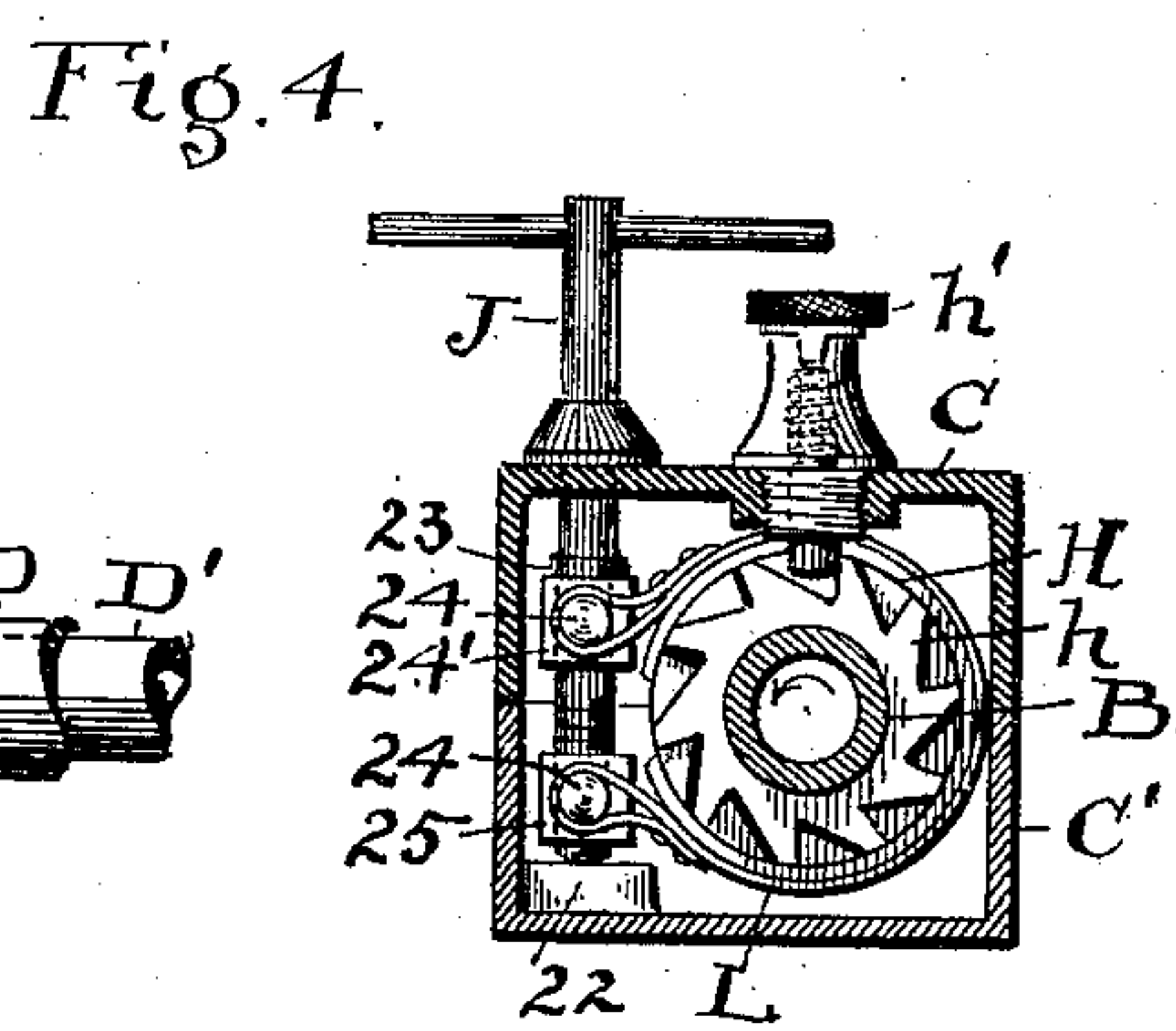
