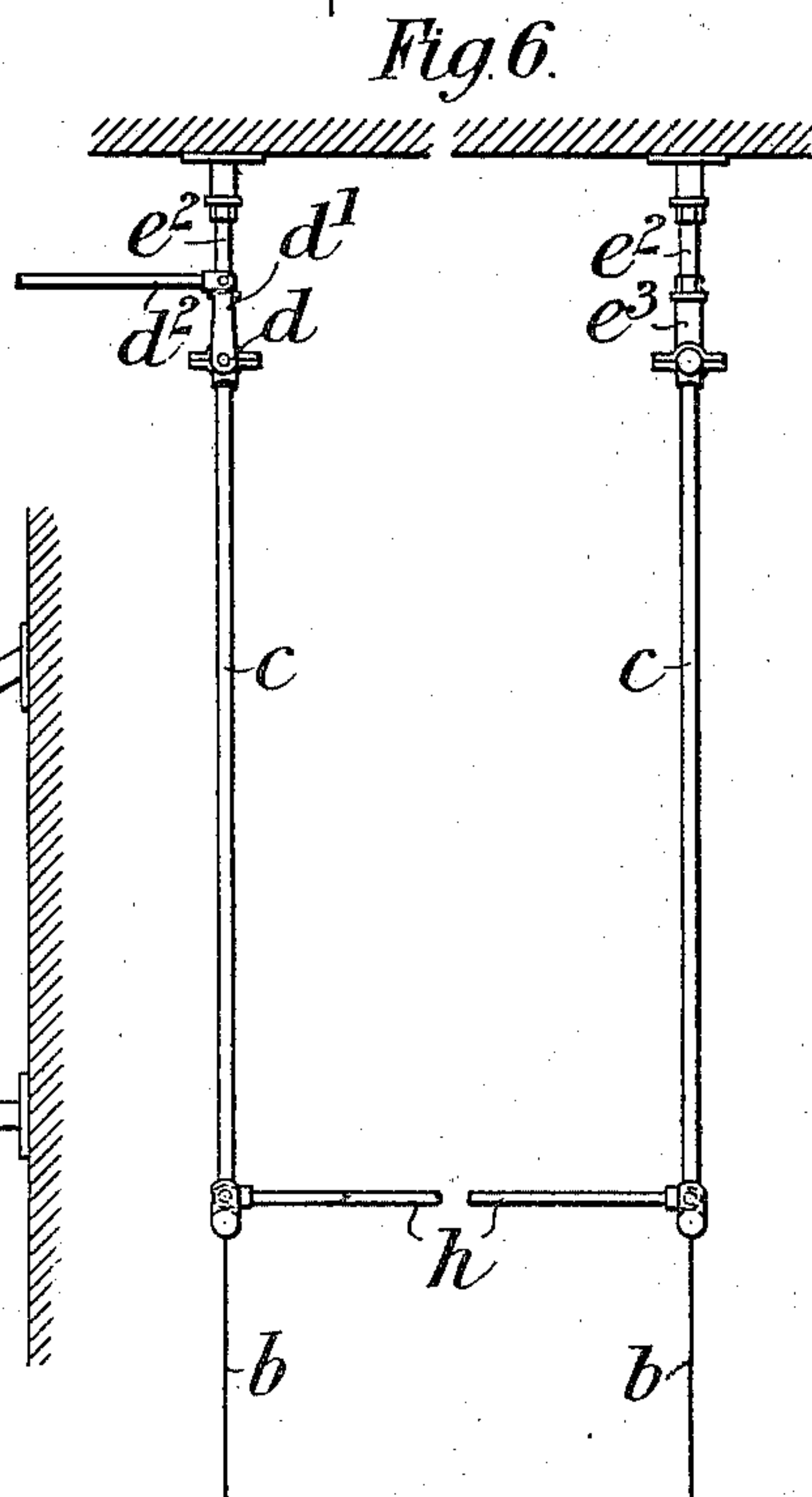
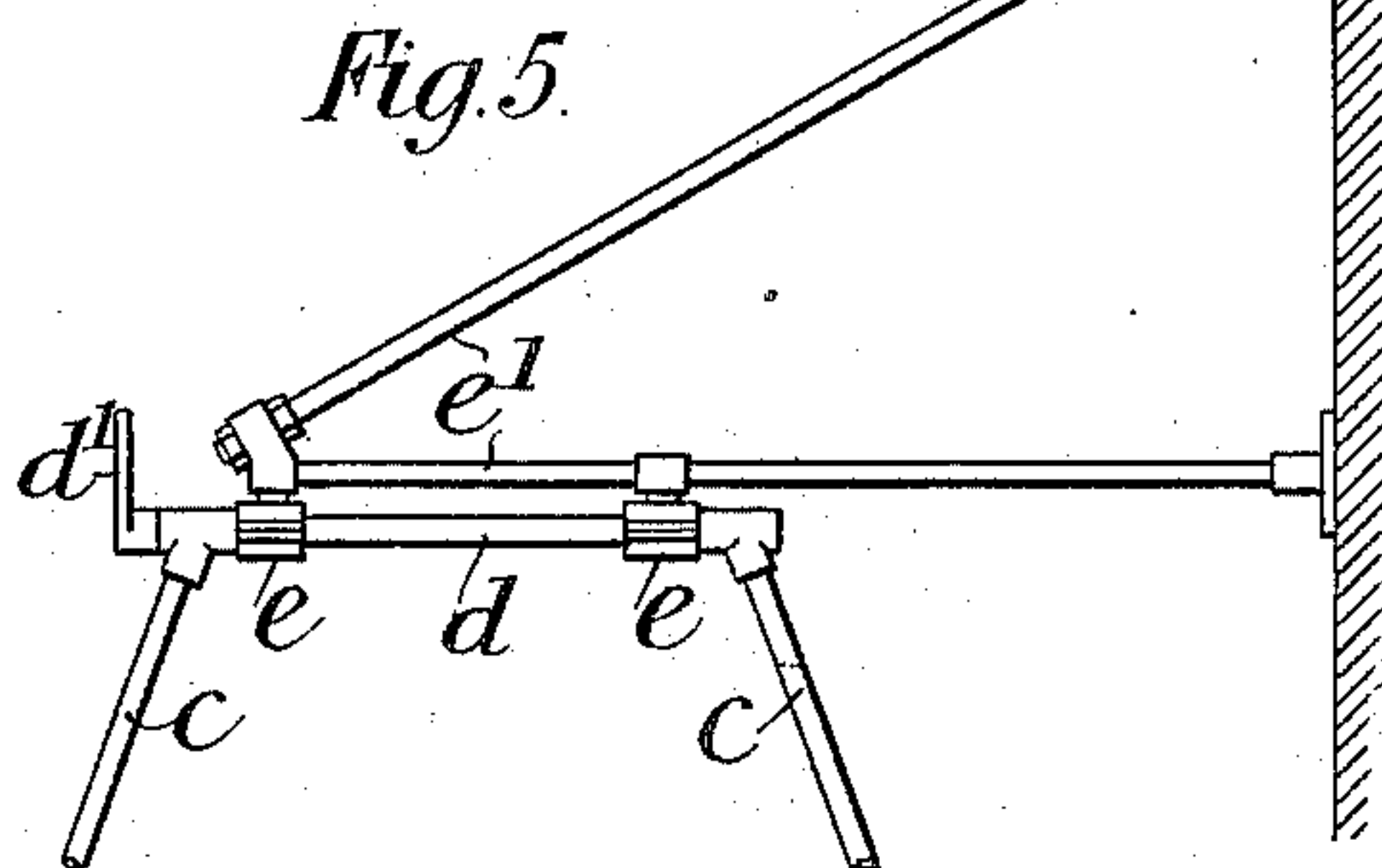
