

(No Model.)

F. S. PATTON.
FOLDABLE STOOL.

No. 504,241.

Patented Aug. 29, 1893.

Fig. 1.

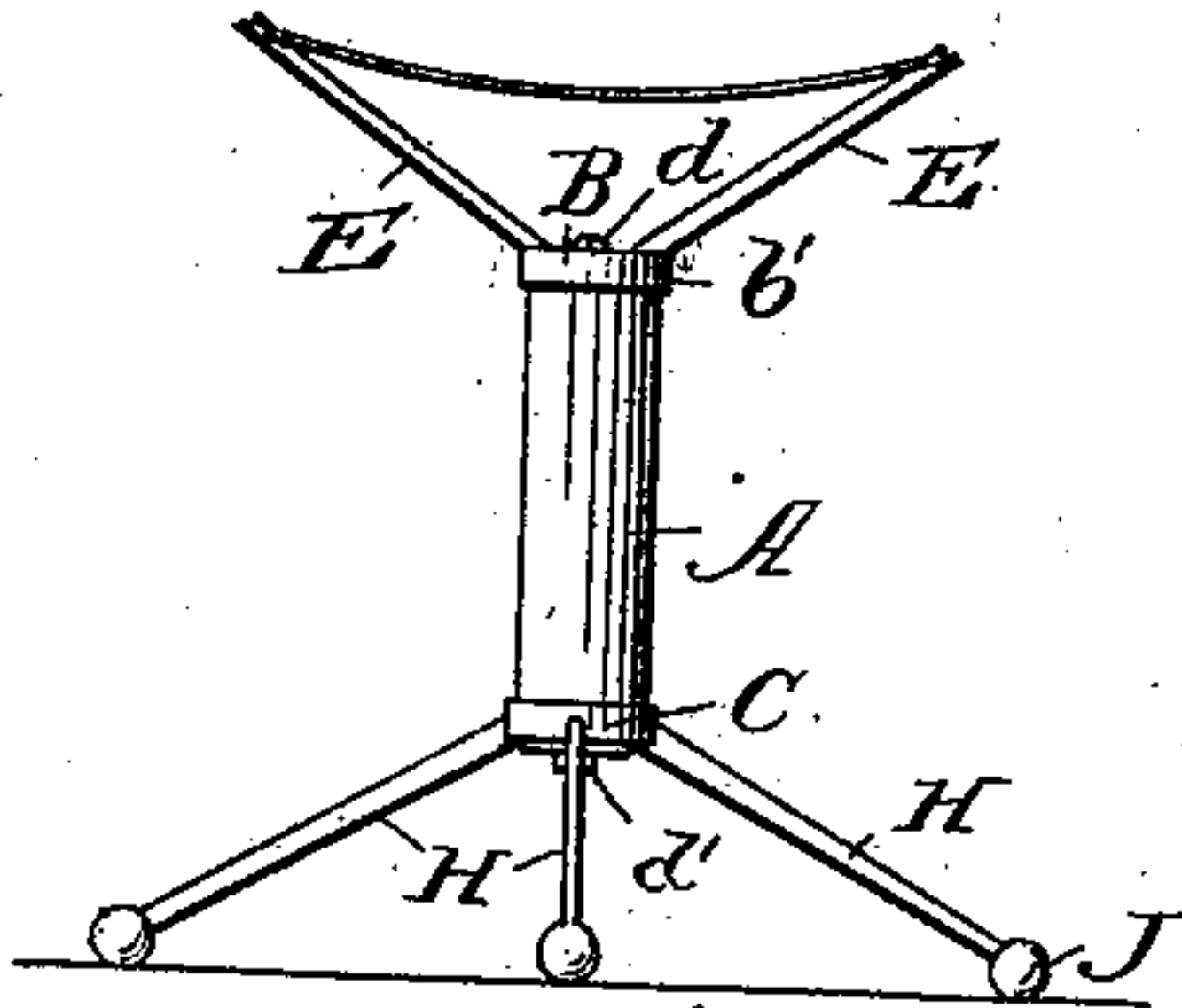


Fig. 2.