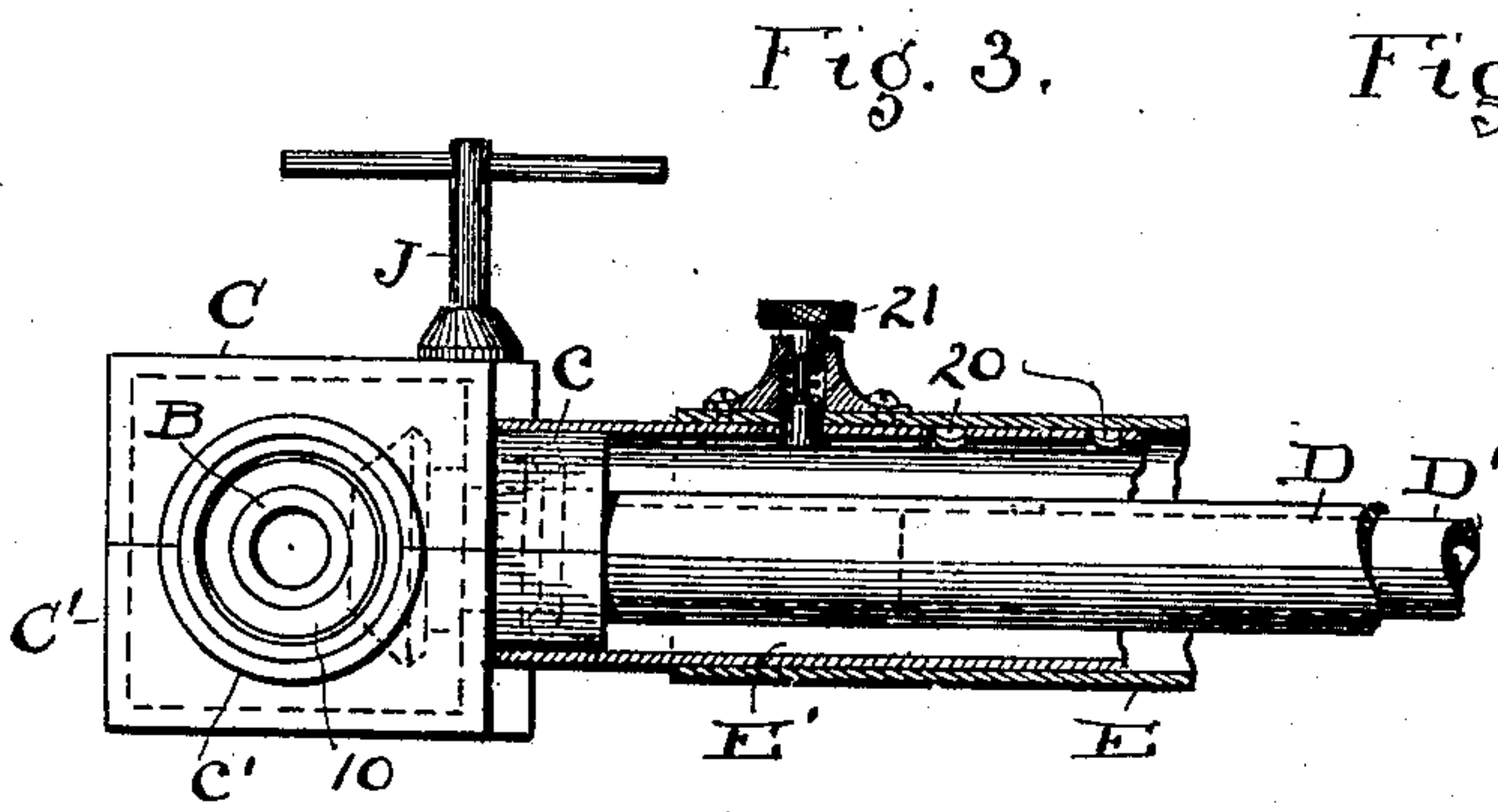
