Aug. 9, 1938. W. A. ANDERSON 2,126,303

STAND

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Fig. 1.

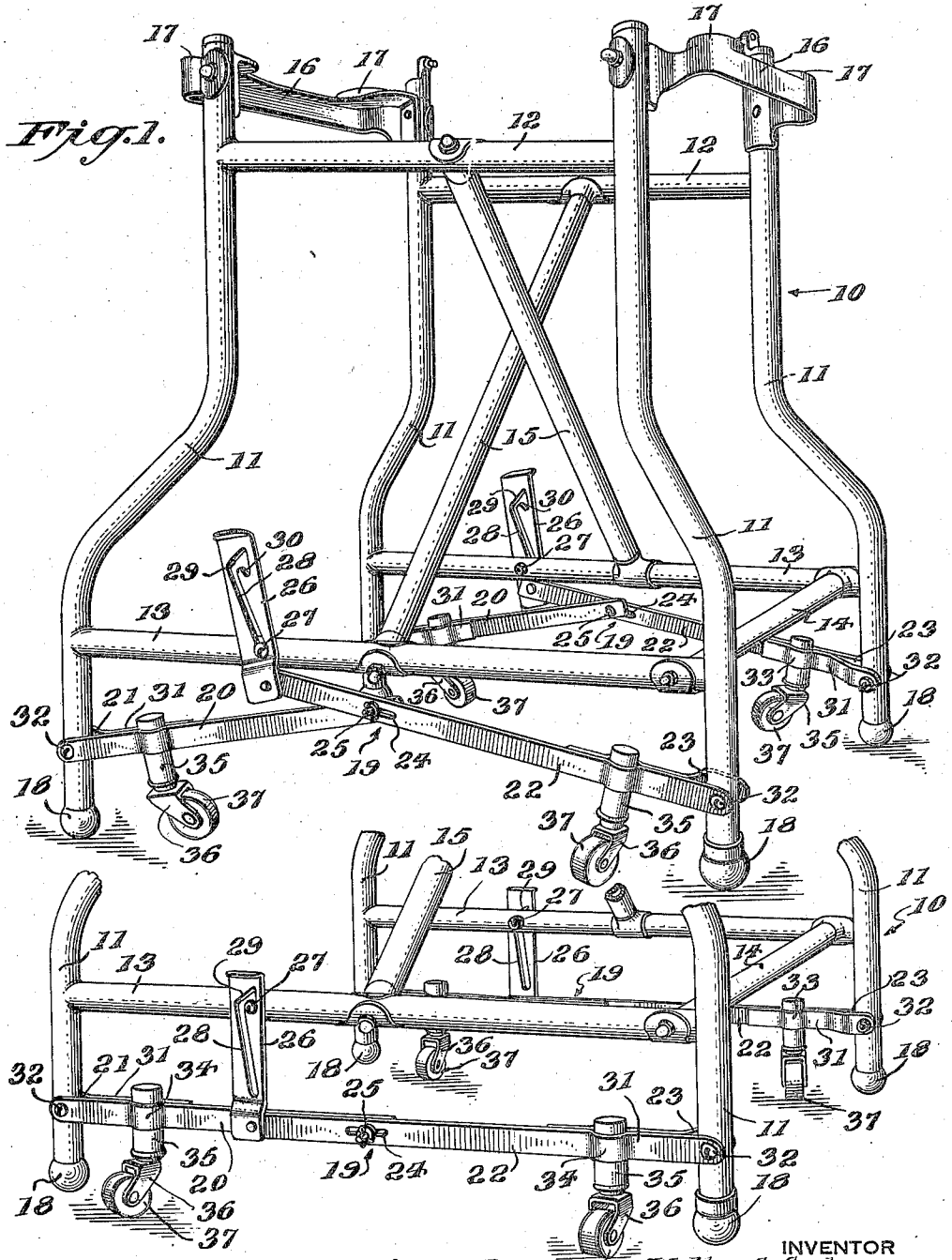


Fig. 2.