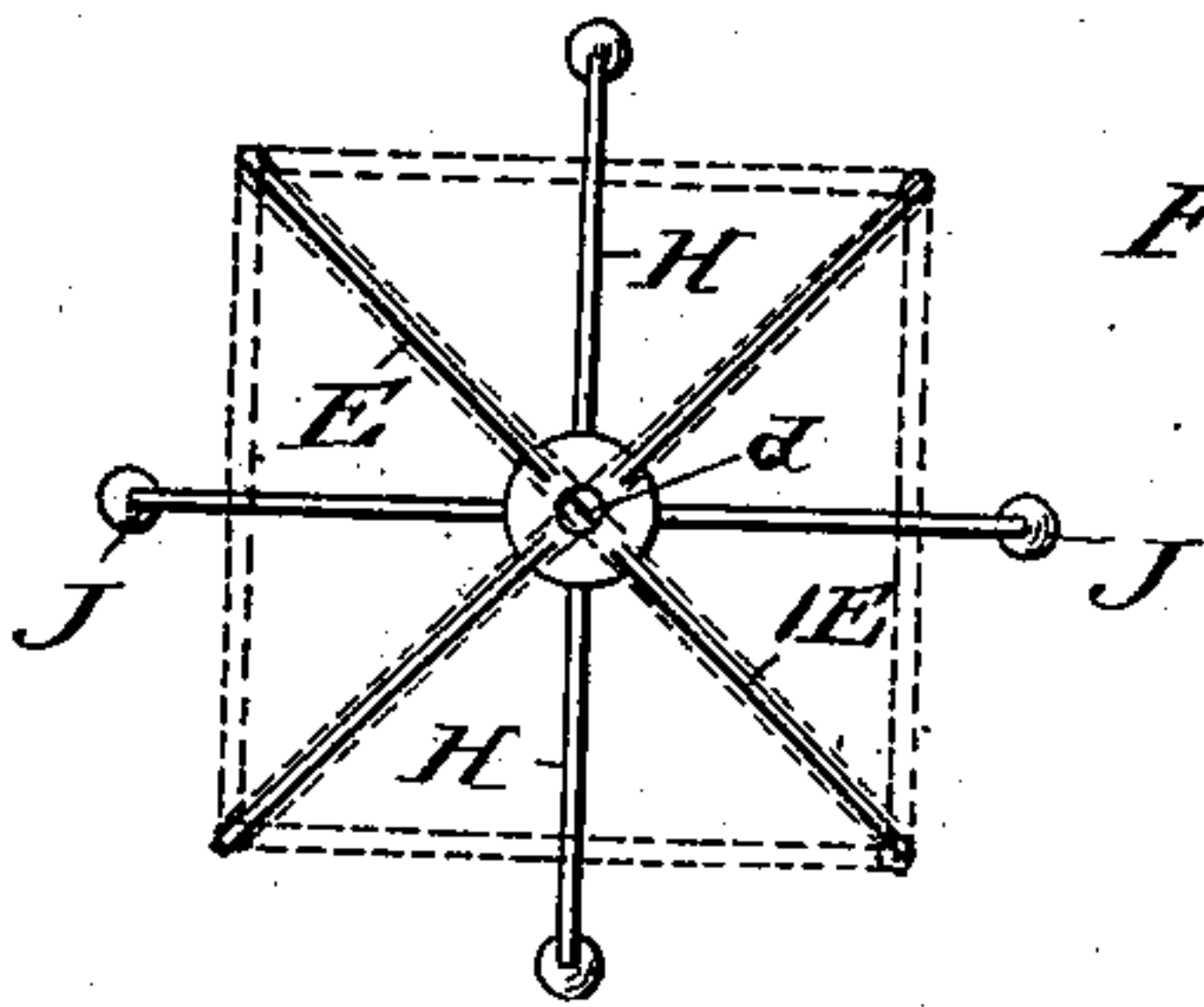


Fig. 6.

