

No. 669,450.

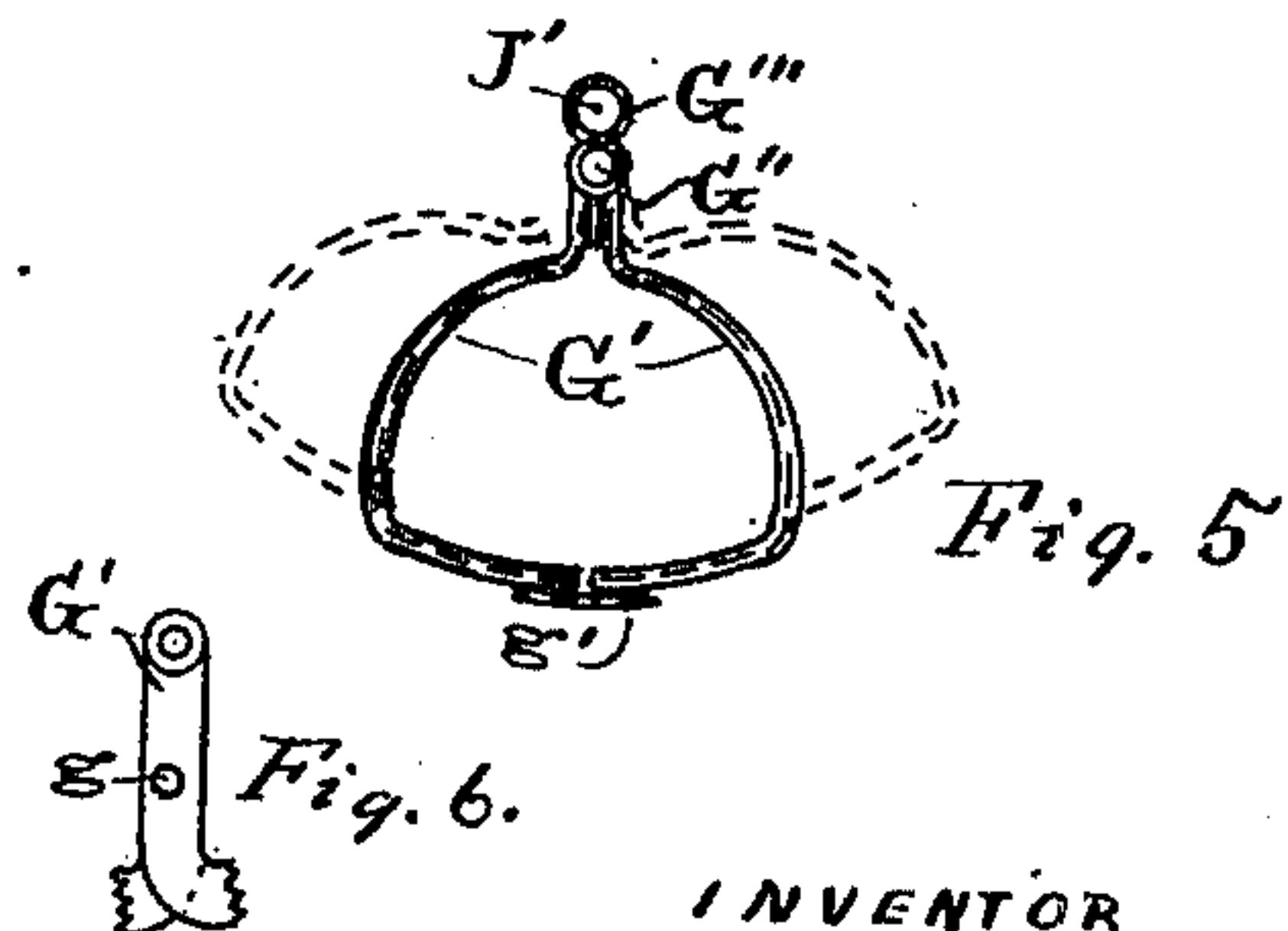