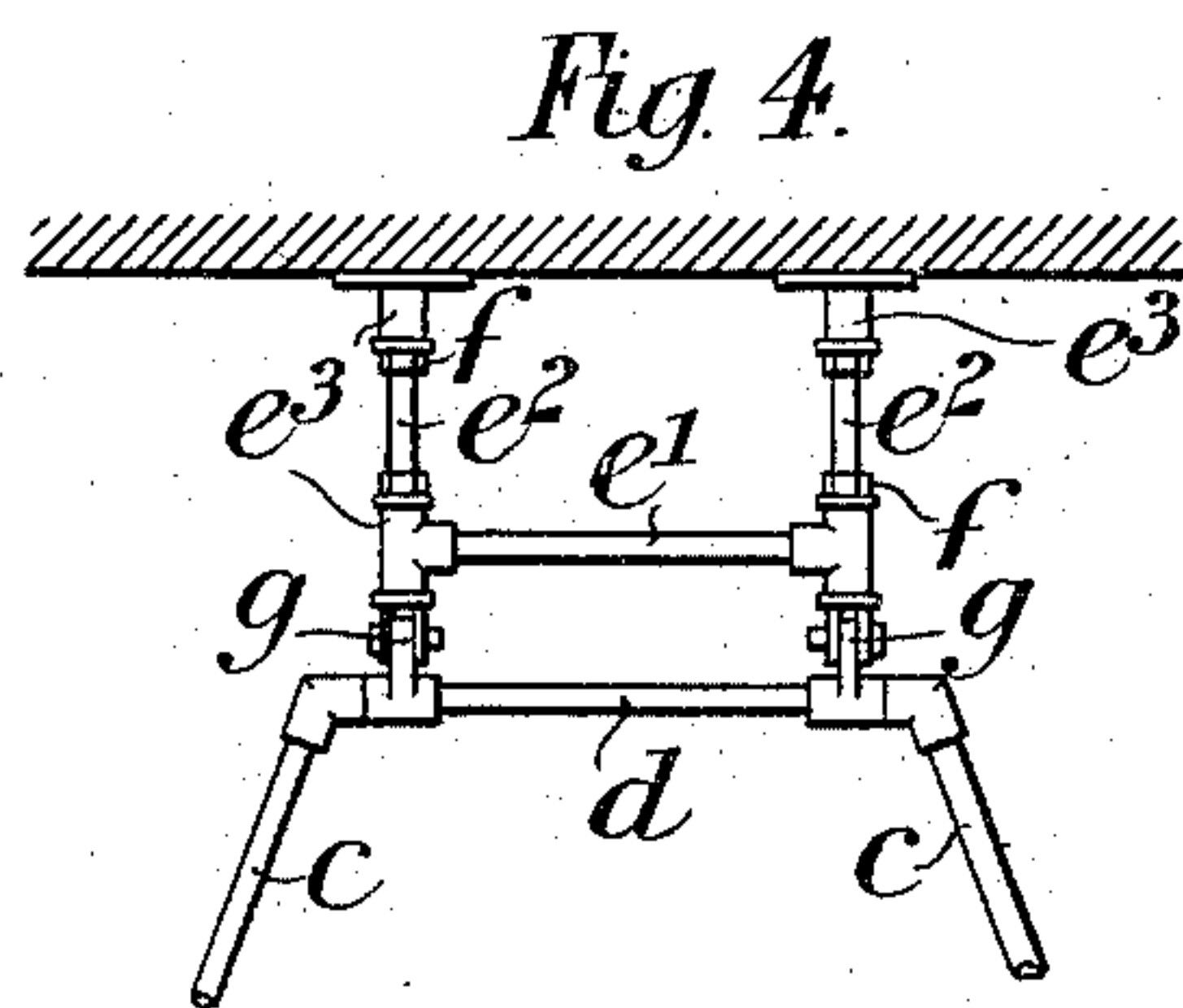
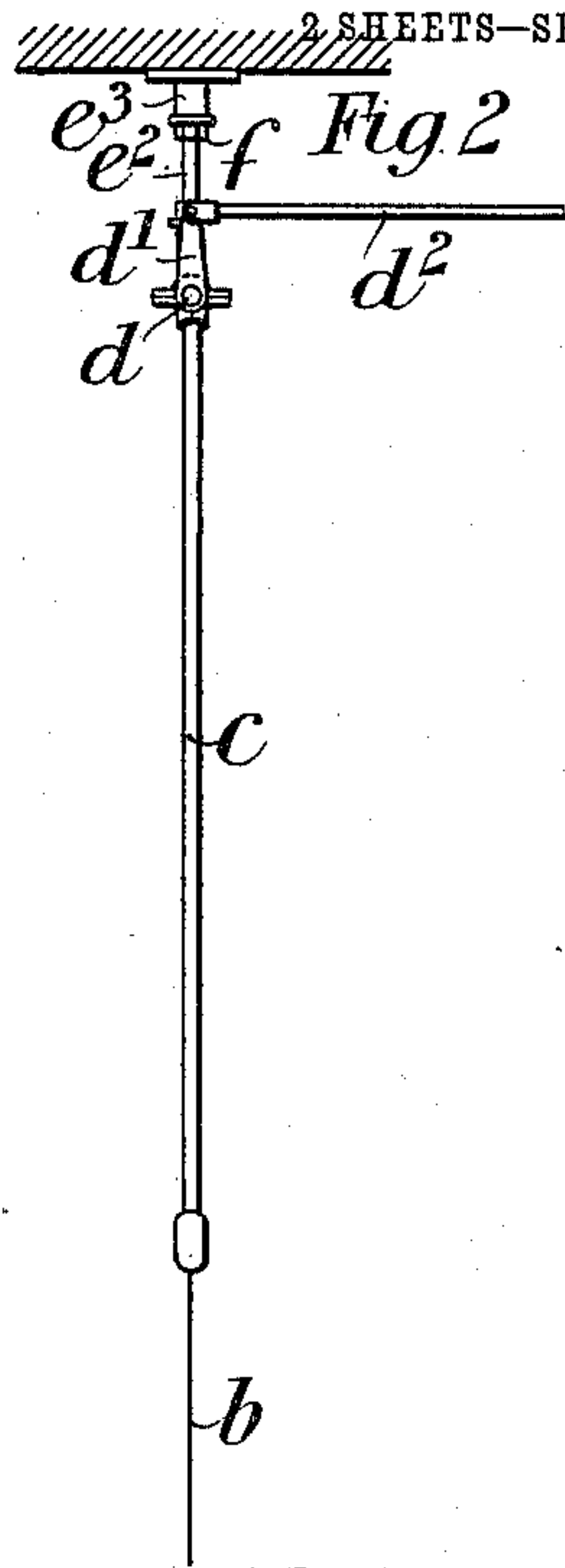