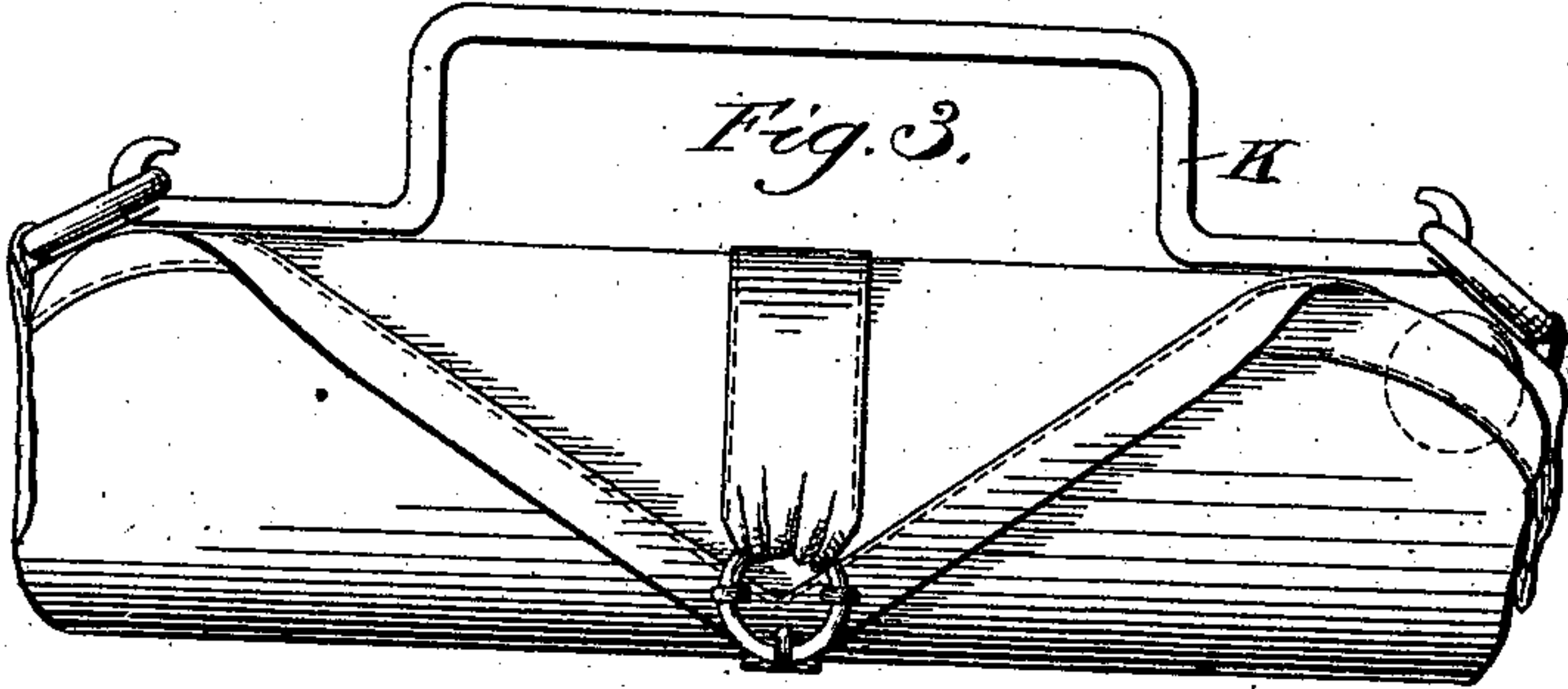
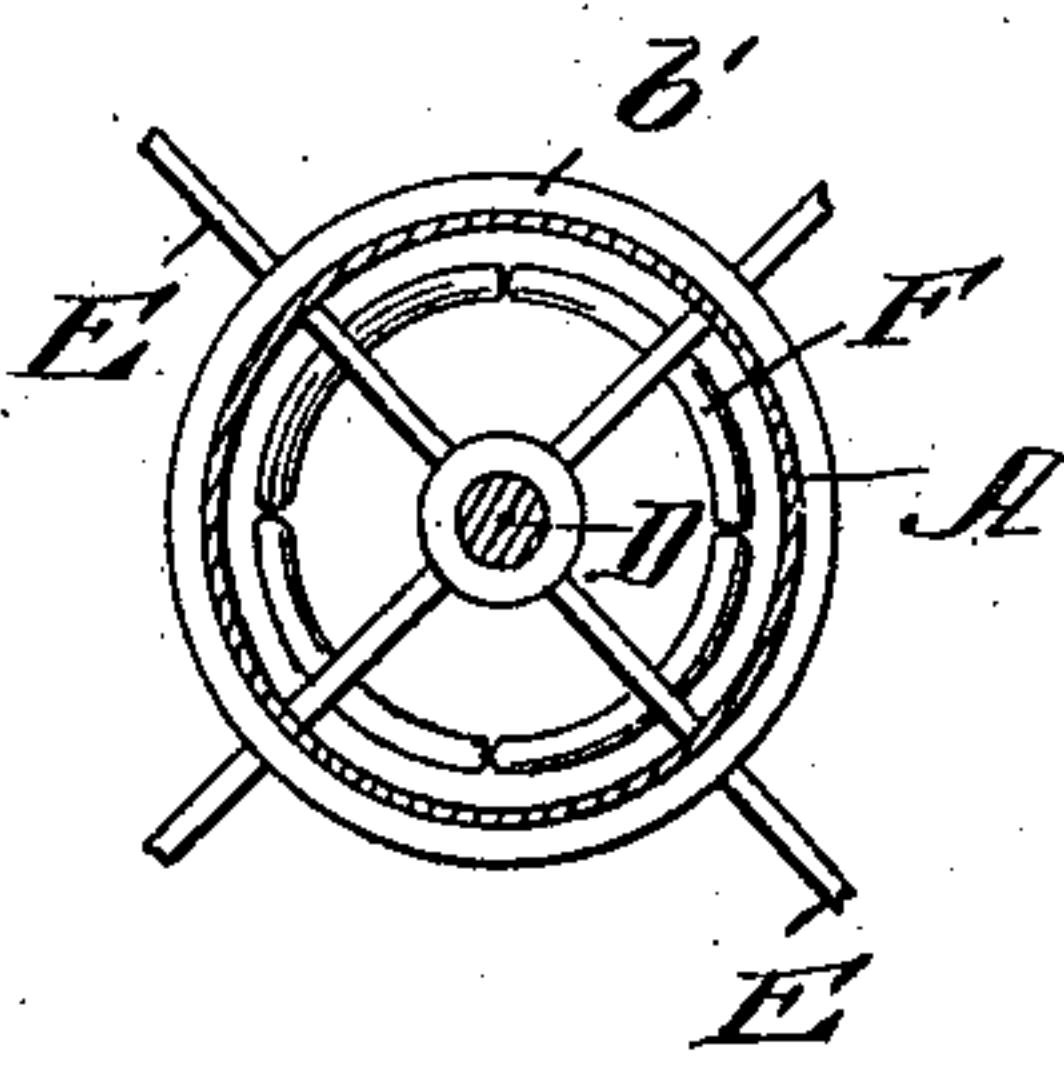


Fig. 4.