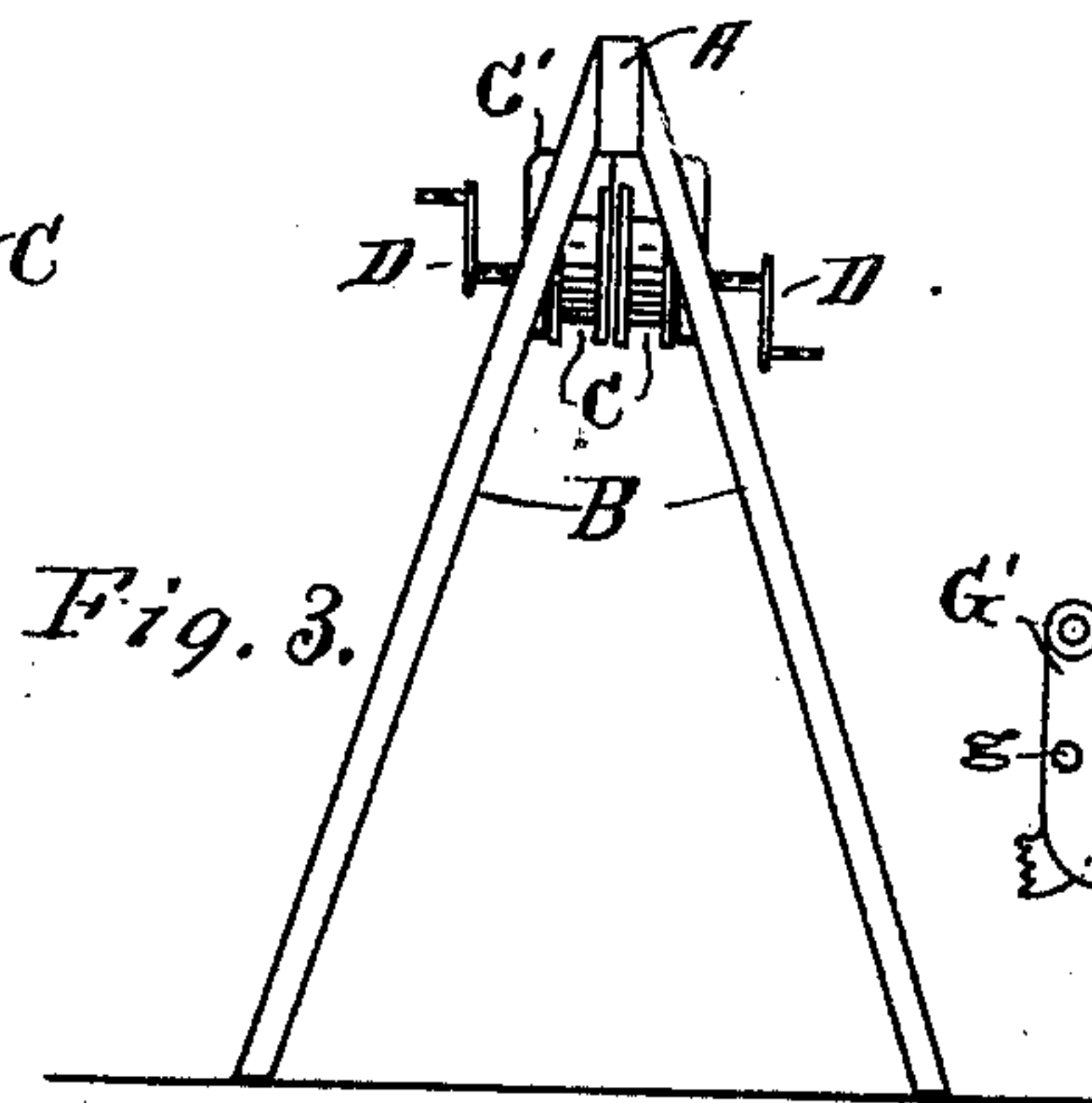
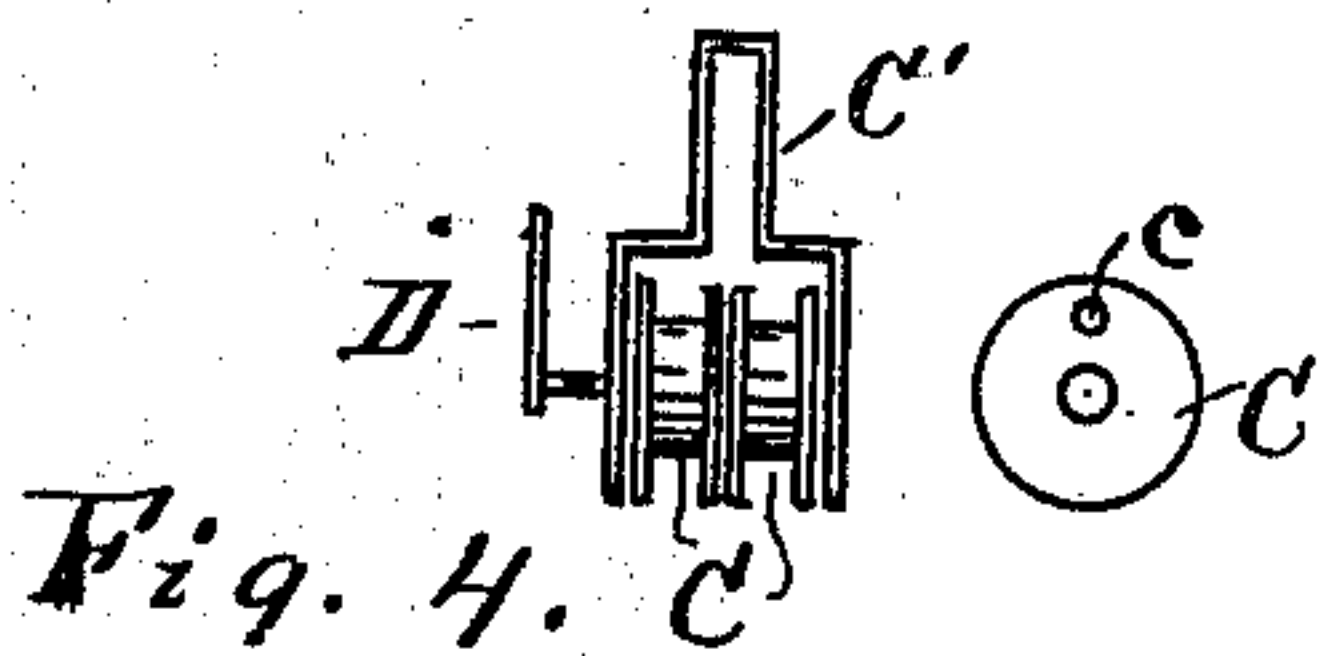