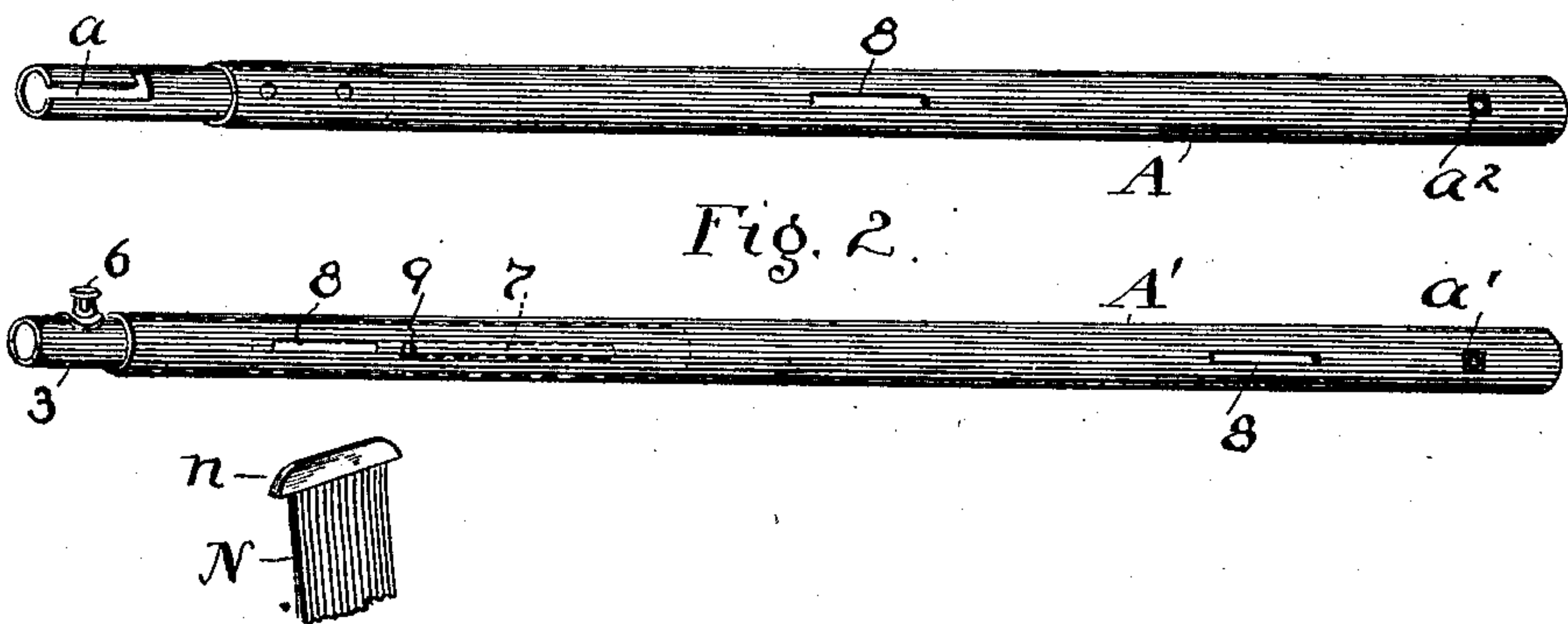
