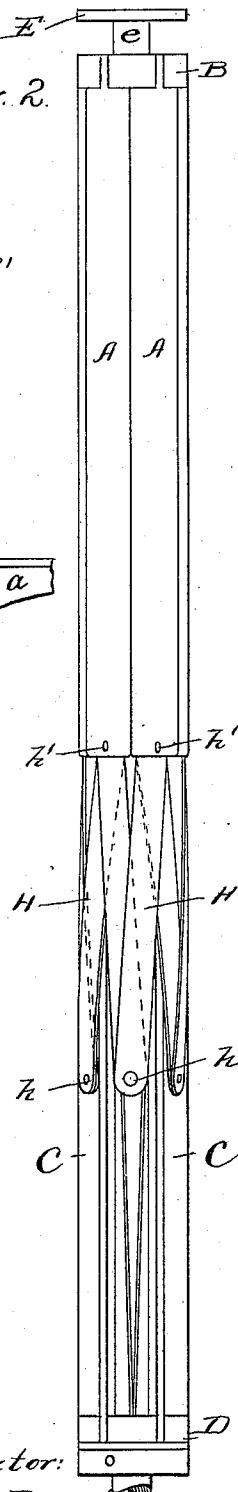
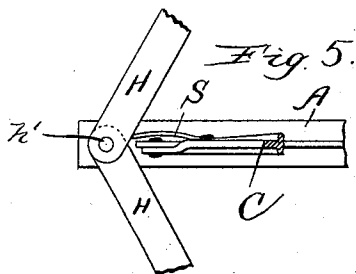
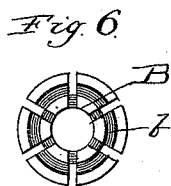
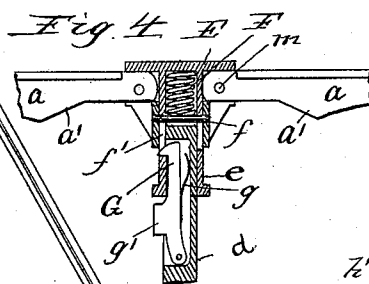
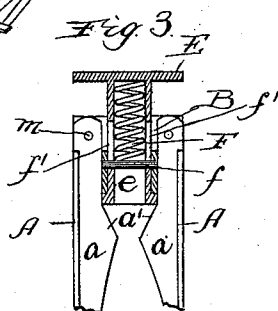
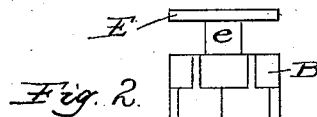
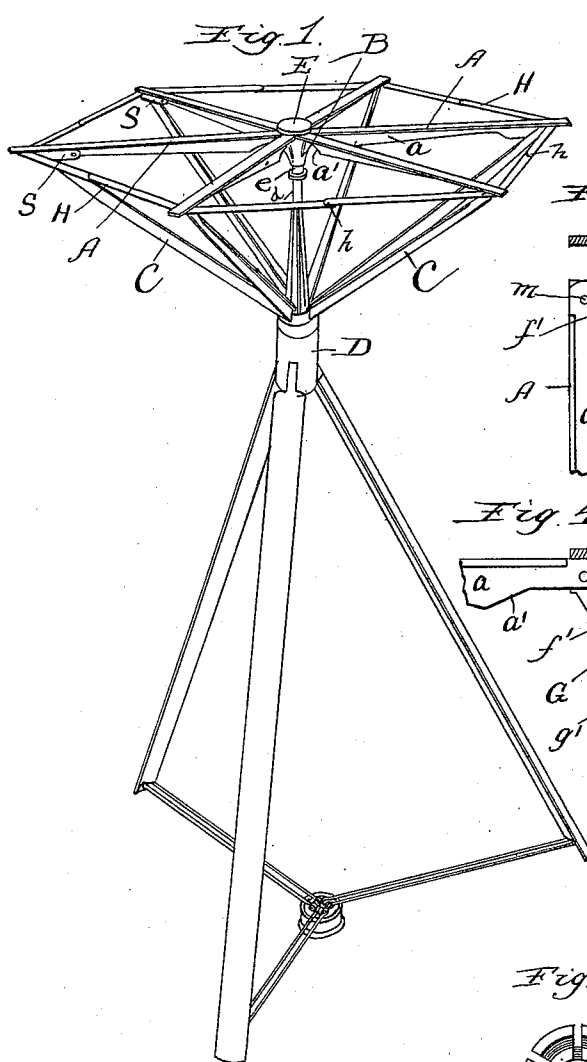


(No Model.)