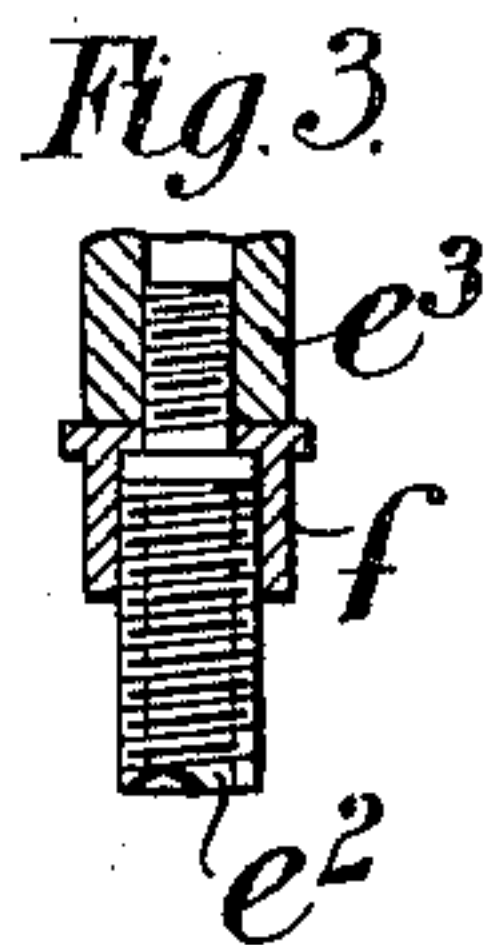
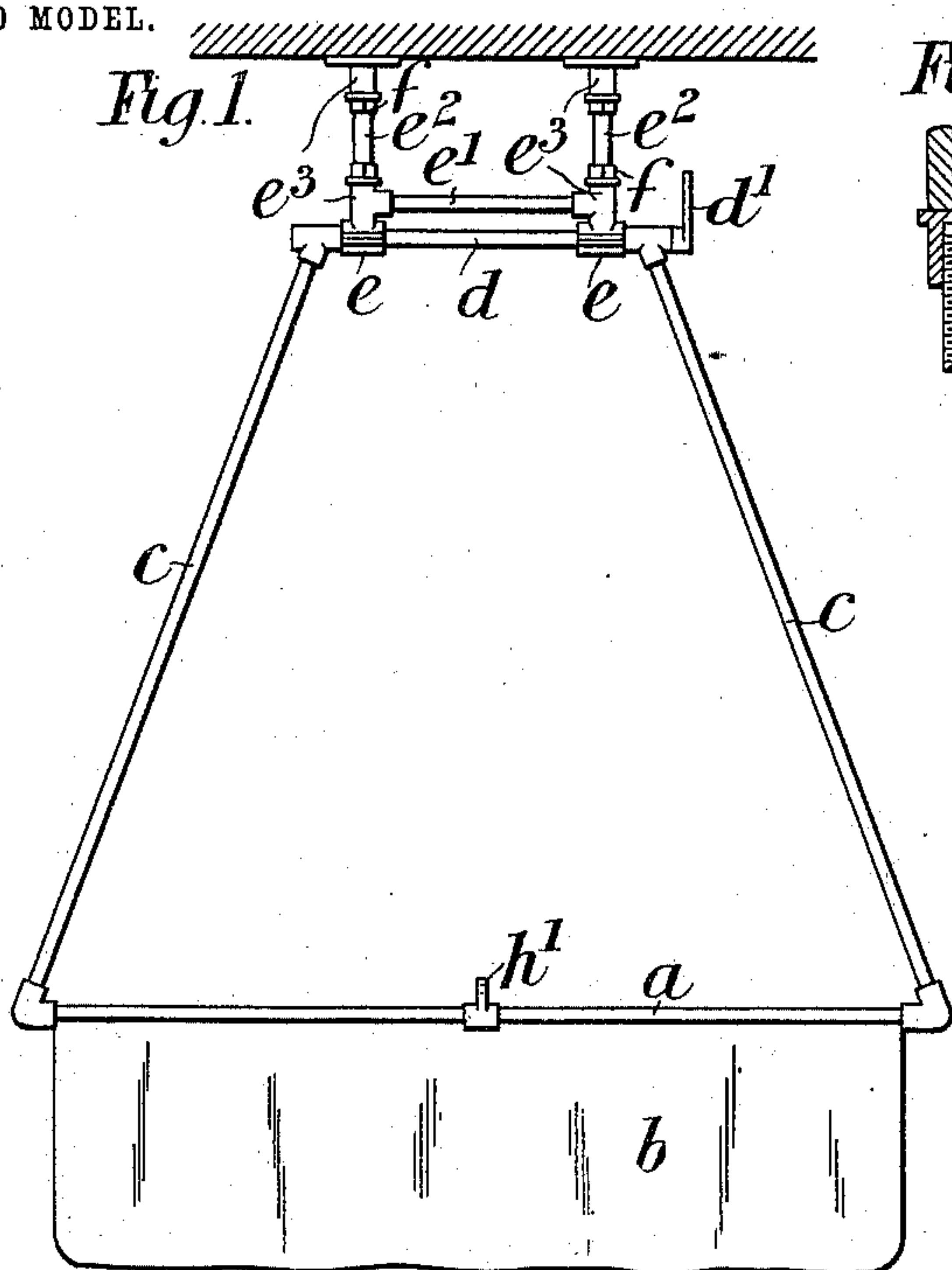
PATENTED OCT. 13, 1903.