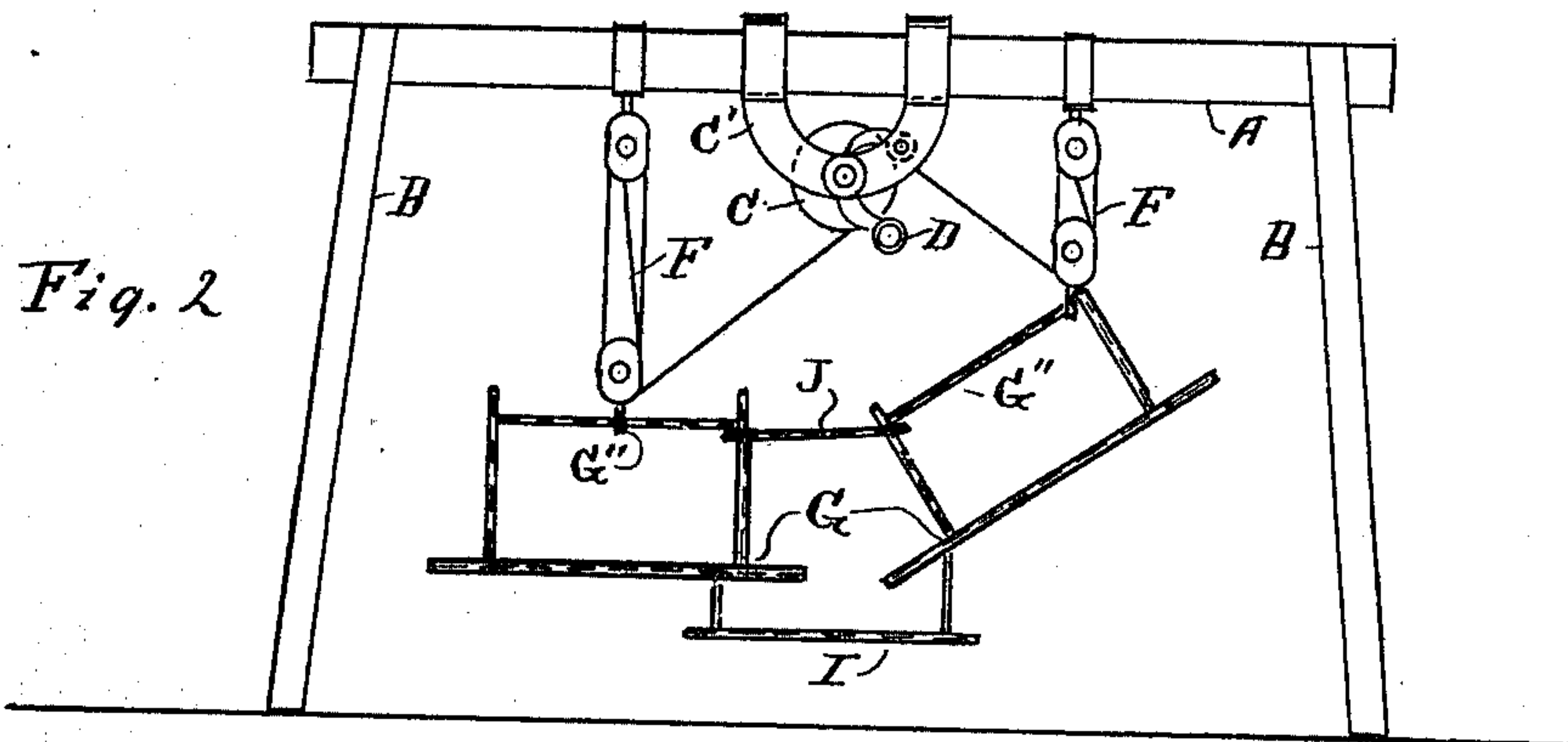