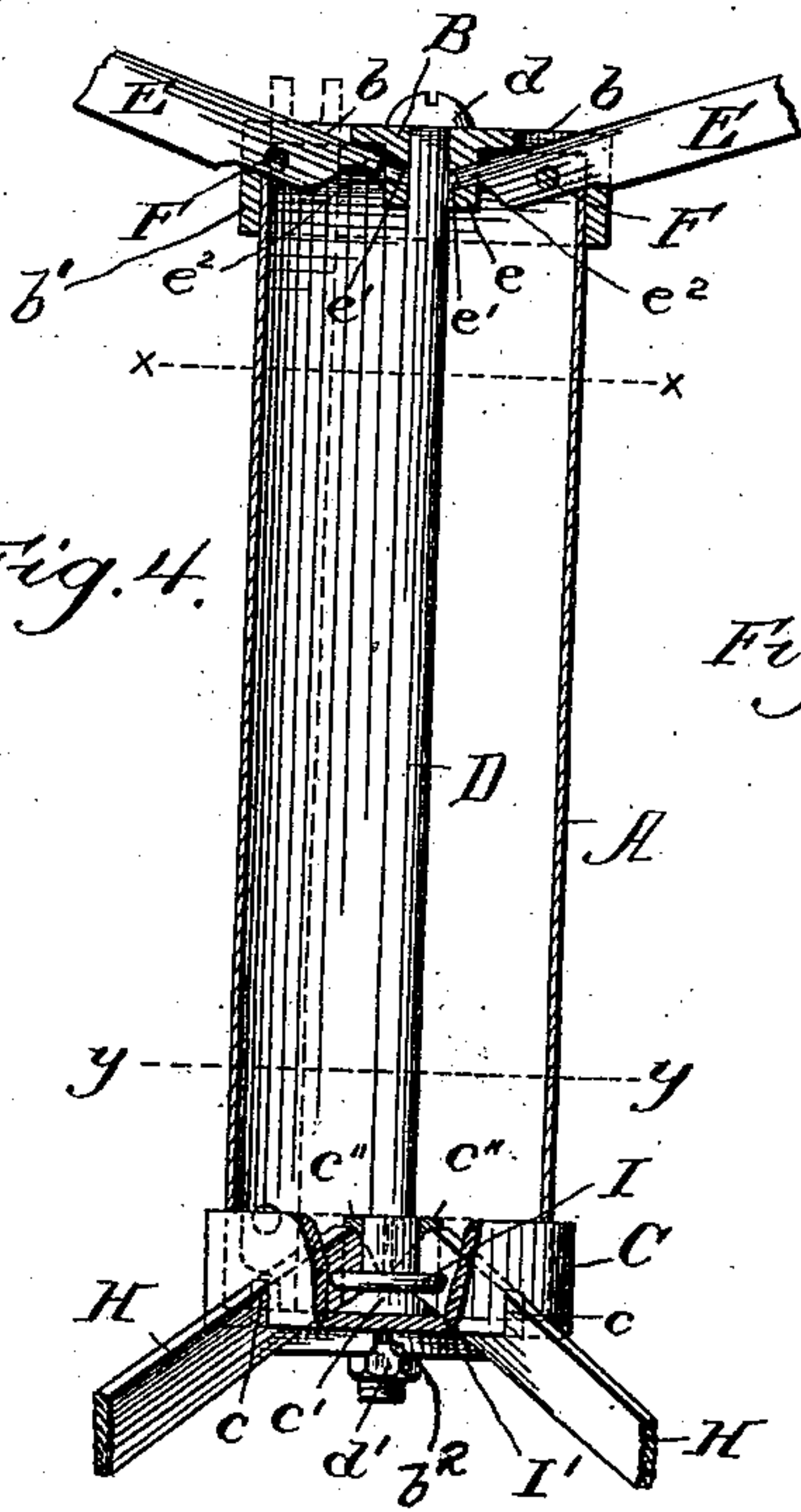


Fig. 5.