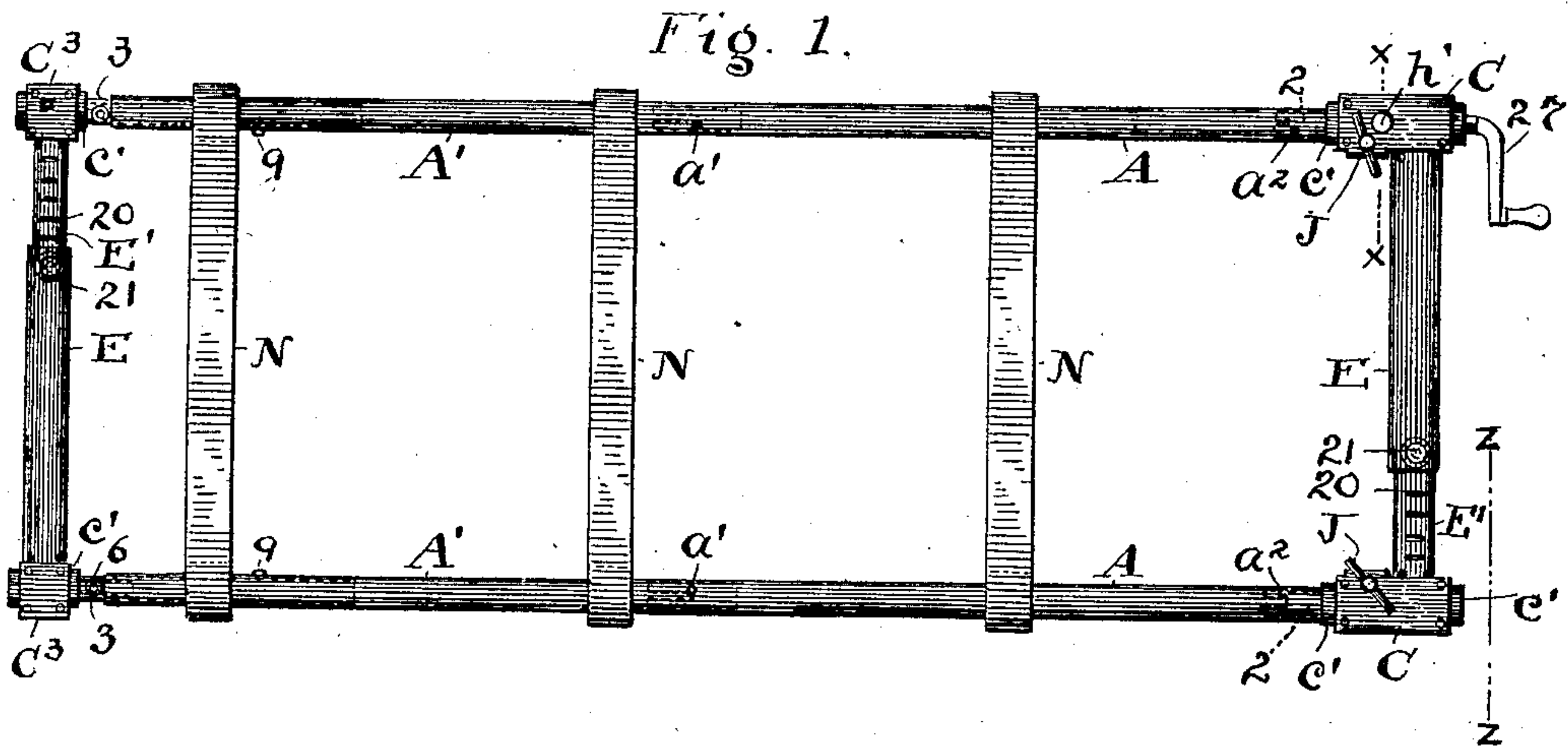


