

(No Model.)

W. J. HUMPHREYS.
CONSTRUCTION OF LEGGED ARTICLES.

No. 467,811.

Patented Jan. 26, 1892.

Fig. 1.

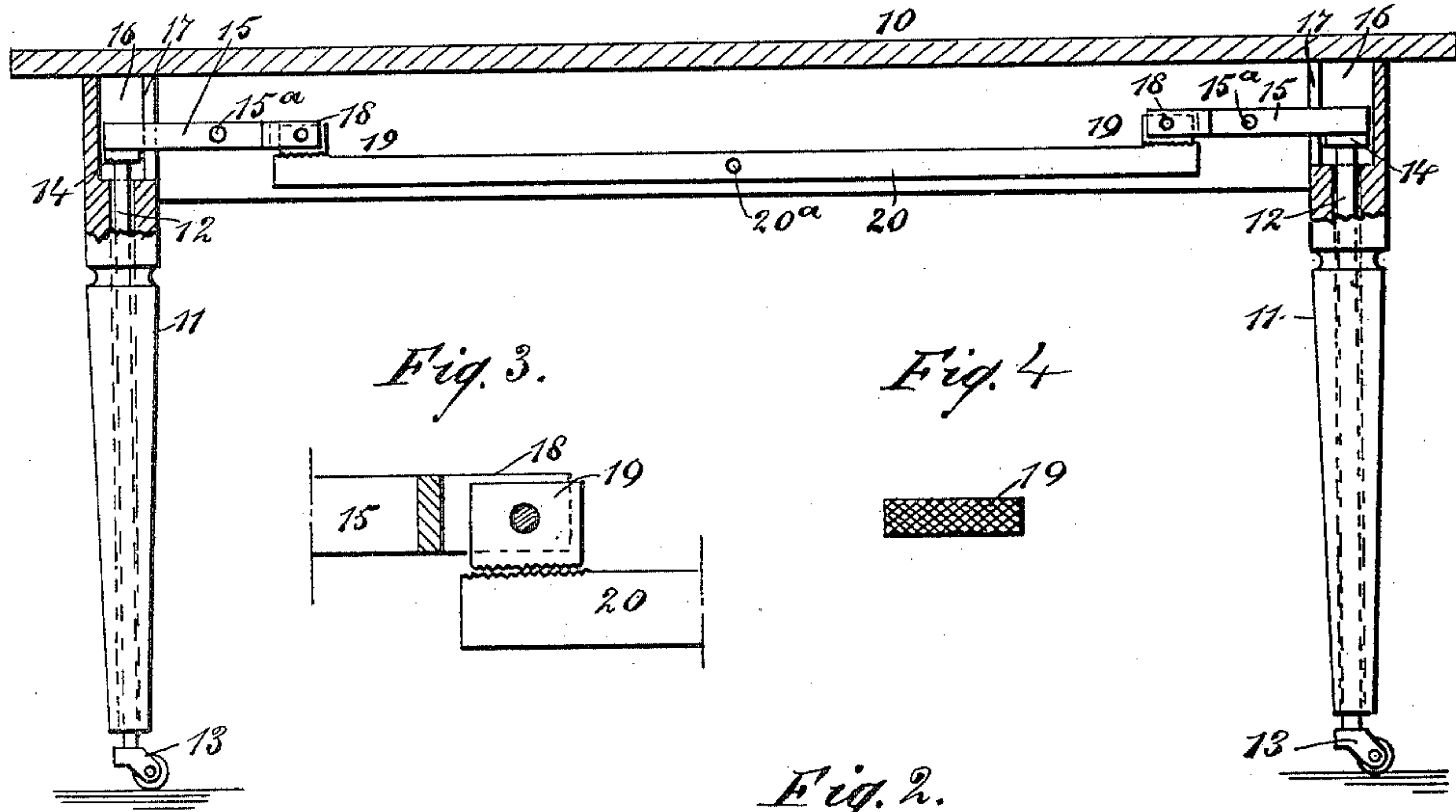


Fig. 3.