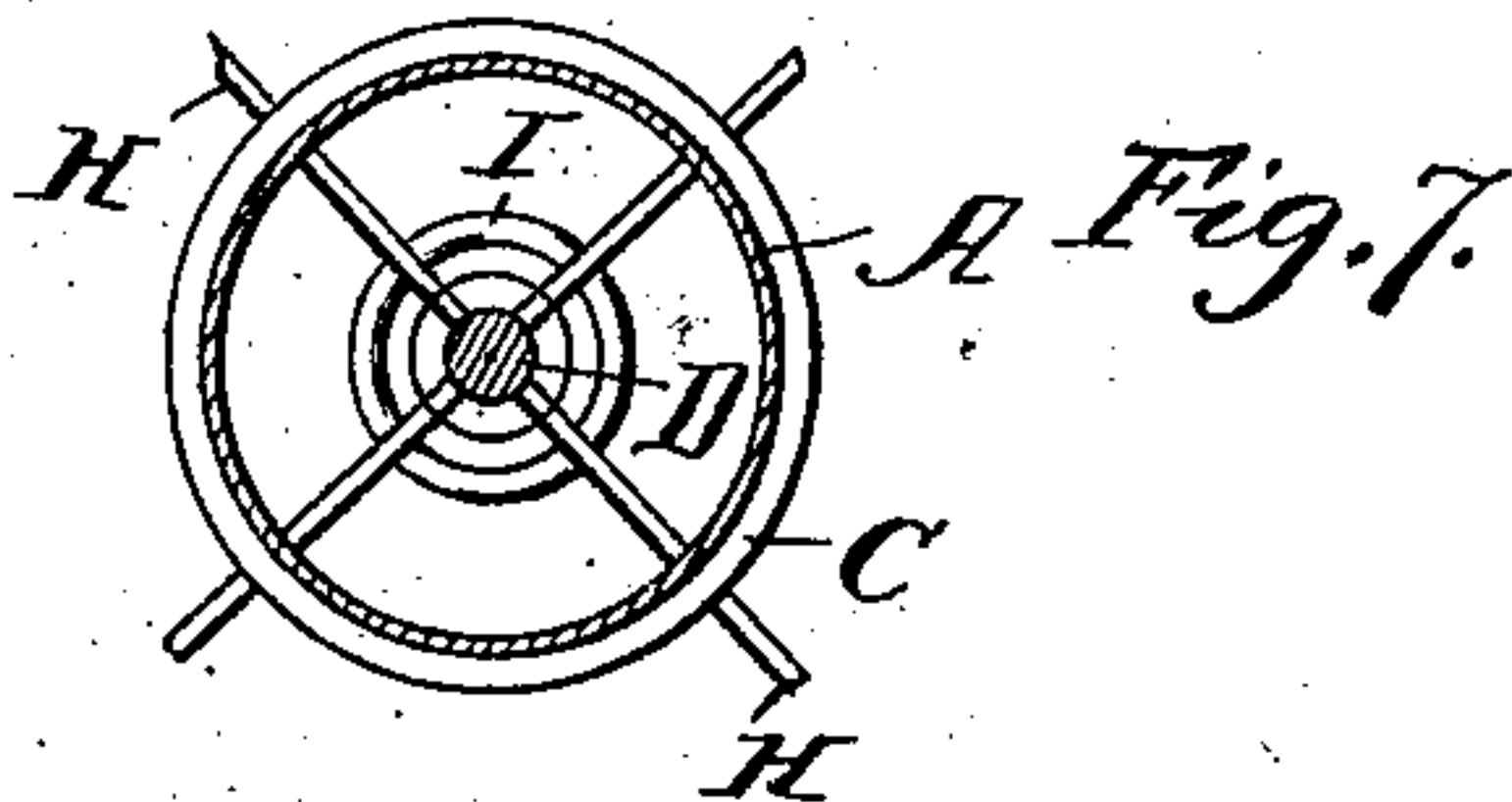
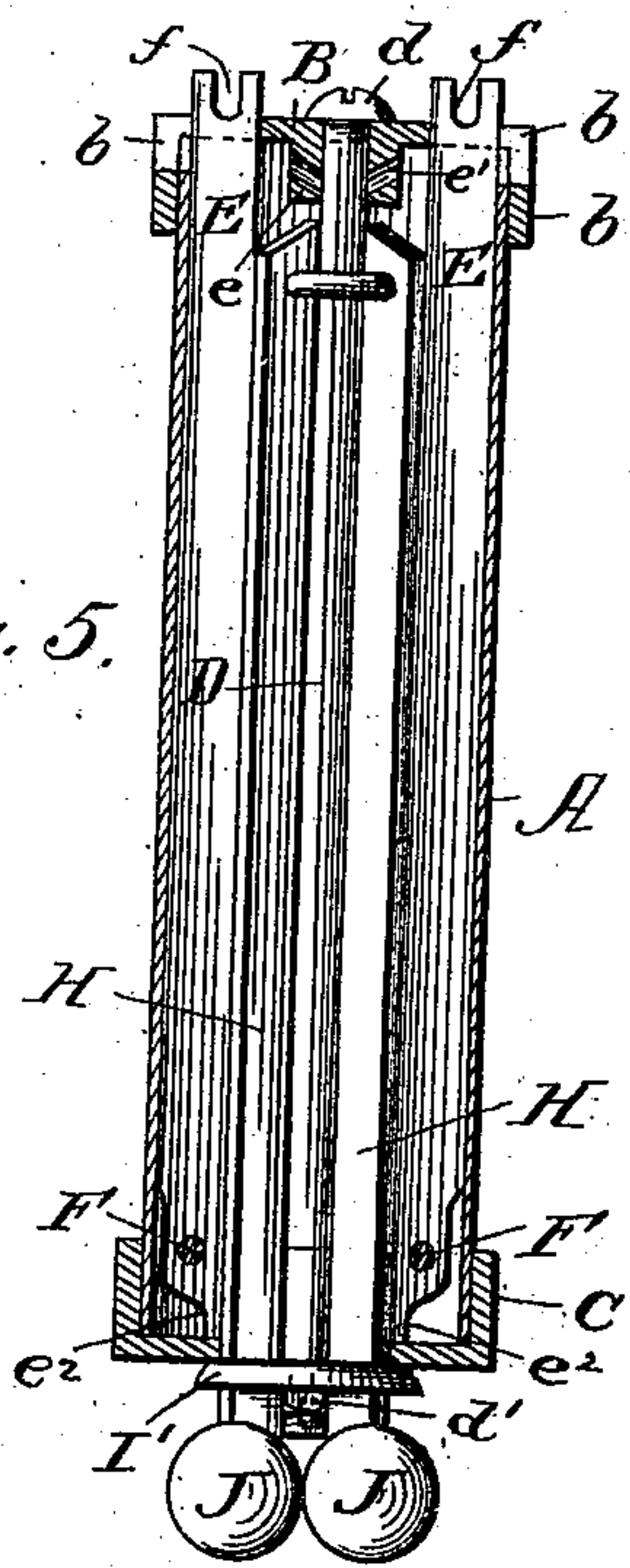