No. 828,342.

PATENTED AUG. 14, 1906.

B. F. SHUART.
CASKET LOWERING DEVICE.
APPLICATION FILED JULY 31, 1905.

2 SHEETS—SHEET 1.



ATTEST

W. B. Moore
C. A. Sell

INVENTOR.

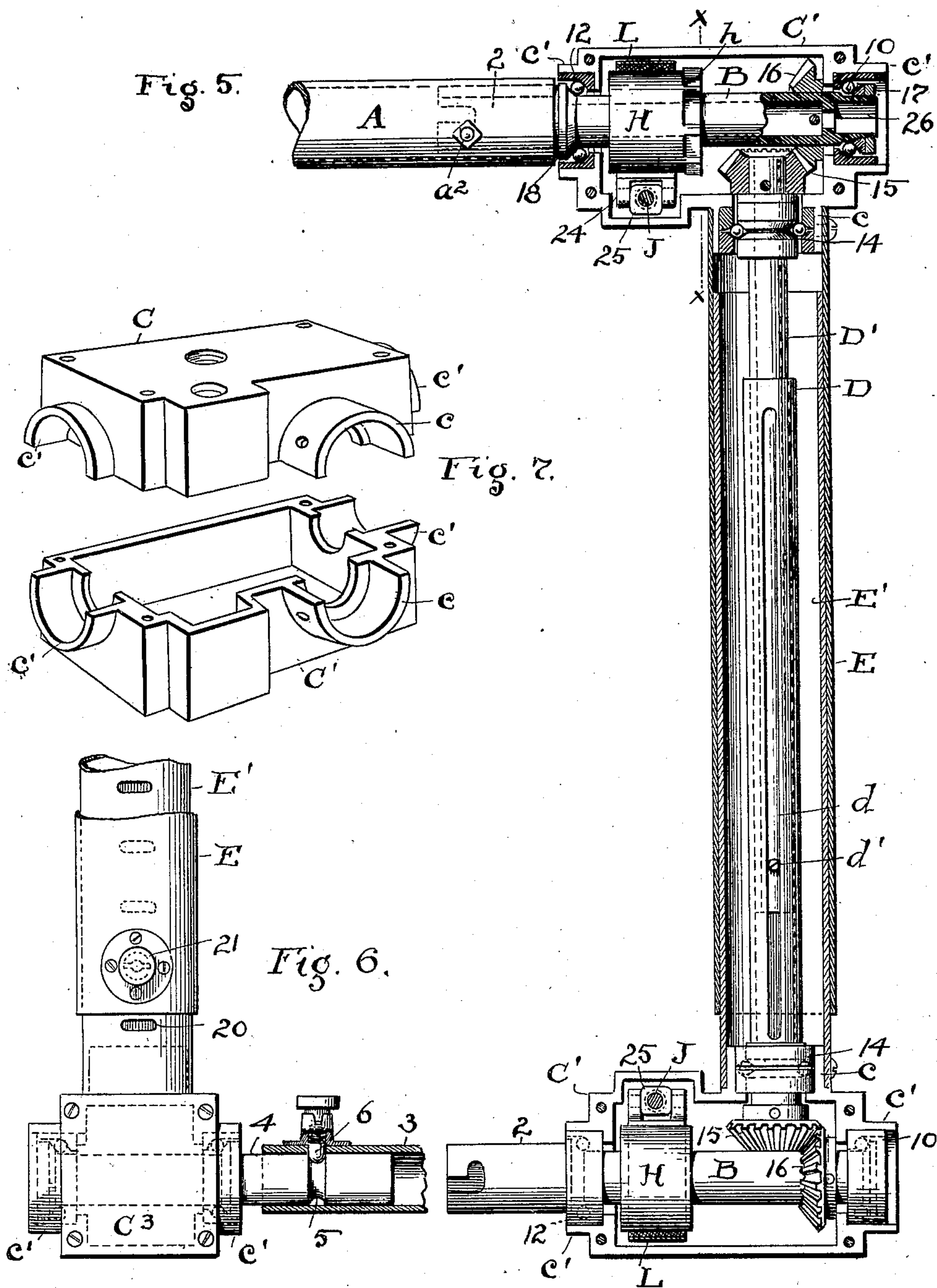
Benjamin F. Shuart.
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UNITED STATES PATENT OFFICE

BENJAMIN F. SHUART, OF OBERLIN, OHIO.

CASKET-LOWERING DEVICE.

No. 828,342.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed July 31, 1905. Serial No. 271,893.

To all whom it may concern:

Be it known that I, BENJAMIN F. SHUART, a citizen of the United States, residing at Oberlin, in the county of Lorain and State of Ohio, have invented certain new and useful Improvements in Casket-Lowering Devices; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to casket-lowering devices; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of the complete device connected up in operative relations and ready for use. Fig. 2 is a detail of the two tubes at each side of the frame, said tubes lying side by side and constructed to be connected at their ends with the ends of the frame and with each other, as hereinafter fully described. Fig. 3 is an end corner view of the frame looking inward from line *z z*, Fig. 1, and considerably enlarged as compared with Fig. 1 and partly sectioned. Fig. 4 is a cross-section of one of the corners of the frame on line *x x*, Figs. 1 and 5. Fig. 5 is a plan view, considerably enlarged, of one entire end of the frame, the immediate end tubes being sectioned away and displaying the internal working parts. Fig. 6 is a plan view of a corner of the opposite end of the frame. Fig. 7 is a perspective view of two sections or parts of one of the corner-boxes, as hereinafter fully described.