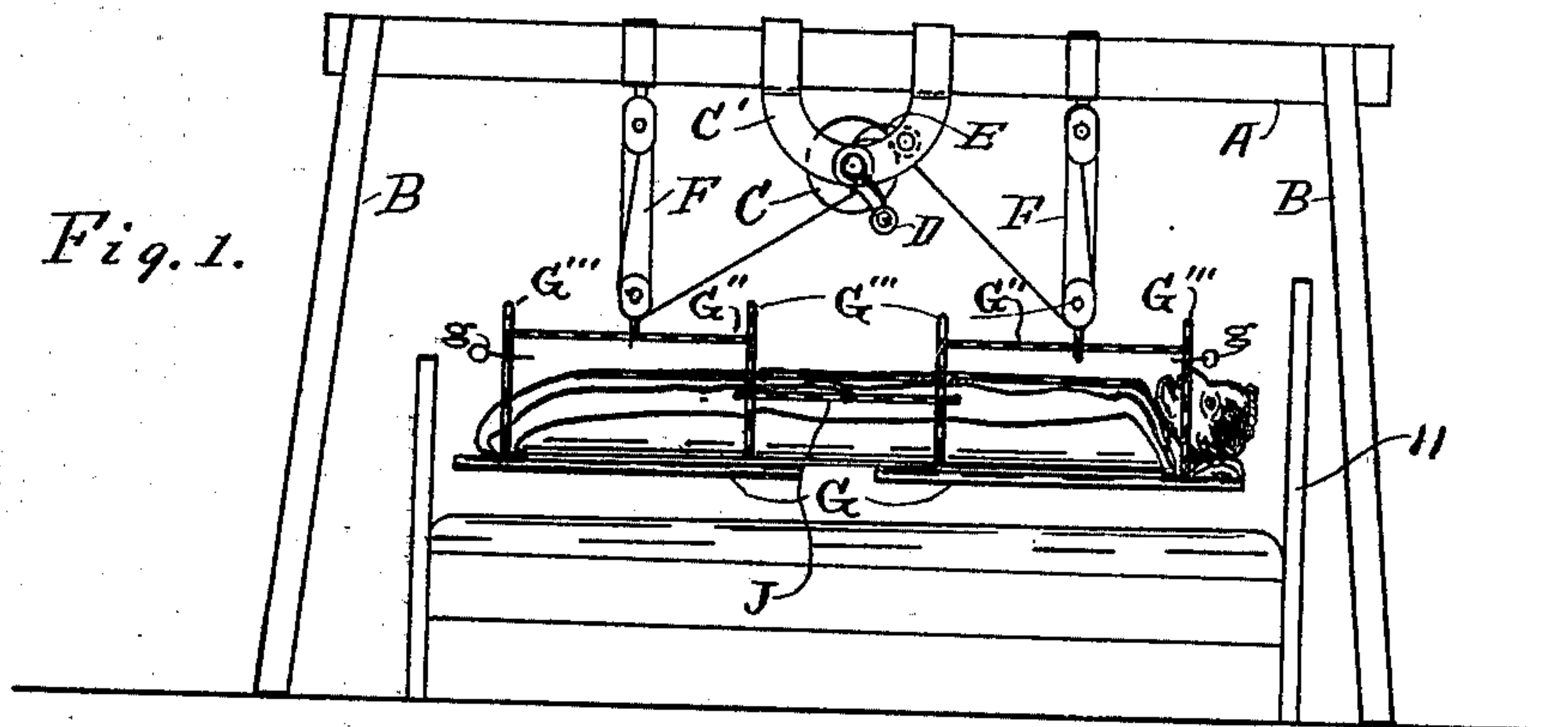
Patented Mar. 5, 1901.