S. R. BAILDON.
PUNKA.

APPLICATION FILED AUG. 23, 1901.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
John E. Dousfield.
C. J. Keefe

Inventor.
S. R. Baidon.

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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 7.

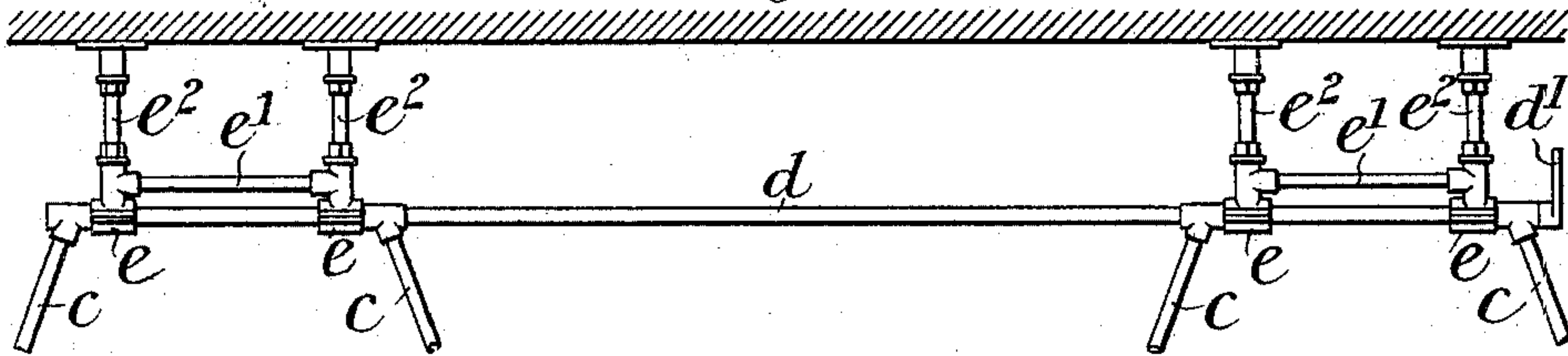


Fig. 8.