The device as thus shown is designed to be used for mechanically lowering caskets and vaults into graves, and the construction of the device is such that the lowering is done noiselessly and safely under the control of the operator, who can govern the speed and stop and start the device at will, as will hereinafter fully appear.

Referring to Fig. 1, the invention is shown therein as comprising a rectangular frame which when more closely examined is found to consist of several separate and distinct parts separately united for the most part and adapted to enlarge or reduce the working size of the frame, as occasion may re-

quire. In this instance a well-known bayonet-joint connection is provided for between these tubes, the tube A having a slot *a* and the tube A' a lug *a'* to make said connection. The other ends of tubes A sleeve upon and make bayonet-joint connection with the larger or enlarged ends 2 of the short shafts B, which may be tubular or solid. If for any reason it is desired to have a shortened frame, as for the burial of a child, the tubes A may be removed and connection be made directly by means of tubes A' upon the ends 2 of said shafts. Then if a somewhat longer frame be required the opposite end of the frame can be more or less withdrawn by reason of the telescopic connection thereof with tubes A' through inner extension-tubes 3, Fig. 2, extending some distance into tubes A' and adapted at their outer ends to sleeve over and upon the short corner-supporting parts or tubes 4, Fig. 6, which are rotatably supported upon ball-bearings in the corner-boxes, as will be hereinafter more clearly seen.

A separable but operative connection is made between the two parts 3 and 4 by forming an annular groove 5 in the supporting part 4 and mounting a spring-pressed bolt 6 on the outer tube 3, adapted to engage in said groove, and thus unite said parts as to their endwise movement. In operation they will rotate together on the ball-bearings in the corner-box. Said extension-tube 3 has a longitudinal slot 7, matching with slot 8 in tube A to enter the vault or casket supporting straps, and a lug 9 on or in the tube A' runs in slot 7 and keeps the said parts in alinement as well as limiting the withdrawal of extension-tube 3. In an operative sense the several side parts A', B, 3, and 4 are thus made as one piece to rotate together, and tubes A are included in this combination when the entire frame is used. However, for packing and shipping of the parts the tubes A and A' are separated and extensions 3 are run back into tubes A', while the short tubes or supports 4 remain with the corner-boxes and are not removed therefrom except for cause.

The corner-boxes at both ends are constituted of two sections or parts, the boxes with sections C and C' being located at the head

end of the frame and boxes with sections C^3 and C^4 at the foot end. Both sets of sections or parts have semicircular collars here and there—as, for example, the collars c , with which the cross-tubes E and E' at the head of the frame are rigidly connected by screws over the outside thereof, while the collars c' serve as supports for the bearings 10 and 12, Fig. 7. Other features also are found in said corner-box, as will appear farther along, and the sections or parts thereof in each box are firmly bolted together for use. It will be seen that the telescoping tubes E and E' overlap at considerable length, so as to secure the ends of the frame in any event from sagging or yielding to strain in any direction, and serve to connect the end boxes rigidly but adjustably with each other, thus constituting what is essentially the frame portion of this end of the structure, and the same construction obtains at the other end of the frame; but there are no operating parts in that end, though there might be. By making the frame itself rigid in this way I am enabled to employ telescopically-arranged shafts D and D' within the head end tubes E and E' and leave said shafts free to operate without strain or weight coming upon them on account of the load carried by the frame. This is of the highest importance in a mechanism of this kind, because if the strain of the frame be transmitted to the operating parts they are liable to become cramped and locked here or there and will not work. Hence I have been especially careful to provide a frame which itself sustains all the load and is so rigid and firm in all essential respects that it perfectly safeguards the working parts at all times. However, the said shafts D and D' are adapted to be adjusted as to length with the frame-tubes E and E' , and to this end the tube D has a longitudinal slot d or its equivalent and tube or shaft D' a lug d' , engaged in said slot. Each shaft also has a ball-bearing collar 14, fixed in collar c of the corner-box, and these bearings sustain the said shafts in working relation. Beveled gears 15 are fixed on the ends of said shafts or shaft-sections in the corner-boxes, which mesh with gears 16 on the shafts B . The said shafts B have ball-bearings 10 and 12 in the two collars c' oppositely, and a nut 17 and washer confines the balls of the outer bearing 10, while beveled shoulders 18 on shafts B serve to take the bearings of the balls on the bearing-ring 12. The corner-box thus affords a very firm support itself for the shaft B without danger of cramping therein.

