

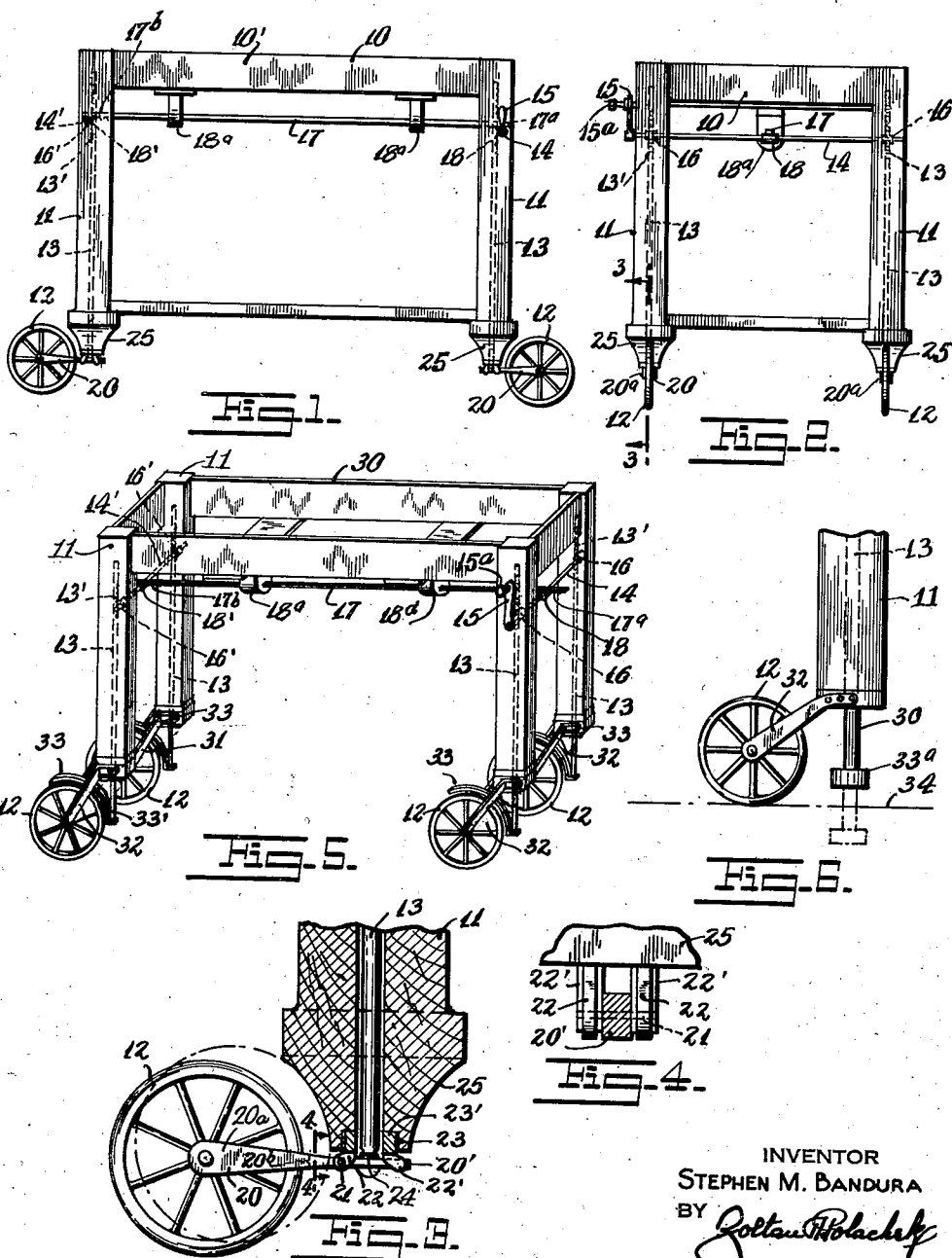
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BRAKE FOR PORTABLE TABLES

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BRAKE FOR PORTABLE TABLES

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This invention relates to new and useful improvements in a brake for portable tables such as bar tables, service tables and the like.

It is an object of this invention to provide a mechanism for holding the wheels of tables of the class mentioned, when desired, so that the tables do not accidentally move. Quite often such accidental motion of a table results in spilling the contents of some of the containers thereon and also causes other damage.