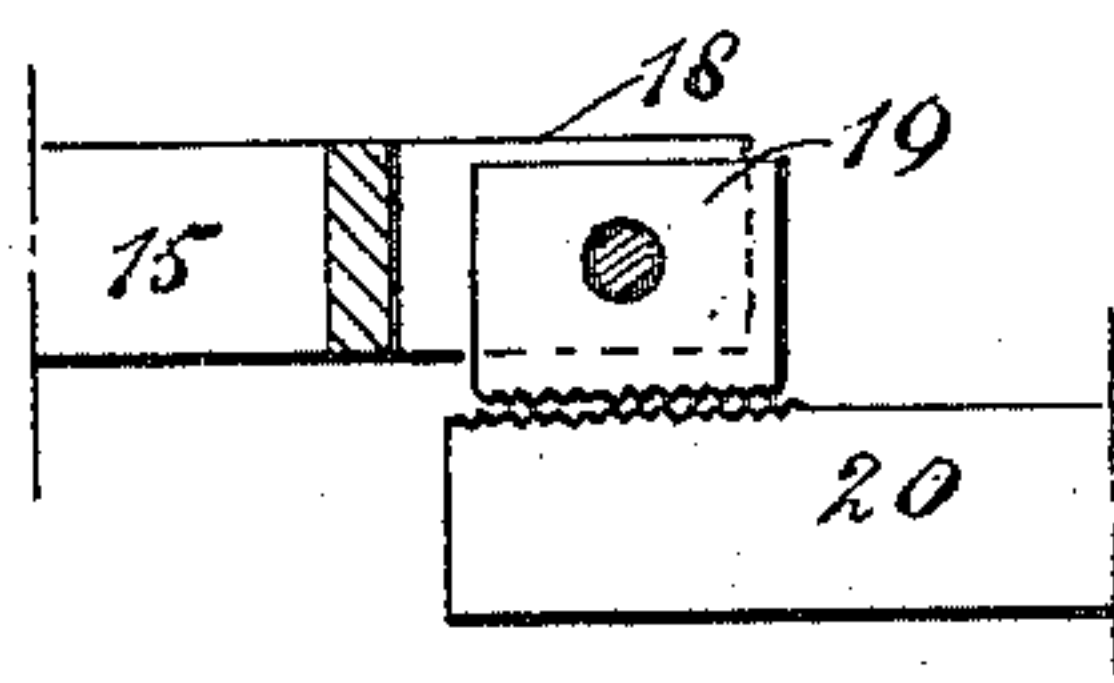


Fig. 4.



Fig. 2.

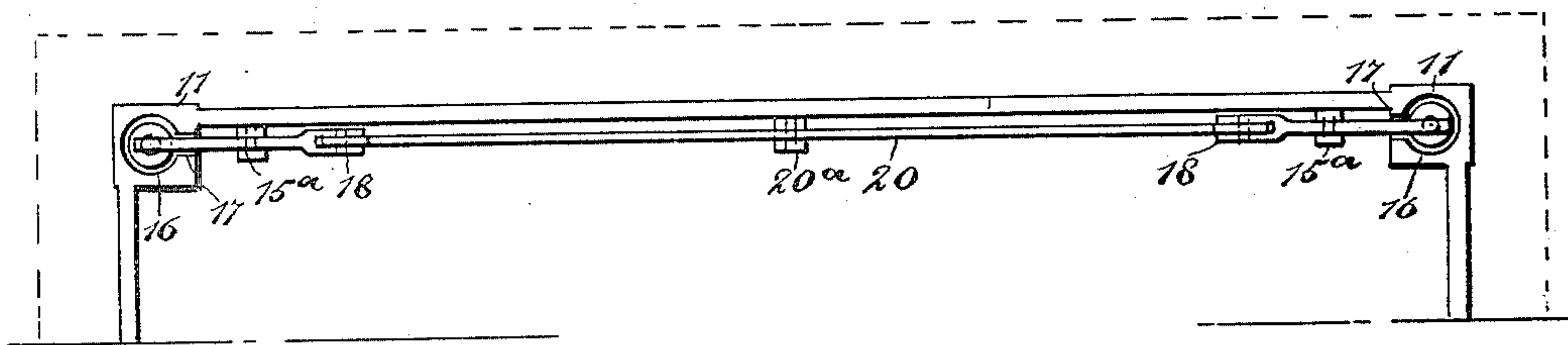


Fig. 5.