C. STEPHENS.
DEVICE FOR HANDLING INVALIDS.

(Application filed Jan. 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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2 Sheets—Sheet 2.

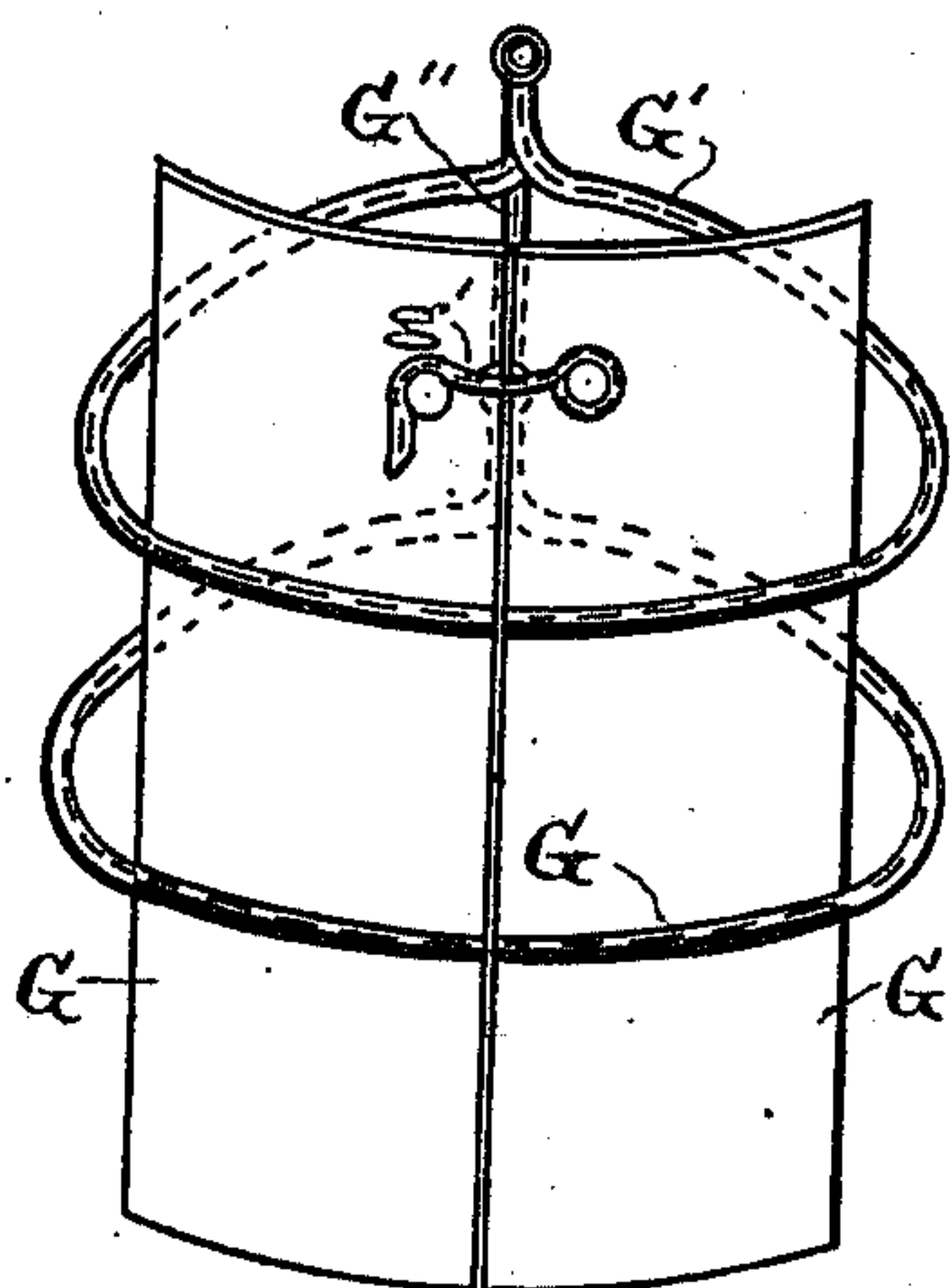


Fig. 7.