It is a further object of this invention to so arrange the brake that upon the operation of a handle, the braking mechanism automatically engages all of the wheels of the table.

Still further the invention contemplates an arrangement wherein the braking mechanism is so constructed that the wheels are capable of turning completely around about an axis coinciding with the axes of the posts of the table. In other words, the wheels of the table are adapted to act as casters even though the brake mechanism is applicable therewith.

Still further, the invention contemplates a novel arrangement wherein vertically slidable rods within each of the corner posts of a table, are adapted to be simultaneously raised and lowered, as desired, and mechanism for causing the operation of the brakes when the rods are lowered.

Another object of the invention is a provision whereby the rods mentioned in the previous paragraph may be lowered to such an extent that the table is lifted from the floor a sufficient distance to disengage the wheels therefrom and so the table is held comparatively stationarily.

Another one of the objects of the invention is the construction of a device as mentioned which is simple and durable and which can be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a side elevational view of a table constructed according to this invention.

Fig. 2 is an end elevational view of Fig. 1.

Fig. 3 is a fragmentary enlarged sectional view as though taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary enlarged sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is a perspective view of another table

with a brake mechanism according to a modification of the invention.

Fig. 6 is a fragmentary view similar to a portion of Fig. 5 but illustrating a still further modified form of the invention.

The brake mechanism according to this invention, is used in combination with a portable table 10 equipped with vertical corner posts 11 associated with wheels 12 by which the table may be conveniently moved around. A vertical rod 13 is slidably mounted in each of the posts 11 and is extendible from the bottom thereof. A means is provided for simultaneously moving the rods 13 upwards and downwards. This means comprises a novel association of members with rack portions engaging pinions and the like, and controlled with a handle.

More particularly, a transverse rod 14 is arranged between a pair of the posts 11 at one end of the table and another transverse rod 14' arranged across the posts 11 at the other end of the table. The rod 14 has one end projecting and a handle 15 is mounted on this projecting end. Small gears 16 are mounted upon the rod 14 and mesh with rack teeth 13' formed upon the rods 13. The rod 14' is also provided with small gears 16' for meshing with rack teeth 13' mounted upon the rods 13. A horizontal bar 17 extends longitudinally beneath the top 10' of the table and is slidably mounted in supports 18. The bar 17 is formed with rack teeth 17^a and 17^b near the ends thereof. These rack teeth mesh with pinions 18 and 18' respectively fixed upon the rods 14 and 14'.

The arrangement is such that the handle 15 may be turned in one direction to turn the rod 14 which will cause the simultaneous moving down of all of the rods 13. This is so that as the rod 14 is turned, the gears 16 acting against the teeth 13', will move the rods 13 at the front end of the table downwards. As the rod 14 turns the bar 17 will be moved because of the gear 18 meshing with the rack teeth 17^a. This motion of the rod will be communicated by the rear rack teeth 17^b to the rear pinion 18 and the rear rod 14'. Turning of the rod 14' will cause motion of the rear vertical rods 13.

The wheels 12 are rotatively supported upon fork members 20 pivotally mounted intermediate of their ends by pintles 21 upon yoke members 22 which are mounted on the cores 23' of ball bearing constructions 23 mounted within recesses in the bottoms of the posts 11. The tail ends 20' of the fork members are guided between a pair of parallel lugs 22'. The rods 13 are connected with

the tail portions 20' of the fork members by universal connections 24. The arrangement is such that as the rods 13 move upwards and downwards the fork members 20 are moved. More specifically, the rods 13 move the rear ends of the tails 20' of the fork members up and down which moves the front ends in reverse order. Each of the posts 11 have braking surfaces 25 arranged there around in conical shape so that in all rotative positions of the race members 23 the wheels 12 may engage against the braking surface upon downward motion of the rods 13.

The fork members 20 each comprise a pair of front fingers 20^a arranged on opposite sides of the wheels 12 and joining together at the point 20^b outside of the compass of the wheel with a single member constituting the tails thereof and designated on the drawing by reference numeral 20'.