The outer frame-tubes E and E' are adapted to be adjusted by means of a series of transverse slots or grooves 20 in the inner tube and spring-pressed bolts 21 in or on the outer tubes adapted to engage in said slots,

and thus fix the lateral expansion of the frame. These or equivalent means may be employed for this purpose. These adjustments are alike at both ends of the frame.

Finally the device is provided with a brake mechanism, Fig. 4, which permits the most delicate adjustments without strain or sudden effects except as needed, so that an easy and uniform lowering of the casket is effected. To this end I provide each short shaft B with a brake-hub H within the corner-box and out of view, and at the side of at least one of these hubs I place a ratchet-wheel h , Fig. 5, at the top. Next to this hub and extending down through the box onto a ledge 22 beneath I place a brake-screw J , threaded at its lower end and provided with a collar 23 at about its middle. The brake-band L engages about hub H and connects at its divided ends with trunnions 24 oppositely on the sleeve 24' on screw J next to collar 23 and on nut 25 on the lower end of the screw. This novel and peculiar arrangement of the said parts produces an even pull on both sides of the said screw and on both ends of the brake-band and leaves the screw free to be rotated by hand and with comparative ease while it is controlling the descent of the casket into the grave. There is no cramping or side twisting of the screw, which will render difficult or uncertain its operation, and the only strain that comes upon it is caused directly from its work where it is planned to be.

The casket carrying or supporting straps N have metallic heads n , adapted to be threaded into slot 8 and through into slot 7, and the engagement is such that said straps make a firm connection with said parts and carry the load without danger of pulling out. However, any suitable means other than these may be adopted, if preferred, for making such engagements.

All the actual working mechanism is confined in the corner-boxes and is invisible. True the side tubes A A' rotate with said mechanism; but this is not noticeable. The cross-shaft connection by means of shafts D and D' and the bevel-gears causes both sides to work in unison, and either brake may be used for controlling the lowering operation. Usually the one not manipulated is set to do some work, more or less, according to the weight handled, and it will be understood that this machine necessarily is of such strength as to enable it to handle the heavy metallic caskets and inclosing boxes or vaults which have come more or less generally into use, as well as the heavy earthenware receptacles used in some sections. Hence also the importance of a construction wherein the operating means will be absolutely free to operate under all conditions of load, and this emphasizes the importance of ball-bearings

here and there at points where otherwise there might be such cramping or sticking of the parts that they would not work, particularly as the entire structure necessarily is of the knockdown kind and full of joints which cannot be made close or rigid.

The shaft extensions B of the side tubes project through the gears 16 and the corner-boxes and through the outer collars c' lengthwise of said boxes and are provided with rectangular or angular sockets 26 in their outer ends adapted to receive a crank-arm 27 to wind up the machine by hand. The ratchet-wheel h is engaged by a spring-pressed hand-controlled pawl or bolt h', which is employed in the manipulation and control of the machine as needed.

The metal heads n of straps N are of greater length than slots 8, while the width of the straps and the length of the slots are about the same, and so it occurs that the straps will hold the heads in place, with the ends overlapping inside at the ends of said slots. This, however, leaves coupling-tubes 3 free to be run in and out as needed.

