Dec. 29, 1942. N. KETIVE 2,306,812

COLLAPSIBLE BENCH CHAIR

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FIG. 1.

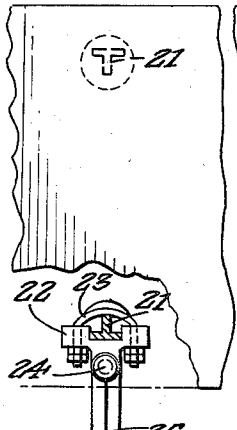
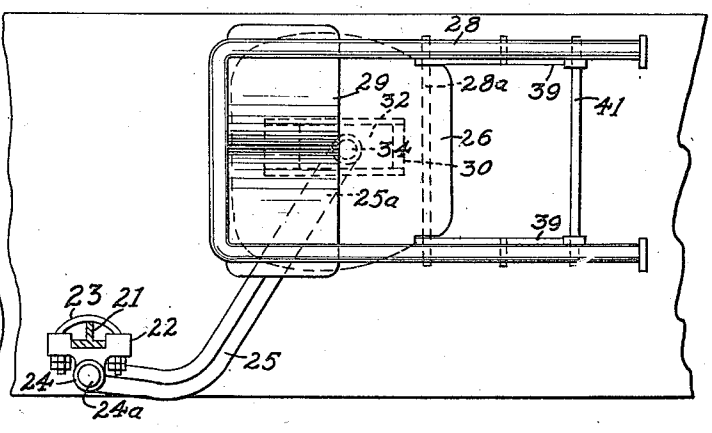


FIG. 8.



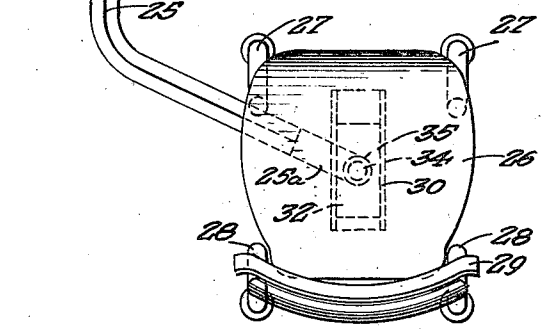


FIG. 6.

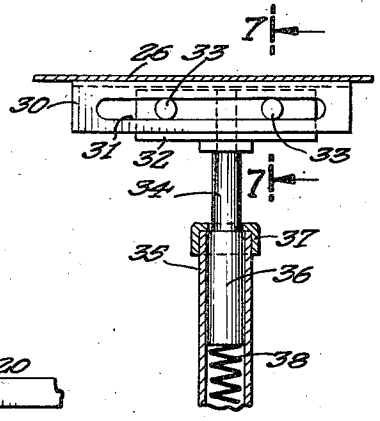


FIG. 2.

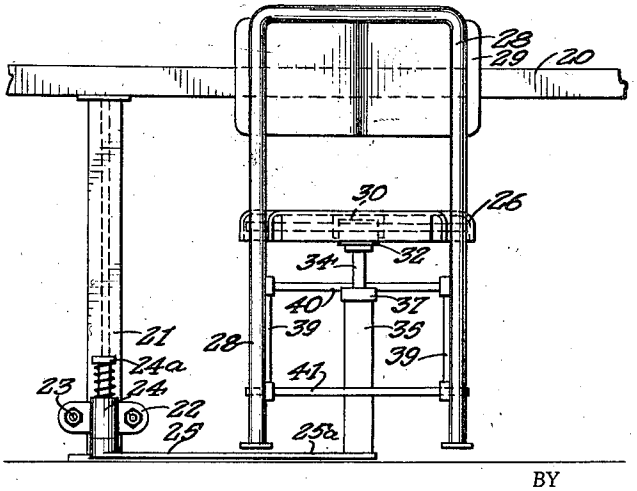
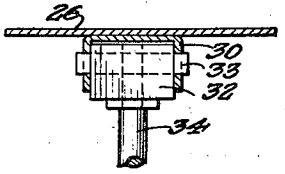


FIG. 7.