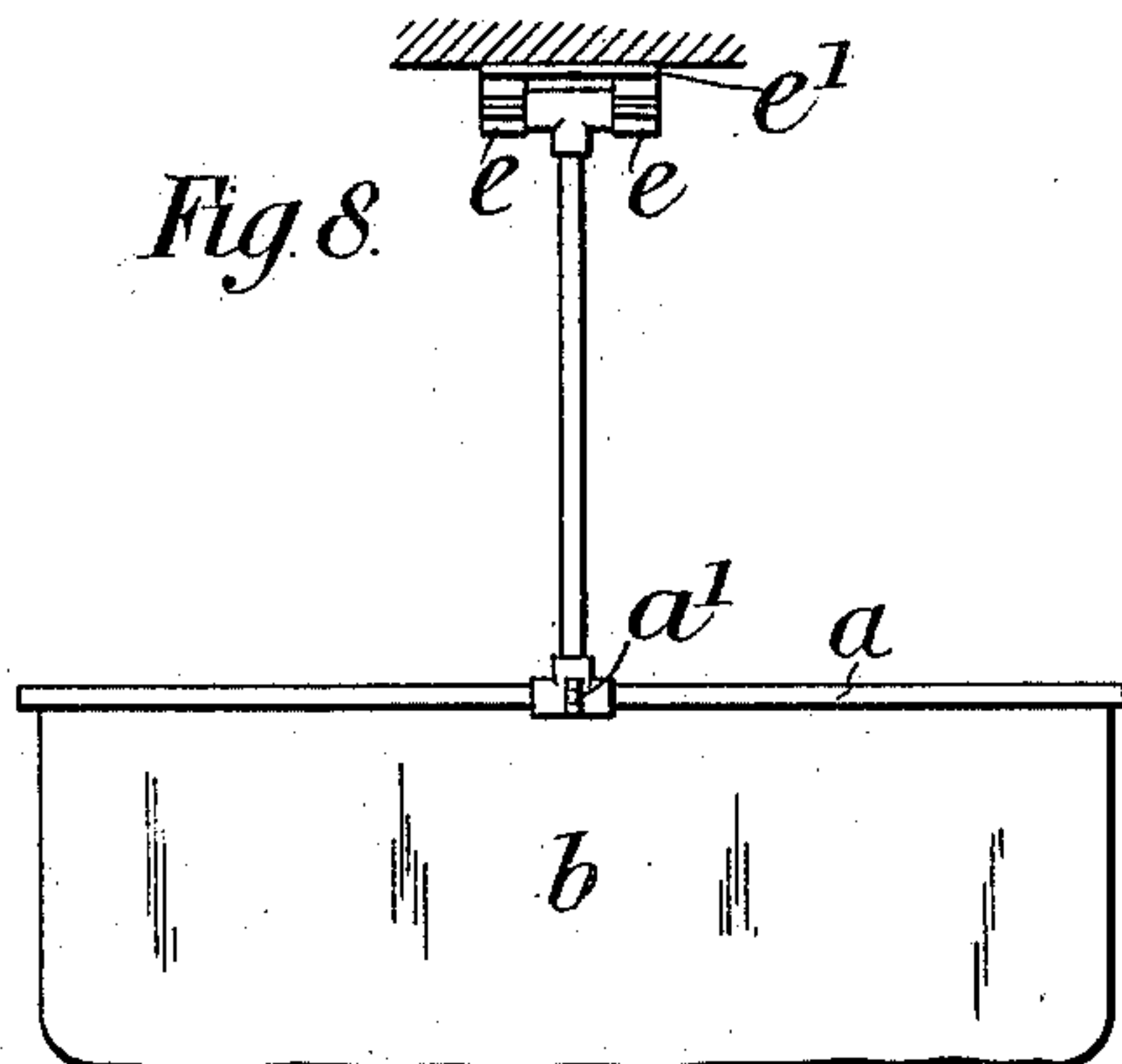


Fig. 9.