F. BENOIT.
FOLDING STOOL.

No. 486,075.

Patented Nov. 15, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDRICK BENOIT, OF CHICAGO, ILLINOIS.

FOLDING STOOL.

SPECIFICATION forming part of Letters Patent No. 486,075, dated November 15, 1892.

Application filed November 12, 1891. Serial No. 411,657. (No model.)

To all whom it may concern:

Be it known that I, FREDRICK BENOIT, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Folding Stools, of which the following is a specification.

This invention relates to certain improvements in that class of folding stools which are adapted when folded to be used and carried as canes and is an improvement upon the construction of such stools set forth in my pending application, Serial No. 366,818.

The nature of the present improvement will be understood from the subjoined description and the accompanying drawings, in which—

Figure 1 is a perspective of my improved stool. Fig. 2 is the seat portion of the same in the folded condition. Figs. 3 and 4 are partial central vertical sections, one showing the parts folded and the other open. Fig. 5 is a bottom view of the outer end of one of the seat-arms. Fig. 6 is a plan of the hub to which the seat-arms are secured.

My invention resides in that part of the stool which forms the seat, and any suitable form of legs may be employed—such, for instance, as the three folding legs illustrated.

In the drawings, A represents the radiating seat-arms, hinged to a central hub B and supported at their ends by braces C, hinged to a body or hub D. The latter is supported by the folding legs or other suitable sustaining means.

In order to separate or spread the arms A when it is desired to unfold the stool, I adopt the following construction: The inner stiffening-rib *a* of each of the arms is beveled off, as shown at *a'*, and the central button E is provided with a hollow shank or stem *e* and is made movable vertically centrally within hub B. A spring F is confined in the hollow stem of button E between the button and a cross-bar *f*, secured in hub B, the sides of the stem E being slotted, as at *f'*, for the passage of this cross-bar. The lower end of the stem *e* is adapted to engage with the beveled surfaces *a'* when the button is depressed, thus causing a spreading movement by the lower or outer ends of the seat-arms. When folded, the button is thrown up automatically by the spring to the position shown in Figs. 2 and 3.

This spreading of the seat-arms greatly facilitates the unfolding of the stool.

When the stool is unfolded, the stem *e*, 55 which is open at the bottom, sets down upon the upper end of an upward extension *d* of the body D. In this upward extension is located a catch device G, acted upon by a spring *g*, and when the stem is moved down 60 over said extension this catch enters one of the slots *f'* in the stem, and thus locks the same to the body. To release this engagement, the catch G is pushed upon by the finger at the projection *g'*, which is exposed for 55 this purpose.

The construction of the hub B will be fully understood from the drawings. It is provided with an annular recess *b*, adapted to receive a pivotal wire *m*, serving as a means of attaching thereto all the seat-arms. The rims 70 at each side of this annular recess are cut away at proper intervals to admit the seat-arms. The hub is adapted to sustain all the pressure thrown upon the seat-arms as they rest upon the inner rim *b'* and also to sustain 75 the pivotal wire at each side of each arm and in close proximity thereto, so that said pivot can be made quite small and yet possess all necessary strength. 80