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FIG. 3.

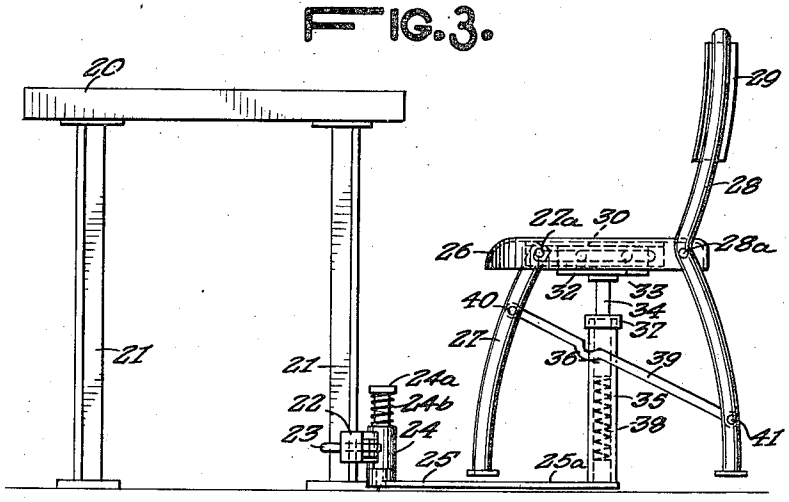


FIG. 4.

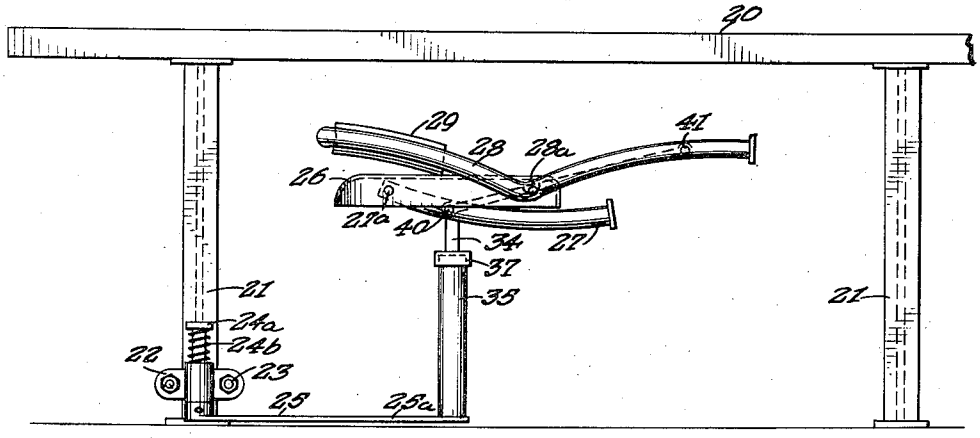
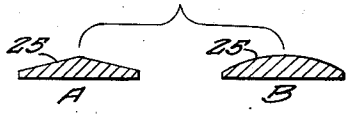


FIG. 5.



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UNITED STATES PATENT OFFICE

2,306,812

COLLAPSIBLE BENCH CHAIR

Nathan Ketive, New York, N. Y.

Application March 9, 1939, Serial No. 260,667

3 Claims. (Cl. 155—81)

My invention relates to folding chairs especially of the kind that is used in connection with factories, assembly shops where a large number of people are seated when engaged with their work and in such places where aisle space is restricted to narrow limits.

An object of my invention is to provide a folding chair that is hingably attached to a working table or like structure in such a manner that said chair can be folded and disposed of underneath said table or similar structure when not in use.

A further object of the invention is to provide a folding chair that is hingably attached to a working table or like structure and the manner of such attachment would not be contrary to fire regulations relating to factories or work shops.