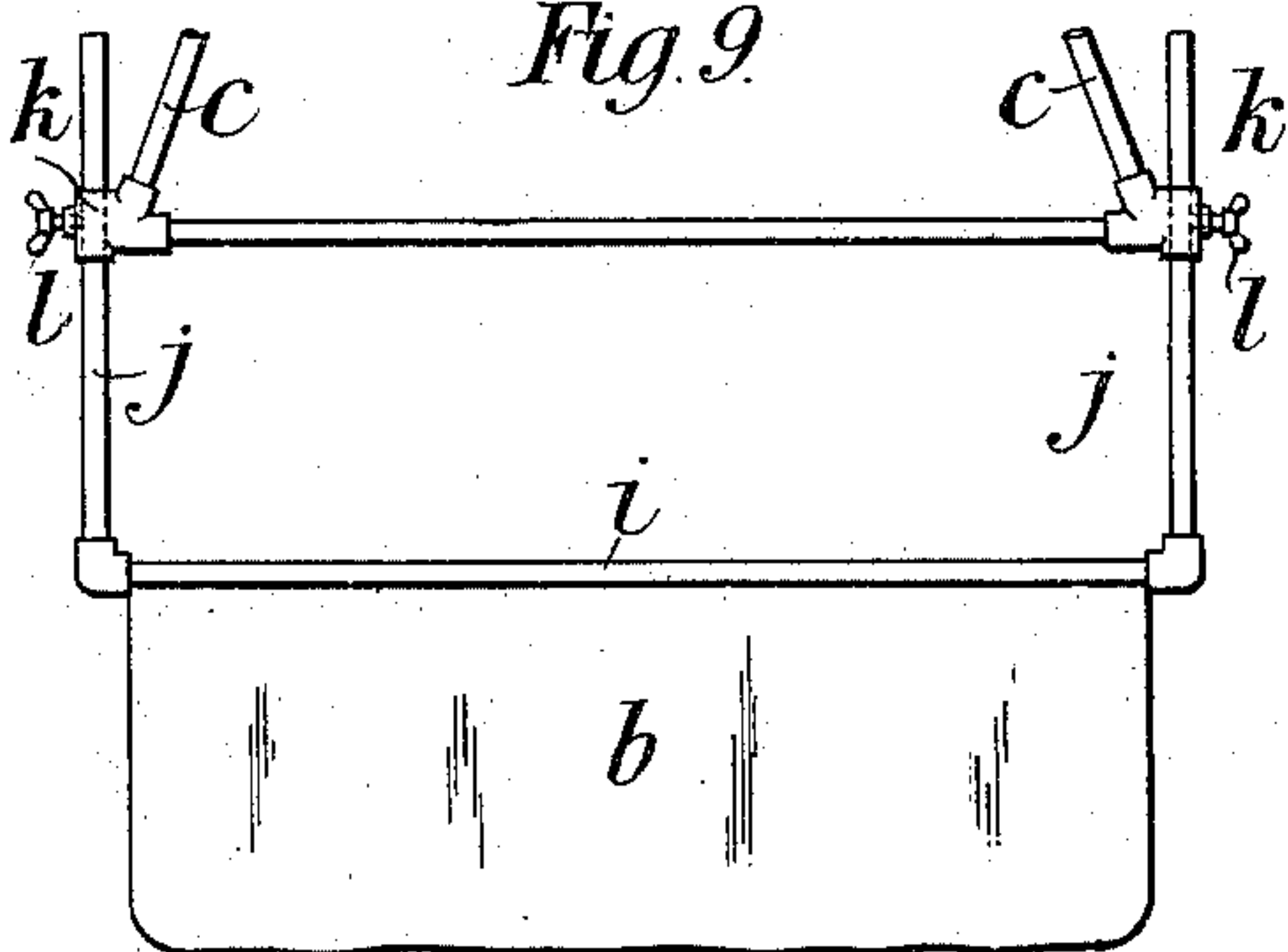


Fig. 10.