In order to render strong and rigid the seat-arms, I find it desirable to connect their outer ends by a metallic connection, which may also serve in some measure as a seat or supporting surface. The construction of this connection which I have found to be most desirable consists of flat steel bars employed in pairs between each pair of arms, said bars being pivotally joined to each other and to the seat-arms, so as to adapt them to collapse 90 or fold when the stool is folded. These bars are shown at H H and each pair of them is united together by the pivot-joint *h*, and one of each pair is pivoted to each of the seat-arms by a pivot *h'*. They possess great 95 strength, regulate the distance between the seat-arms when unfolded, add much to the comfort in using the seat, and, being flexible, they yield to such an extent as to obviate breaking. The stool is also rendered much 100 stronger. The bars lie nearly flush with the tops of the seat-bars and present a broad surface, thus adapted them to sustain some portion of the weight. The strains upon the

seat-arms are also distributed by these marginal connections, so that if the greater portion of the weight is over some of the arms the burden imposed thereby is in some measure transmitted to the arms which are less heavily weighted. It is desirable that these outer connections of the seat-arms should be provided with some means whereby they may be automatically collapsed when the seat is to be folded, and a desirable way of accomplishing this is by providing upon each of the seat-arms a spring S, which will bear against one of the bars H and tend to throw it outwardly. When the lock upon the stem of body E is released, the inner ends of the arms are raised preparatory to folding, (and this operation is substantially the same as in the construction shown in my former application.) The springs S, acting each upon one of the bars H, tend to throw the united ends of each pair of said bars outwardly, so as to facilitate the drawing together of the outer ends of the seat-arms.

When the stool is folded, the bars H lie flatwise on the outside, and in this position they readily bend or twist to conform to the rounded exterior of the folded stool and increase the diameter of the folded stool to a very trifling extent.

When the seat is spread and locked to the body, the parts are preferably under slight tension, so that when the catch G is released from its engagement with the stem of button E preparatory to folding the seat such tension, aided by the power of springs S, will act to throw the head and other central parts of the seat upwardly and off from the body, thus facilitating the folding operation and moving the parts partially toward their folded position.

I claim—

1. In a folding stool, the combination, with a central hub or support, of radiating seat-arms pivotally mounted thereon and having inclined or cam surfaces on their inner sides between their pivots and free ends, and a plunger or slide mounted on said support and adapted to engage said surfaces to assist in unfolding the stool, substantially as set forth.

2. In a folding stool, the combination, with the hinged seat-arms having inclined or cam surfaces between their hinges and free ends, of a plunger or slide adapted to engage said surfaces and provided at its upper end with an exterior handle or button by which it may be operated to assist in spreading the stool, substantially as set forth.

3. In a folding stool, the combination, with

the seat-arms having inclined or cam surfaces, of a plunger or slide adapted to engage said surfaces to assist in spreading the stool, a spring operating on the plunger to hold it from engagement with said surfaces, and bars H, hinged to the outer ends of the arms and to each other between the arms, substantially as set forth.

4. The combination of the seat-arms, the hub to which the arms are joined, the movable button, and the hollow stem of the button with the body D and its locking-catch adapted to enter said stem, substantially as set forth.

5. The combination, in a folding stool, of a seat having a central hub B and a downwardly-movable hollow stem e, supported in said hub, with the body D and its locking-catch adapted to enter a slot in said stem and means for depressing the stem into engaging position with the body, substantially as set forth.

6. In a stool, the combination, with the seat-arms adapted to fold, of flat bars H, of spring metal, hinged to said arms, connected by pivots h, and adapted to fold outward and downward and to permit such folding by bending, substantially as set forth.

7. The combination, with the folding seat-arms, of flat elastic bars adapted to fold and hinged to said arms and to each other by pivots perpendicular to the supporting or seat surfaces of said arms and bars, substantially as set forth.

8. The combination, with the seat-arms and the connections at the outer ends thereof, of springs acting upon and assisting in folding said connections, substantially as set forth.

9. The combination, with the seat-arms and the connections H, of springs S, secured to the arms and bearing upon said connections, substantially as set forth.

10. The combination, in a folding stool, of a seat having folding arms, connecting-bars hinged thereto, and springs S, acting between said arms and bars to break the joints of the latter, substantially as set forth.

11. The combination, in a folding stool, of a seat embodying seat-arms, connections for the outer ends of said arms, and springs S, bearing upon said connections, with means for locking said seat to the body of the stool, said springs assisting in throwing off the seat when the lock is released, substantially as set forth.

FREDRICK BENOIT.

Witnesses:

H. M. MUNDAY,
EMMA HACK.