A further object of the invention is to provide a folding chair of a nature that said chair can be pushed towards the table or away therefrom at the discretion of the user.

A further object of the invention is to provide a folding chair that can be completely folded by the user in one single operation.

A further object of the invention is to provide a folding chair that is attached in such a manner to a working table as to enable said chair to be turned on a swivel bearing, and, at the time when said chair is being turned, said chair is lifted up from the floor although said chair normally rests upon said floor when said chair is in use.

A further object of my invention is to provide a swivel arm for a folding chair in a manner that offers no obstruction when the user arises from said chair.

Further objects of my invention will appear as the description thereof proceeds.

In further description of my invention reference is had of the drawings, in which—

Fig. 1 is a plan view of an assembly of a working bench or table and a foldable hingingly mounted chair. The figure also shows the manner the swivel arm is attached to the working bench.

Fig. 2 is a rear view of the chair shown in Fig. 1.

Fig. 3 is a side view of the folding chair shown in Fig. 1.

Fig. 4 shows the chair folded and placed under the bench or table.

Fig. 5 shows in cross-section members A and B of the swivel arm.

Fig. 6 is a detail view of the carriage used for sliding the chair forward or backward.

Fig. 7 is a partial sectional view on the line 7—7 of Fig. 6.

Fig. 8 is a view showing the chair folded under the table.

Referring to Fig. 1. The numeral 20 is a work bench or table which is mounted upon cast iron legs 21, said legs have a T-shaped cross-section. A casting 22 is attached to one of the aforesaid legs 21, through the medium of U-shaped bolt 23. The casting 22 has an extension 24 which receives a swivel pin 24a. The lower part of the swivel pin 24a is pinned to a swinging arm or bar member 25. A spring 24b serves to hold the pin 24a under tension in the bearing 24. The tension upon the pin 24a tends to steady the arm 25 in whatever position said arm is moved by the occupant of said chair. The opposite end 25a of the swinging bar member 25 is attached to a tubular member 35.

The tubular member or standard 35 carries a collar 37 at its upper end. A shafting 36 is inserted into the tubular member or standard 35 and is held upwardly through the medium of a compression spring 38 inside the tubular member 35.

The shafting 36 has a smaller extension 34 which is attached to a carriage 32. The seat of the chair 26 is secured to a U-shaped member 30 which in turn is fitted over the carriage 32.

The U-shaped member 30 has elongated slots 31 on each of the flanges thereof. Locating pins 33 are inserted through the slots 31 and are held by the carriage 32. To the seat 26 are attached a pair of front legs 27 which are preferably made of tubing. The legs 27 are hinged to the chair seat 26 at 27a. A rear portion 28, which is preferably made of tubing includes rear legs and a chair back, conformingly shaped, having a central bend and pivoted to the chair seat 26 at 28a. The back rest 29 is attached to the rear portion 28 as shown in Fig. 3.

The front chair legs 27 and the legs of the rear portion 28 are linked together through the medium of link bars 36. The aforesaid bars 36 are pivotally secured on the chair legs at positions designated as 40 and 41 respectively.

Operation

In shops where articles of wear are manufactured or assembly plants where a large number of workers are employed and which said workers are required to be seated during their work, chairs of the usual type have been found to be

impracticable and undesirable in the fact that such chairs obstruct aisles and passageways when said workers are not seated on said chairs. Furthermore when cleaning the floors, it is necessary to move said chairs and in many cases the chairs are lifted bodily onto the tables which is undesirable in the fact that goods and the machinery may be damaged thereby.

To facilitate the disposal of the chairs after working hours the hingably mounted chair as described herein is used.