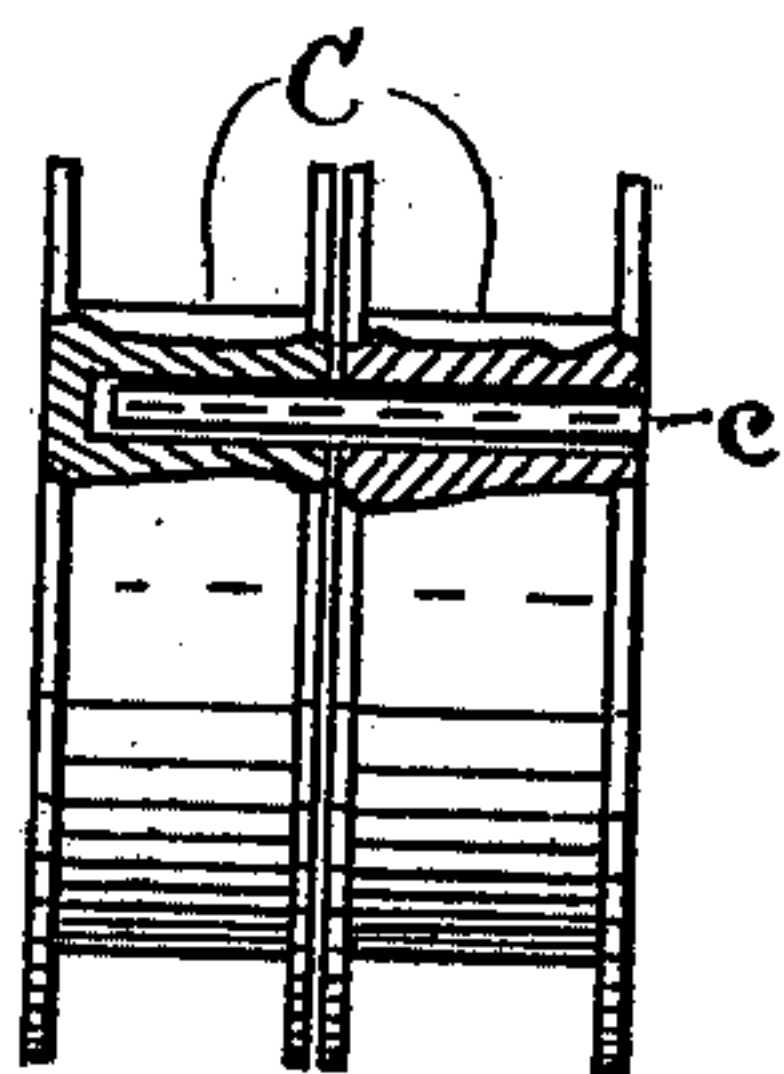


Fig. 8.

WITNESSES.

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UNITED STATES PATENT OFFICE.

CORNELIUS STEPHENS, OF RENO, MICHIGAN.

DEVICE FOR HANDLING INVALIDS.

SPECIFICATION forming part of Letters Patent No. 669,450, dated March 5, 1901.

Application filed January 19, 1900. Serial No. 2,067. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS STEPHENS, a citizen of the United States, residing at Reno, in the county of Ottawa and State of Michigan, have invented certain new and useful Improvements in Devices for Handling Invalids, of which the following is a specification.

My invention relates to improvements in appliances for handling invalids for the purpose of rearranging the bed, changing their position, &c.; and its object is to provide a means whereby a delicate patient or one subject to great pain upon being moved may be handled without great discomfort. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my device with a patient slightly raised from the bed. Fig. 2 is the same with the bed removed and the patient in a sitting posture. Fig. 3 is an end elevation of the device with the blocks, &c., removed. Fig. 4 is a front and a side view of the sheave with which the patient is raised and lowered. Fig. 5 is an end elevation of the plates and their bail; and Fig. 6 shows the upper ends of the bail with a pin inserted to show one means of fastening them together, so that the plates cannot spread under the weight of the patient. Fig. 7 is a perspective view of the lower side of the supporting-plates, showing the position of the bails and of the clasp; and Fig. 8 is an elevation of the actuating-pulleys, cut away to show the application of the retaining-pin.