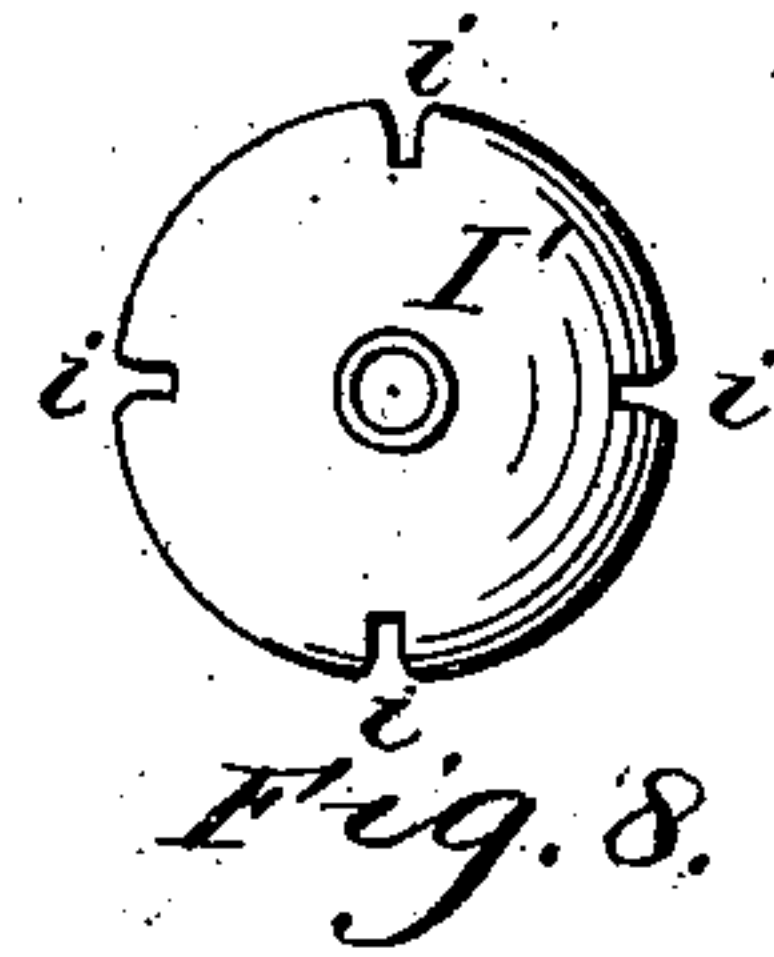
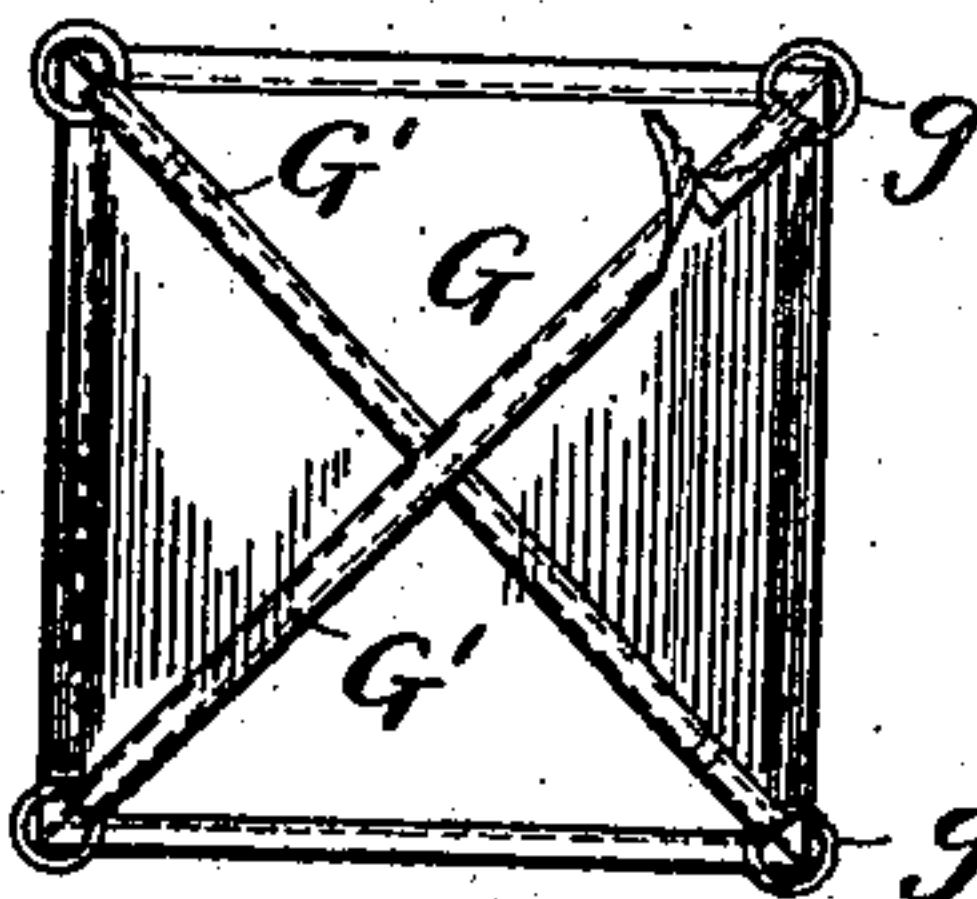