In Fig. 1, the table is shown with the brake mechanism in the inoperative position. The table may be moved along on the ground as desired. The wheels 12 may be moved to contact with the brake surfaces 25 by operation of the handle 15. A screw 15^a threadedly engages through the handle 15 and is capable of abutting the post 11 to hold the handle in various positions so that the brake may be held engaged or released.

In Fig. 5 a modified form of the invention has been disclosed which distinguishes from the previous form merely in the arrangement of the brake shoes and the mounting of the wheels. More particularly, according to this form of the invention, there is a table 20 having vertical posts 31 in the corners thereof. Rods 13 are vertically slidably arranged within the posts 31. These rods are adapted to move upwards and downwards by a mechanism, as explained relative to Fig. 1, which mechanism may be recognized on the drawing by the identical reference numerals.

The wheels 12 of the device are fixed on brackets 32 which are stationarily mounted upon the lower ends of the posts 11. The rods 13 extend from the bottom ends of the posts and support arcuate shaped brake shoes 33. These brake shoes are arranged so as to be supported at one of their ends 33' upon the rods 13, and extend upwards in arcuate paths. When the bars 13 move downwards the brake shoes 33 engage against the wheels to lock the wheels against rotation, and furthermore, the brake shoes 33 become wedged in the space between the rods 13 and the wheels 12. This may be easily understood by carefully examining the drawing and realizing that as the rods 13 move downwards, the brake shoes 33 must be wedged as stated. Further braking action is obtained by the resiliency of the brake shoes 33. Since the brake shoes are being moved downwards by the rods 13, they will act with greater and greater force against the wheels 12 the further the rods are moved downwards. A screw 15^a threadedly engages through the handle 15 and is capable of abutting the post 11 to hold the handle in various positions so that the brake may be held engaged or released.

In Fig. 6 another modified form of the invention has been disclosed which is substantially identical to that form of the invention disclosed in Fig. 5 except for the construction of the brake shoes. In this particular case the brake shoes comprise blocks 33^a merely mounted upon the

lower ends of the rods 13. When the rods 13 are moved downwards, as indicated by the dot and dash lines, the brake shoes 33 will act against the floor 34 and lift the table off the floor so that the wheels 12 are out of contact.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. In combination with a table having vertical corner posts, a vertical rod slidable in each post and extendible from the bottom thereof, means for simultaneously moving said vertical rods upwards and downwards, a wheel associated with the lower end of each post for supporting the table, and braking mechanism for the wheels operative upon downward extensions of the rods, said means for simultaneously moving the vertical rods comprising transverse rods rotatively mounted in the table and equipped with gears meshing with racks upon said vertical rods, a horizontal bar slidably arranged and provided with arcuate teeth meshing with gears upon said transverse rods, and a handle upon one of said transverse rods for the operation thereof to cause the simultaneous operation of said vertical rods.

2. In combination with a table having vertical corner posts, a vertical rod slidable in each post and extendible from the bottom thereof, means for simultaneously moving said rods upwards and downwards, a yoke rotative upon the lower end of each post, a fork pivotally mounted on each yoke and extending beneath an opening in the yoke and connected with the vertical rod in the post, a wheel upon the outer end of each fork, and a brake surface on each post engageable by said wheel when the vertical rod is moved downwards.

3. In combination with a table having vertical corner posts, a vertical rod slidable in each post and extendible from the bottom thereof, means for simultaneously moving said rods upwards and downwards, a yoke rotative upon the lower end of each post, a fork pivotally mounted on each yoke and extending beneath an opening in the yoke and connected with the vertical rod in the post, a wheel upon the outer end of each fork, and a brake surface on each post engageable by said wheel when the vertical rod is moved downwards, the connections between the vertical posts and the fork members comprising universal joints.

4. In combination with a table having vertical corner posts, a vertical rod slidable in each post and extendible from the bottom thereof, means for simultaneously moving said rods upwards and downwards, a yoke rotative upon the lower end of each post, a fork pivotally mounted on each yoke and extending beneath an opening in the yoke and connected with the vertical rod in the post, a wheel upon the outer end of each fork, and a brake surface on each post engageable by said wheel when the vertical rod is moved downwards, said forks having tail ends guided by lugs formed upon said yoke.

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