The transverse slots or grooves 20, engaged by locking-bolts 21, are important as to shape and function, for the reason that they adapt the frame to uneven surfaces or places where the frame lies with its corners on different levels, as generally occurs. Indeed, it is seldom that the machine has a level outlay, and hence it needs to be so constructed as to accommodate itself to widely-varying conditions and yet work with perfect ease throughout the organization. The elongated slots 20 afford room for distortional positions without cramping the working parts. Indeed, by means of these the machine can be worked successfully with one corner dropped a foot below the others or with all the corners on materially different levels.

By running the screw-bolt J down onto stop or rest 22, as shown, a support for said bolt is provided which prevents it from revolving with the hub or drum H. This is important, inasmuch as it is a form of construction which renders the brake absolutely responsive to the action of the screw whether in tightening or releasing. Without this the brake-band would have to be fastened rigidly at some point to the case in which it is inclosed, and this would interfere with its freedom of action. This brake-band is of spring-tempered sheet-brass and when released by the screw springs away from the drum, and having no rigid attachment to any part of the case it is impossible for it to remain in contact with the drum, so as to exert an appreciable resistance to the most delicate action of the bearings.

What I claim is—

1. The main frame comprising telescopic

side and end tubes respectively and corner-boxes, the said boxes at the head end of the frame having collars at their sides to which the end tubes are rigidly secured, shaft extensions for the side tubes lengthwise through said boxes and supported in bearings in the ends thereof, an extensible transverse shaft in the head end, tubes and gears thereon and on said shaft extensions located in said boxes and meshing with each other, and both ends of said shaft extensions of the side tubes projecting through said boxes and exposed at the outside thereof.

2. The main frame comprising telescopic side and end tubes and corner-boxes, said boxes formed each in two sections having semicircular collar portions at their ends and sides matching with each other, the outer ends of the said head-end tubes being fixed rigidly over said side collars and a telescopic cross-shaft in the head-end tubes having anti-friction-bearings within said side collars, beveled gears on the ends of said shaft in said corner-boxes, and transmitting mechanism for the side tubes connecting with said gears comprising shaft extensions having the side tubes separably connected therewith outside said boxes.

3. The main frame comprising telescopic side and end tubes and corner-boxes, and the foot end of the frame having rotatable supports projecting therefrom, cross-connecting tubes rotatably and removably sleeved on said supports, said cross-connecting tubes slotted between their ends and locked against rotation through said slots, and a spring-pressed bolt separably engaging said cross-connecting tubes with said supports.

4. The main frame comprising side and end tubes, respectively, and corner-boxes, the said side tubes rotatably supported in said boxes and the said end tubes rigid with the boxes and telescopically united between their ends, in combination with a transverse shaft consisting of two parts extensible, and one of said parts having a longitudinal slot and the other a projection slidably engaged in said slot, whereby said parts can be elongated but are caused to rotate together, gears on the ends of said parts and extensions of said side tubes having gears in mesh with the gears on said transverse shaft.

5. The main frame comprising side and end tubes and corner-boxes, extension-shafts for said side tubes in said boxes and drums on said shafts, in combination with brake-bands about said drums, screw-bolts through said boxes from the top and raised supports in the boxes serving as rests for said bolts, a collar free to rotate on said bolt having one end of said brake-band attached thereto and a nut on the lower end of said bolt having the other end of said band attached thereto, a ratchet-

wheel on said extension-shaft next to the drum thereon, and a pawl in the corner-box engaging said wheel.

6. In casket-lowering devices, a main
5 frame having rotatable side tubes provided with longitudinal slots, in combination with casket-supporting straps having substantially the same width as the length of said slots and metallic heads on said straps of
10 greater length than said slots, whereby when

said heads are in working position they overlap at the ends of the slots and confine the straps.

In testimony whereof I sign this specification in the presence of two witnesses.

BENJAMIN F. SHUART.

Witnesses:

R. B. MOSER,
CHAS. M. KNIGHT.