Fig. 9.



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UNITED STATES PATENT OFFICE.

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FOLDABLE STOOL.

SPECIFICATION forming part of Letters Patent No. 504,241, dated August 29, 1893.

Application filed August 27, 1892. Serial No. 444,254. (No model.)

To all whom it may concern:

Be it known that I, FRANK S. PATTON, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Foldable Stools; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my present invention is to so organize and construct the legs and seat-sustaining arms of the stool that they can be compactly folded together within a single central standard and which will present a rigid and substantial structure when unfolded and adjusted for service. These objects are attained by the mechanism illustrated in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a side elevation of the stool unfolded for use. Fig. 2 is a plan view thereof, illustrating the seat and reinforcing webs thereof by dotted lines. Fig. 3 is an elevation illustrating the parts folded together and in condition to be carried by hand. Fig. 4 is an enlarged view, partly in longitudinal section and side elevation, of the single tubular standard, the legs, and arms of the stool unfolded. Fig. 5 is a similar sectional view of the standard with the arms and legs folded therein. Fig. 6 is a transverse sectional view on the line $x-x$ of Fig. 4, looking from below. Fig. 7 is a similar sectional view on the line $y-y$ of Fig. 4, looking down and illustrating the ring on which the legs are pivoted. Fig. 8 is a detached detail view of the adjustable locking plate for holding the extended legs from collapsing. Fig. 9 is a plan view of the seat or top inverted to show the reinforcement webs on its lower side.

Like letters of reference denote like parts in all the figures of the drawings.

A designates the single central standard of my improved folding stool. This standard is preferably made of light sheet metal bent into substantially tubular form and of sufficient strength to sustain the load which may be imposed on the seat and which at the same time is light to avoid an undue increase of weight in the stool. At its upper end, the hollow metallic standard A is provided with a top

cap or plate B, and a similar bottom cap C is fitted over the lower end of said standard. The caps are held securely in place by means of a longitudinal through bolt D which passes centrally through the hollow metallic standard and its end caps, and this longitudinal bolt is provided with a head d at one end and an adjustable nut d' at its other threaded end, as shown more clearly in Fig. 4, although a nut may be used in lieu of the head d on the bolt, as is obvious. The longitudinal bolt or rod D is thus put under tensile strain in order to hold the caps B, C, in position on the standard, and this strain on the rod is opposed by the strength of the metal which comprises the body or tubular standard of the stool, whereby the parts are connected rigidly together.

E designates the seat-sustaining arms which are adapted to be folded within the hollow standard or body A and to be extended or projected beyond the same. The top cap or head B is provided with transverse slots b, b , which extend from points near the center thereof through the peripheral flange b' of said cap or head, and in these slots are fitted the arms E which are made of metal and so proportioned that they can slide freely through the slots in the cap or head. At its center, said cap or head B is provided with a hollow depending boss e which lies within the standard A, and through which boss passes the bolt or rod D; and the outside face of this internal depending boss e is provided with a series of openings or sockets e' arranged opposite to the slots b , so as to receive the tenons e^2 provided on the inner ends of the arms E. These arms E rest on the cap or head B and their tenons fit in the sockets e' thereof so as to sustain the arms in the inclined positions shown in Fig. 4, and with their upper extremities a sufficient distance above the top of the standard to suspend the seat clear from contact with the standard. The arms are held rigidly and firmly in position when thus extended for use, and they are prevented from folding up or collapsing under the weight of the person occupying the seat. The upper extremities of the arms E are provided with notches or prongs f , as shown in Fig. 5, and in these recesses are fitted the loops or rings g of the seat G, which is thereby suspended from the upper extremities of said inclined

arms E. The seat is made of any suitable pliable material, as for instance, canvas, which has its edges bound; and said seat is reinforced by means of webs G', G', that extend diagonally across the lower side of the seat G and are united thereto in any suitable way, whereby said webs serve to prevent the pliable seat from stretching and also afford a convenient means for attaching the rings or loops f to the seat, as the ends of said webs are inserted through the rings or loops and then fastened to the canvas seat G. The arms E are prevented from being wholly withdrawn from the hollow standard or body by the retainers F which are passed through the arms, near their inner ends, to serve as pivots therefor when turning the arms to fold and unfold them. These retainers are each preferably segmental and bent from a single piece of wire or rod, of such length as to cross the slots in the upper head or cap B; and they are so proportioned that they fit snugly within the standard, with their ends abutting against or adjacent to each other, so that they are adapted to slide freely within the standard, the form and arrangement of the segmental retainers preventing the arms from being wholly withdrawn from the standard or body and also serving to hold the arms, when folded, out of the way of the legs when the latter are thrust into the standard or body as will more fully hereinafter appear.

The bottom head or cap C at the lower end of the hollow standard or body A is likewise provided with radial slots c, c, and with a central hub or boss c' that projects upwardly from the head or cap into the standard and this boss or hub c' is provided in its outer face with a series of seats or sockets c'', the faces of each seat being inclined in the form of a "V" to receive the inner end of one of the legs H. A series of these legs H, is provided, which preferably correspond in number to the arms E and which is placed in vertical lines intermediate between the arms, as shown in the plan view Fig. 2 of the drawings; and said lugs are fitted in the slots c of the bottom cap or head C so as to slide freely therein when it is desired to adjust them, either in projecting the same from or folding them within the hollow standard or body A. When unfolded, the legs H assume the inclined divergent positions shown in Figs. 1 and 4, with their inner ends resting in the sockets or seats c'' in the central boss or hub c and bearing against the slotted edges of the cap C at intermediate points of their length. The inner portions of the series of legs are connected by a common band or ring I, on which the legs are loosely hung or pivoted so as to turn easily thereon when it is desired to fold or project them. The diameter of the ring or band is greater than that of the bolt or rod D and the central boss or hub c' on the lower head or cap C, to adapt the ring to slide freely over the bolt and said boss or hub c' when it is desired to fold or unfold the legs

H; and as the legs are lowered the band or ring fits around said boss or hub c', as shown. To fold the legs, they are lowered and withdrawn from the seats or sockets c'' in the central boss or hub, after which they are turned on the pivot afforded by the band or ring, and then shoved endwise into the body or hollow standard A; and in the act of moving the legs within the body or standard, the small band slides freely on the rod or bolt D and keeps the legs in such positions that they will not impinge or strike against the arms E whether the latter be already inclosed within the standard or folded therein after the legs have been thrust into the same.