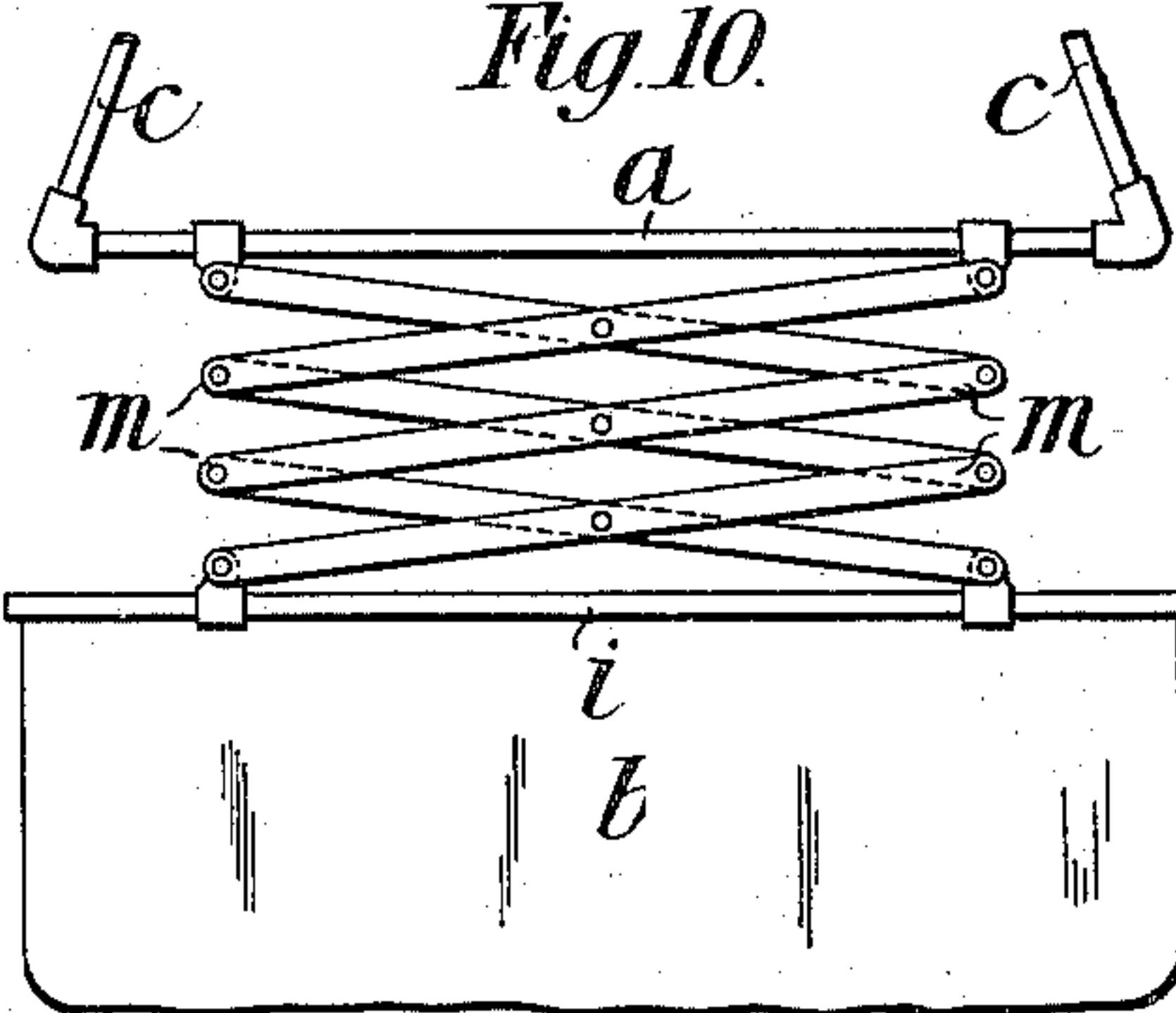
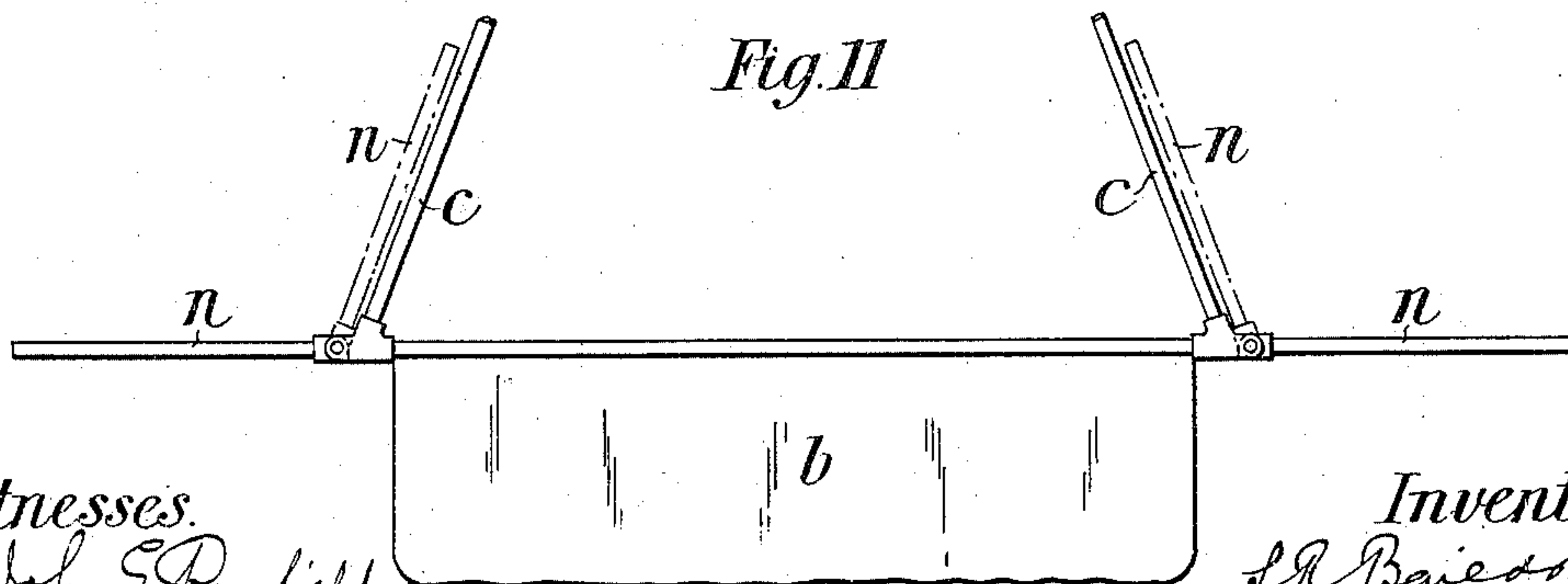


Fig. 11.



Witnesses.

John E. Dousfield.
Ch. Redfern

Inventor.

S. R. Baidon.

UNITED STATES PATENT OFFICE.

SAMUEL ROBERT BAILDON, OF LONDON, ENGLAND.

PUNKA.

SPECIFICATION forming part of Letters Patent No. 741,438, dated October 13, 1903.

Application filed August 23, 1901. Serial No. 73,008. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL ROBERT BAILDON, a subject of the King of Great Britain, residing at 66 Fenchurch street, London, England, have invented new and useful Improvements in and Connected with Punks, of which the following is a specification.

This invention relates to improvements in and connected with punkas.

10 A punka as ordinarily made consists of a heavy beam provided at its lower end with a cloth or fan and suspended by ropes or loosely-jointed rods to the ceiling of the room in which it is fitted, the said beam being reciprocated
15 by a rope from one side only, so that it receives a positive motion in one direction only. Such punkas are usually operated by manual power, and although many attempts have been made to drive them by mechanical means
20 none of these attempts have proved entirely successful in practice.

The fundamental difficulties met with in driving punkas as ordinarily used by mechanical means consists, mainly, in the unsuitability of flexible or non-rigid connections with the
25 point of suspension and the absence of necessary bearings through which the punka receives a positive motion in one direction only and the fact that a fixed throw being given to
30 the punka-beam causes variation in the arc through which the punka travels, according to the length of suspension from the ceiling.

Now my invention has for its object to obviate the above-mentioned disadvantages,
35 and to this end I provide a punka so arranged that although a fixed throw is imparted to it, yet its distance from the ceiling or the like to which it is suspended can be varied to suit requirements without altering
40 its lift.