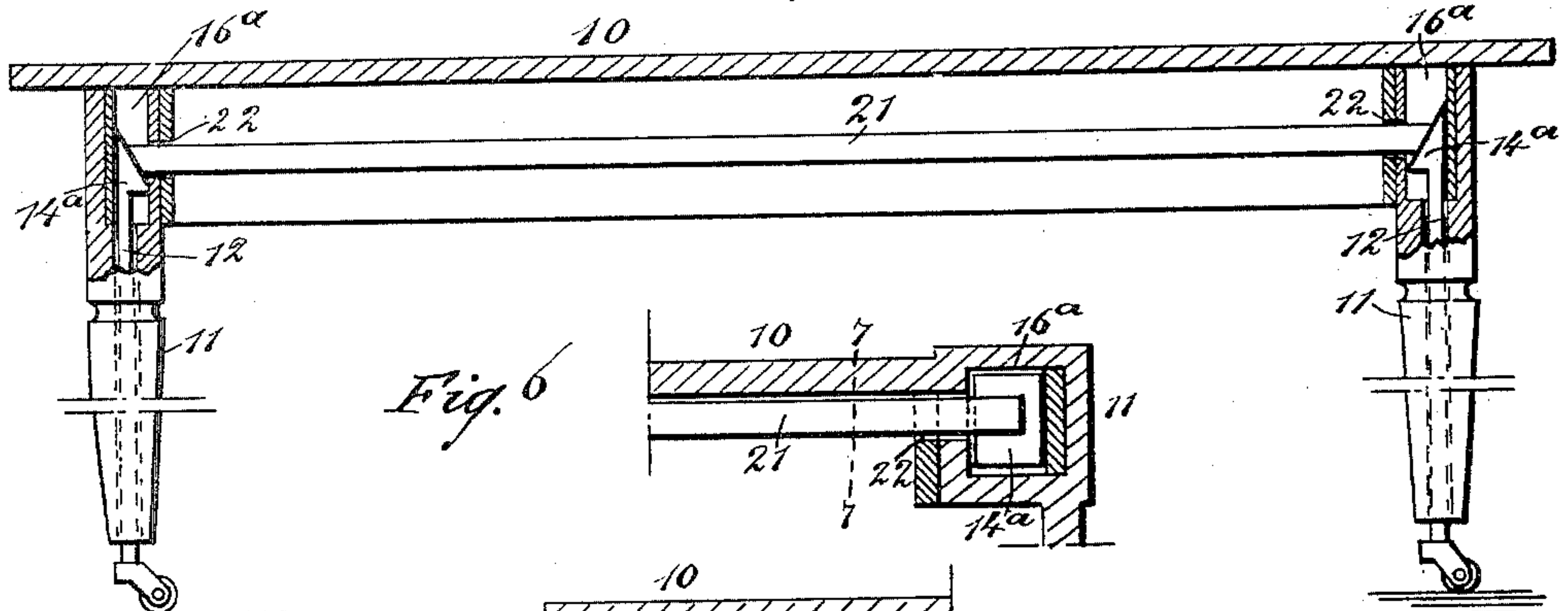


Fig. 6.