To prevent the legs from dropping out of position when the stool is lifted or moved from one place to another, I provide a locking device I' arranged to bear positively against the legs and to hold them in their projected positions. The preferred form of this locking device comprises a flat disk or washer fitted loosely on the lower part of the through bolt or rod D, said disk being arranged between the lower head or cap C and the nut d' on said bolt, as shown in Figs. 4, 5 and 8, so that when the nut is loosened the washer can be conveniently turned by hand to adjust the disk or washer into position to impinge against the edges of the legs and confine them in their extended positions or to permit the latter to be folded parallel with each other and thus enable the same to be thrust into the standard. This locking disk is provided in its periphery with a series of notches or recesses i which correspond in number to the legs H and the slots in the lower head or cap C; and the washer can be turned so that the edges of the legs bear against the solid portions of the same to prevent the legs from dropping out of position when the stool is lifted or moved or said washer can be turned to bring its notches in line with the slots in the lower cap and opposite to the legs, to adapt the latter to fit into the notches in order to fold the legs parallel with each other previous to sliding them into the hollow standard or body A. The outer free ends of the legs H are provided with enlarged, rounded feet J which are rigid with said legs and serve to prevent them from sinking into the ground or earth when a person sits on the stool.

This being the construction of my stool, the operation may be described as follows: To unfold for use, it is optional whether the arms or legs are first withdrawn from the standard. The legs are drawn out in their parallel positions through the slots in the lower head C, the ring or band moving with them to prevent their entire withdrawal, and the legs are then spread so as to bear against the cap or head and have their inner ends fit in the seats or sockets c'' in the boss or head of said cap, after which the locking washer or disk I is turned to hold the legs from collapsing. The arms are drawn out of the slots in the top cap or head, and then spread out to the in-

clined positions, with their inner ends fitted in the seats or sockets of the central boss in the top cap or head B, after which the seat is attached to the arms by fitting the rings or loops in the notches or between the prongs at the outer extremities of said arms.

To fold the stool, the seat is detached from the arms, the locking disk or washer turned so that its notches are opposite to the legs; and the arms or legs are then withdrawn from the seats in the caps or heads, folded together in parallel positions, and then slid into the hollow standard or body, the retainers and ring serving to guide the arms and legs respectively so that they can be inclosed within the standard without interference from each other. The seat is wrapped or folded around the standard or body, and a suitable handle K may be attached to two rings or loops of the seat as indicated by Fig. 3 to enable the device to be conveniently carried.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. A foldable stool comprising a hollow standard, a radially-slotted cap or head fixed to said standard and provided with a depending boss having a series of sockets or seats, a series of arms adapted to be fitted in said seats or sockets of the boss, when projected, and to be disconnected from the same and thrust into the standard, the retainer fitted within the hollow standard and passing through the arms at one side of the inner ends thereof, a seat, and the legs, as and for the purpose described.

2. A foldable stool comprising a hollow standard, a slotted fixed cap having a series of seats, the arms fitted in said slotted cap, the segmental retainers on which said arms are loosely hung and which are fitted snugly within the standard to move freely in the same, a seat, and the legs, as and for the purpose described.

3. A foldable stool comprising the hollow standard or body, the heads fitted against the ends of the body and connected by a longitudinal through bolt, the pivoted arms fitted in the slots of the upper head and adapted to

slide within the standard or body, close to the same, a slidable ring fitted on the through bolt, and the legs pivoted to said ring and adapted to slide with the ring within the standard or body, said connected legs and ring lying close to the through bolt and within the positions occupied by the arms when said legs and arms are folded within the standard or body, substantially as and for the purpose described.

4. In a foldable stool, the combination with a hollow standard or body, and a bolt extending longitudinally through said standard or body, of a series of arms pivoted to a slidable retainer guided within the body or standard and adapted to slide therein with said arms when the latter are folded and thrust longitudinally into one end of the standard, and a series of legs connected by a common ring which is fitted loosely on the through bolt and slides with the legs when the latter are thrust into the opposite end of the standard, whereby the legs are adapted to fold into the standard within the positions occupied by the arms when folded therein, substantially as and for the purpose described.

5. In a foldable stool, the combination with a hollow standard, and a central through bolt or rod, of a series of arms pivoted to a sliding retainer fitted to slide within the hollow standard, a series of legs pivoted to a sliding ring loose on the central bolt or rod, the arrangement of the arms and legs and their sliding guides being such that the legs are adapted to lie within the arms when said arms and legs are folded within the standard, as and for the purpose described.

6. In a foldable stool, the combination with a hollow body or standard, of a series of arms adapted to be folded longitudinally within the standard, a series of legs arranged to fold in the standard within the positions occupied by the arms when folded therein, seats at opposite ends of the standard to receive the arms and legs, respectively, and hold the same in their projected positions, and a revoluble locking device at one end of the standard and arranged to confine the legs in their spread positions, substantially as and for the purpose described.

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

FRANK S. PATTON.

Witnesses:

JNO. SULLIVAN,
ALFRED SIDLIN.