In the accompanying drawings, Figure 1 is a front elevation of a punka constructed according to the invention. Fig. 2 is a side elevation thereof. Fig. 3 is a sectional view of
45 a detail drawn to a larger scale. Fig. 4 is a front elevation showing a modified arrangement for hinging the punka to the support. Fig. 5 is a front elevation showing a method of suspending the punka to a wall-bracket.
50 Fig. 6 is a side elevation showing the mode of connecting two punkas together tandem fashion. Fig. 7 is a front elevation showing

two punkas coupled together in the same plane. Fig. 8 is a front elevation showing a modified construction of supporting-frame. 55
Fig. 9 is a front elevation showing a telescopic punka-frame. Fig. 10 is a similar view showing a modified arrangement for extending the punka-frame, and Fig. 11 is a front elevation showing the lower portion of a punka- 60
frame provided with lateral extensions.

The punka comprises a light rigid framework, which is preferably made of metal tubing, as shown, although it may be made of angle or flat metal, the said frame comprising the bottom piece or rod *a*, upon which
65 the curtain or fan *b* can be hung, and two side pieces *c c*, which may be either parallel to one another or may converge toward one another, as shown in Fig. 1, the said side bars
70 *c c* being secured at their upper ends to the spindle *d*. This spindle is mounted in bearings *e e* in the lower end of a hanger or bracket *e'*, adapted to be secured to the ceiling, as shown in Figs. 1, 2, 6, and 7, or to a
75 wall, as shown in Fig. 5. The spindle *d* has keyed upon it a crank *d'*, which is adapted to be reciprocated by the rod *d''*, Fig. 2, actuated by any suitable means, such as a gas-engine, an electromotor, or the like. 80

To enable the punka to give a uniform travel from a given crank throw in rooms of different height, the hanger or bracket *e'* is made in such a manner that its length can be varied. For example, it can be constructed
85 with removable sections *e² e²*, so that by using sections of different lengths the distance from the punka to the hanger to which it is suspended can be varied as desired, the point of suspension of the punka-frame *c*, however, always remaining at the same distance
90 from the suspension-spindle *d*, so that the throw remains constant. Fig. 3 shows a suitable joint for securing the sections or lengths *e² e²* to the extremities *e³ e³* of the support. 95
It comprises a nut *f*, which is pivotally held in the extremity *e³* and which is internally screw-threaded, so as to engage the screw-threaded end of the length *e²*. It will be clear, however, that I can use any other suitable 100
form of connection.

In the arrangement shown in Fig. 4 the spindle *d*, connecting the upper ends of the side bars *c c* of the punka-frame, instead of

being mounted in bearings *ee*, as in the arrangement shown in Figs. 1 and 2, is suspended to the lower extremities of the bracket *e'* by means of knuckle-joints *gg*.

5 It will be clear that when a number of punkas are required in a single room it is not necessary to operate each punka independently, as the said punkas can be coupled together by suitable means. In the arrangement shown in Fig. 6 two punkas of
10 the aforementioned construction are suspended parallel to one another and are coupled together by means of the rod *h*, which is forked at either end, the two forks being piv-
15 oted to lugs *h'*, Fig. 1, fitted to the bottom bar *a* of the punka-frame, or I may couple up the punkas in the same longitudinal plane, and in this case the punka-frames *c* are sus-
20 pended upon the common spindle *d*, as clearly shown in Fig. 7.

When a very light punka is required, I advantageously form the framework *c* in the form of an inverted T, as shown in Fig. 8, the vertical limb of which is provided with
25 lateral pivots, which are mounted in bearings *ee* in the ceiling-bracket *e'*. *a'* is a lug on the lower bar *a*, to which a rod can be connected for reciprocating the punka. This form is especially suitable for use on railway-
30 cars, ship-cabins, and like places.

It is sometimes required to adjust the position of the cloth or fan *b*, and to this end I make use of the construction shown in Fig. 9. The said cloth or fan *b* is mounted upon a rod
35 *i*, having at its two extremities upright rods *j*, which work in sockets *kk*, formed upon the ends of the bottom bar *a* of the punka-frame. By sliding the rods *j* in the sockets the position of the cloth *b* can be adjusted,
40 and it can be held in the position to which it is adjusted by means of the set-screws *ll*, which work in screw-threaded holes in the sockets *kk* and clamp the rods *j*, or I may employ the construction shown in Fig. 10,
45 wherein the punka-cloth *b* is held on a rod

i, which is connected to the bottom bar *a* of the punka-frame by means of the "lazy-tongs" links *mm*. In this case it may happen that the lazy-tongs do not give the re-
50 quired rigidity to the punka as a whole when extended, and I can therefore employ in conjunction with the said lazy-tongs lateral rods *jj*, working in sockets *kk*, as shown in Fig. 9.

To enable the length or width of the punka to be increased when desired, I pivot ex-
55 tra lengths or rods *nn* to the extremities of the bottom bar *a* of the frame, as shown in Fig. 11, the said bars being when not required for use folded up against the side bars *cc* of the frame, as shown in the broken lines of
60 the figure, and turned down in alinement with the base *a* of the frame when required for use, as shown in the full lines. Extra lengths of cloth *b* can then be mounted upon
65 these rods *n*.

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—

1. In a punka, the combination with the
70 swinging frame, of supporting-bearings therefor, ceiling-supports, nuts provided with external threaded projections engaging said ceiling-supports and provided with internally-
75 threaded portions and rods detachably engaging the internally-threaded portions of said nuts and connecting the bearings to said ceiling-supports, and the swinging frame mounted in said bearings, substantially as
80 described.

2. In a punka, the combination with the supporting devices, of a swinging fan-frame, the said fan-frame being provided with pivoted arms for increasing the area of the fan, substantially as described.

SAMUEL ROBERT BAILDON.

Witnesses:

JOHN E. BOUSFIELD,
C. G. REDFERN.