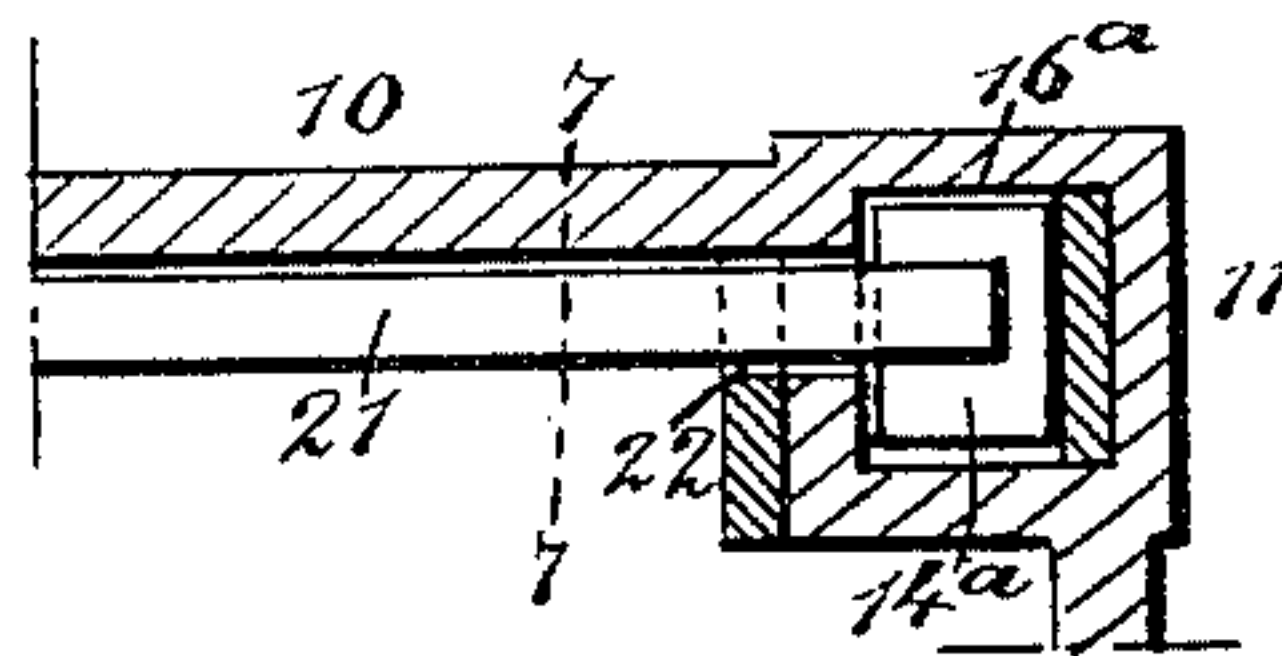
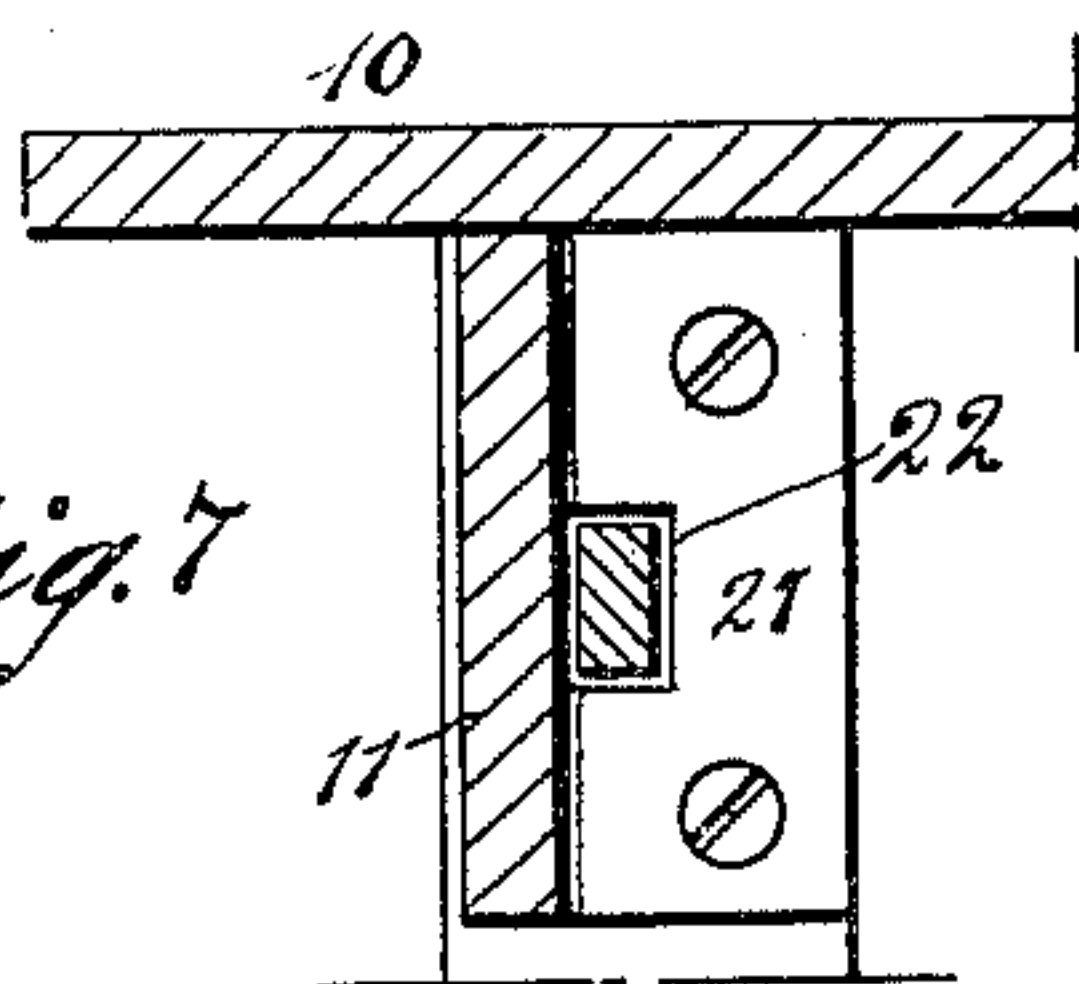