The invention herein shown and described provides a safety chair arrangement having a back thereto and means for the folding and housing thereof. Furthermore, said chair arrangement permits perfect freedom of movement of the body and limbs of the person occupying said chair, said chair being free of brackets, extensions or like projections which impede movement in and around said chair and passageway contiguous thereto. In the event of a fire or panic in a factory or like location where chairs and benches adjacent thereto are laid out in aisle formation, any obstruction in such aisles caused by chairs, especially of the type and size requiring a comfortable seat and back thereto may be considered a hazard. The present invention seeks to obviate the undesirable features set forth, by providing a much required novel seating facility having, first, a comfortable unobstructed seat; second, minimum use of aisle space; and third, ease of housing said chair completely clearing the aisle and floor contiguous thereto.

To fold the chair the user depresses the back of the chair toward the bench or table. The aforesaid operation will bring the rear legs on a horizontal plane with the seat of the chair.

The folding over operation of the back portion **28** to a horizontal position over the seat **26** furthermore causes the front legs **27** to move upwards and against the under portion of the chair seat **26** because of the interconnecting link bars **36** (see Fig. 4).

The chair legs are normally held spaced from the floor and above the swinging bar member **25** as shown in Fig. 3.

When the user is seated on the chair the spring **38** is depressed. However, the weight of the chair occupant overcomes the tension of the spring and brings the chair and the legs thereof to the floor. The chair while thus occupied performs its normal function unhampered by brackets, arms or other chair supporting mediums either in front or back of the chair or at the sides thereof.

The supporting bar member **25** has none of the foregoing obstructions being situated contiguous to the floor.

The chair is furthermore made more flexible and comfortable by the sliding action of the chair in this case is due to the slot **31** of the U-shaped member **30** sliding with the pins of the carriage **32**.

After the chair is folded as stated the seat **26** is pushed by the operator and as the swinging arm member **25** hinges at **24**, the entire arrangement is swung under the table.

The foregoing detailed description has been given for clearness of understanding only and no unnecessary limitations should be understood therefrom, but it should be construed as broadly as permissible in view of the prior art.

Now, having described my invention, what I claim is:

1. In a safety chair positioned adjacent to a table, bench or similar structure, said chair including a vertical supporting member on the underside of the seat and between the legs of the chair and slidable in a standard, said standard having a return spring for elevating said chair and the legs thereof when relieved of weight, said standard mounted at its lower end on the free end of a swinging bar member that is hingedly mounted at the opposite end thereof to the lower end of a leg of said table or bench, said chair when thus elevated causing the legs thereof to be lifted above said swinging bar member and above the floor level whereby said chair is clear to swing into the space underneath said table or bench through the medium of the swinging bar aforesaid.

2. In a safety chair positioned adjacent to a table, bench or similar structure, said chair being free of obstruction in front, and sides thereof, said chair including a vertical supporting member, said supporting member mounted on the underside of the seat and between the legs of the chair and slidable in a standard, said standard having a return spring for elevating said chair and the legs thereof when relieved of weight, said standard at its lower end mounted on the free end of a swinging bar member that is hingedly connected at the opposite end thereof to the lower end of a leg of said table or bench, said return spring when thus free of weight causing said chair and the legs thereof to be lifted above said swinging bar member and above the floor level whereby said chair is clear to swing into the space beneath said table or bench through the medium of the swinging bar member aforesaid.

3. In a swingable chair adjacent to a work bench table or like structure, the seat of said chair mounted on a supporting member slidably mounted in a vertical standard, said standard at the lower end thereof affixed to the free end of a swinging bar member that is hingedly connected at the opposite end thereof to the lower end of a leg of said table or bench, said standard having a return spring causing the lifting of said supporting member and said chair and the legs thereof above said swinging bar and above the floor level when free of weight whereby said chair is clear to swing underneath said work bench or table; said chair having a rear portion including a back and rear legs, said rear portion hingedly connected to said seat, a front portion comprising front legs also hingedly connected to said seat, cross bar member means connecting said rear and front portions, whereby said rear portion may be swung over and upon said chair seat, said movement of said rear portion causing said front portion to swing underneath said chair seat through the medium of the cross bar member means aforesaid.

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