Similar letters refer to similar parts throughout the several views.

In the construction of my device I make use of a supporting bar or beam A, that is mounted upon legs B of a proper length to support the beam some distance above the bed. Near the longitudinal center of this beam I place a hanger C', in which I place a sheave C, designed to be made to revolve by means of the crank D, which is mounted upon the shaft that supports the wheels of the sheave in the usual manner, and at each side of this hanger I place a block and tackle F or other suitable means for raising and lowering the patient.

For the support of the patient I construct

two pairs of plates G, having bails G', which are connected at the top by a rod G'', upon which they are pivoted, so that they may be made to recede from or approach each other for the purpose of spreading the plates apart, as indicated by the dotted lines in Fig. 5, for the purpose of sliding the plates under the patient from each side, and thus avert the necessity of raising, turning, or handling the patient by hand. For this purpose the plates are spread as per the dotted lines in Fig. 5 and each carefully slid under the patient from the side until the inner edges meet. The turning of the sheave C will operate the blocks F and gradually raise the patient with no exertion whatever on the part of the patient, so that the bed may be changed or rearranged without inconveniencing the patient in the least.

Ordinarily there is no possible danger of the plates spreading, so that the patient might drop through between them; but for the purpose of wholly averting this danger the plates may be locked together either by means of pins g through the bails, or by a hook or hasp g' below the plates, or by any other available means, and to avert the danger of the plates spreading longitudinally I place a hooked rod J between them, as shown in Figs. 1 and 2.

The sheave C may be locked to place to support the patient in the desired position by means of the usual pawl E, and if it is desired to arrange the device so that one set of plates may be operated while the other set is in position this may be accomplished by the use of two distinct sheaves and cranks, as in Fig. 3, in which case each sheave may be made to act independent of the other, or it may be accomplished with one crank by making the sheaves to act independently upon one shaft, one wheel being securely attached to the shaft and the other wheel left so that the shaft may turn freely therein without turning the wheel and provide for locking them to revolve together by inserting a pin c through the loose wheel and into the one that is secured to the shaft. In this connection it will be noted that the long rod G'' is particularly available, as with it the hooks on the blocks may be placed in the proper position to allow

the patient to be placed in any position from the sitting posture (shown in Fig. 2) to lying at length, as shown in Fig. 1.

The suspended shelf I, which may be supported from the plates G by cords, wires, or other suitable device, substantially as shown in Fig. 2, is a great convenience for receiving and holding articles—as napkins, comb and brush, or any other article or instrument desired or needed for use about the patient.

In Fig. 1 I have shown the patient raised a little from the bed H for the purpose of showing the convenience of the device for the purposes for which it is designed.

The plates and bails may be used as a stretcher by disconnecting them from the support and passing a carrying-pole through the rings G'', as indicated in section in Fig. 5 at J', which acts in this case in lieu of the support A and the blocks and tackles.

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

1. In a device for handling invalids, a supporting-frame, a two-wheel sheave supported at the longitudinal center of said frame, a locking device connected with the wheels of said sheave, a crank connected to the wheels of said sheave, two sets of longitudinally-di-

vided supporting-plates, a pair of pivoted hinges at each end of each pair of plates, a rod connecting the hinges of each pair of plates, blocks and tackles attached to the supporting-frame and the rods on the plates, and a cord run in each set of blocks and around the sheave-wheels, substantially as and for the purpose set forth.

2. In a device for handling invalids, a supporting-frame, a two-wheel sheave supported thereon, a locking-pin connecting the wheels of said sheave, a crank connected to actuate said sheave-wheels singly or together by the adjustment of the pin, two pairs of longitudinally-divided supporting-plates, a pair of pivoted bails at each end of each pair of plates, a rod connecting said bails over each pair of plates, a link connecting the adjacent ends of the two pairs of plates, a swinging shelf below the plates, tackle-blocks secured to the supporting-frame and the rods, and a cord run through the blocks and the sheave, substantially as set forth.

Signed at Grand Rapids, Michigan, January 15, 1900.

CORNELIUS STEPHENS.

In presence of—

ITHIEL J. CILLEY,
JAMES B. GRADY.