Fig. 7.



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CONSTRUCTION OF LEGGED ARTICLES.

SPECIFICATION forming part of Letters Patent No. 467,811, dated January 26, 1892.

Application filed April 24, 1891. Serial No. 390,260. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. HUMPHREYS, of Crozet, in the county of Albemarle and State of Virginia, have invented a new and useful
5 Improvement in the Construction of Legged Articles, of which the following is a full, clear, and exact description.

My invention relates to improvements in the construction of legged articles. It is well
10 known that a great deal of annoyance is experienced in the use of tables, bureaus, wash-stands, and the like, from the fact that such articles often do not sit evenly upon the floor, and as a result they are liable to tip.

15 The object of my invention is to obviate this difficulty by constructing such articles in such a manner that they will adjust themselves to the inequalities of the floor upon which they stand, so that they will rest evenly
20 and solidly upon the floor at all times.

To this end my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

30 Figure 1 is a broken longitudinal section of a table constructed in accordance with my invention. Fig. 2 is a broken plan of the same with the table-top removed. Fig. 3 is an enlarged detail sectional view, partly in
35 elevation, showing the manner in which one of the short levers and the end of the main lever are connected. Fig. 4 is an enlarged inverted plan view of one of the friction-blocks. Fig. 5 is a vertical longitudinal section of a
40 table provided with a modified means of preventing it from tilting. Fig. 6 is an enlarged sectional plan of the modified method through one corner of the table, showing the arrangement of the parts which prevent the tilting;
45 and Fig. 7 is a cross-section on the line 7 7 of Fig. 6.

To illustrate my invention I have shown it as applied to a table; but it may be applied to any legged article as well.

50 10 is a table of common form, which has legs 11 secured to the corners in the ordinary way;

but the legs are hollow, and mounted vertically in the legs are rods 12, which rods are provided at their lower ends with rollers 13, although they may rest directly upon the floor A. The
55 upper ends of the rods terminate in heads 14, which engage the under sides of the levers 15, and the heads and levers are arranged to move in recesses 16 in the upper ends of the legs, the legs being slotted vertically on their inner
60 sides opposite the recesses, as shown at 17, so as to permit of the necessary vertical movement of the levers.

The levers 15 and 20 are arranged at each end of the table in the drawings; but they
65 may be arranged at one end in a manner hereinafter described, if desired. The levers 15 are pivoted centrally in the table-frame, as shown at 15^a, and the inner ends of the levers are forked, as shown at 18, and in the fork of
70 each lever is pivoted a friction-block 19, which block is preferably of metal and has its under side corrugated, as shown in Fig. 4, and this corrugated surface contacts with similar
75 corrugations on the upper surface of the ends of the main lever 20. The pivoted equalizing bar or lever 20 is centrally pivoted to the table-frame, as shown at 20^a, midway between the levers 15, and the ends of the lever 20 are
80 corrugated, as described, and contact with the friction-blocks 19. It will thus be seen that the weight of the table comes upon the rods 12, the levers 15, and the lever 20, and the lever 20 acts as an equalizer and works in the
85 following way: If there should be a depression in the floor beneath one of the rollers 13, the rod 12, connected with the roller, would drop until the roller rested upon the floor, and as weight would still be on the rod in the op-
90 posite leg the outer end of the lever 15, which connects with the latter rod, would be raised, thus depressing the inner end and tilting downward one end of the lever 20, and the opposite end of the lever 20 would be raised, thus raising the inner end of the opposite le-
95 ver 15, and this would force the outer end of said lever to bear upon the head 14 of the rod 12 immediately beneath it, so that the weight of the table would be distributed between the rods 12 and the levers connecting them. The
100 legs on both sides of the table may be provided with the rods and levers, if desired; but

as a rule it is sufficient to construct one side of the table in this way, and the legs at the end may be connected instead of at the side, if desired.

5 It will be noticed that the friction-blocks 19 will serve to prevent the levers 15 and 20 from slipping, and thus from allowing a tip, even when a heavy load is placed on one corner, and will insure the efficient working of all the
10 levers by making them self-locking; but to simplify the construction the friction-blocks may be dispensed with, and in some cases the levers 15 might be dispensed with and the main lever 20 arranged so that its ends would con-
15 tact with the upper ends of the rods 12. It is preferable, however, that the main lever, the two end levers, and the friction-blocks be all used, as this construction insures the perfect working of the parts, and by self-locking
20 prevents the table from being forced by heavy weights to tip.

What is meant by "self-locking" is that the friction-blocks will prevent a tip when a heavy weight is placed on one corner of the
25 table. If the friction-blocks are not used, such a load causes a tip which is only limited by the vertical play of the rods in the legs.

In Figs. 5, 6, and 7 I have shown a modification of the invention. In this case the rods
30 12 are provided with heads 14^a, and the heads are inclined, as best shown in Fig. 5, on the sides which face each other, the recesses 16^a in the upper ends of the legs being constructed in such a way that the heads may
35 move vertically, but cannot turn, and in this manner the inclined sides are always kept in the same relative position. An equalizing bar or lever 21 extends longitudinally beneath the table-top and through slots 22 in the top
40 of each leg opposite the recesses 16^a, and the ends of the rod or bar are inclined to correspond with the inclination of the heads 14^a. It will thus be seen that in any case one rod
45 is allowed to drop downward by inequalities in the floor. The inclined head of the other

21, will cause the rod 21 to slide longitudinally until it comes in contact with the inclined head of the rod that has dropped, and thus equalize the pressure on the two legs and
50 prevent a tip. This method is self-locking—that is, while the table is setting steady and a pressure on both rollers or a heavy weight placed on one corner of the table will not cause it to tip when the heads 14^a and ends
55 of rod 21 are properly beveled.

I have shown my invention as applied to a table; but it is obvious that it may be applied to any legged article, or, in fact, to any article which rests upon a floor and which is desired
60 to be kept from tilting.

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

1. A mechanism for rendering tables self-
65 adjusting to floor inequalities, comprising two separate and independent vertically-sliding rods, a horizontal equalizing bar or lever between the said rods, and operating devices at the ends of the bar or lever and upper ends
70 of the sliding rods to permit the bar or lever to be moved by one of the rods through the medium of said operating devices when the other rod moves oppositely to the first-named rod, substantially as and for the purpose set
75 forth.

2. In the construction of legged articles, the combination of two vertically-movable rods whose upper ends are inclined and arranged to support the weight of the article and a con-
80 nection between these rods by means of a horizontally-movable rod whose ends are inclined to correspond with the inclination of the upper ends of the vertically-movable rods, whereby an upward motion of one of the vertically-
85 movable rods imparts a corresponding downward motion to the other, substantially as described.

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Witnesses:

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