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STAND

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4 Claims. (Cl. 280—44)

This invention relates to stands and has particular application to stands which are used for supporting business machines such as adding machines or typewriters.

Certain of such machines are of considerable weight and are not readily removable from one place to another even when provided with coaster feet. In addition to the effort required to push the stand and its supported machine over the floor there is the further objection that the rigid feet tend to scar the surface of the floor. To avoid these objections it has been proposed heretofore to provide casters which may be substituted for the feet to assume the weight of the stand and machine when it is desired to move them from one place to another. Prior devices for this general purpose have been found objectionable owing to difficulties in operation and lack of simplicity and further because the casters have been arranged outside of the boundaries formed by the corner posts or because to avoid this the casters have been inserted in the feet of the corner posts involving highly specialized formation of both the feet and the casters. The present invention has for one of its objects to provide a stand with casters which may be quickly and easily operated to throw and maintain the weight of the stand and machine on the casters and may also be quickly and easily operated to render the casters ineffective as supports and to restore the stand to its normal operative position in which the feet of the corner posts serve as the supports. Another object is to arrange the casters substantially within the boundaries of the corner posts of the stand thereby avoiding an increase in floor space requirements and guarding against possible injury to persons walking around or near the stand by removing the liability of tripping or stumbling over projecting casters.

It is a further object of the invention to apportion the weight of the stand and machine over independently operable caster groups thus dividing the work of raising the device to caster supporting condition, and to provide suitable leverage and foot actuated means whereby a portion of the weight of the operator may be employed in progressively overcoming the total weight of combined stand and machine and in resisting the weight when reconverting the stand to post support.

In the preferred form of the invention shown in the accompanying drawing the caster-carrying means and actuating devices therefor are in two groups arranged at opposite sides of the stand near the bottom and each group comprises a toggle with an associated foot treadle which is suitably connected to the stand at a lower side bar which in turn is connected between two corner posts or legs of the stand. By pressure on one of the foot treadles the toggle is straightened causing that side of the stand to be elevated to throw its weight upon casters supported inwardly from the corner posts near the ends of the toggle, which ends are pivotally connected to the corner posts. Latch means are provided for releasably holding the treadle in its down position and the latch may be made effective when the weight of the stand has been transferred to the casters. After one toggle has been operated and latched, the toggle on the other side of the machine is operated in similar fashion to lift the oposite side of the stand fulcruming in this operation around the casters of the first group. The toggle latches may be released by slight downward and sidewise movement of the foot treadle and the lowering of the corner post is maintained under control of the operator as the corner posts descend to recontact with the floor.

In the accompanying drawing:—

Figure 1 is a perspective view of the improved stand as it appears when the adding or typewriting machine supported thereby is in use.

Figure 2 is a perspective view of the lower part of the stand shown in Figure 1, when the caster-substituting means have been actuated to make the stand ready for movement.

A rigid frame is indicated at 10 comprising four corner posts or legs 11 connected by upper side bars 12, lower side bars 13, a connector 14 between the lower side bars at the rear of the machine, diagonal struts 15 from each upper side bar to a lower side bar on the other side of the machine substantially midway between the front and rear of the stand, and machine-supporting members 16 at the front and rear of the stand near the top, each of said members 16 being provided with corner sockets 17 for the reception of feet on the business machine to be supported by the stand. The corner posts 11 at their lower extremities may be provided with coaster feet 18.

To the end of substituting caster support for the stand, a caster-carrying toggle 19 is provided at each of the opposite sides. Each toggle comprises a bar 20 having a forked end 21 pivotally connected to one of the corner posts and a longer bar 22 having a forked end 23 pivotally connected to the other corner post on the same side of the stand. The bar 22 is slotted as indicated at 24 for the reception of a pin 25 carried by the bar 20, and the bar 22 extends beyond the pin 25 and

has pivoted thereto at its free end a treadle 26 extending upwardly from the end of the bar 22 and guided and confined by a stud 27 passing through a cam slot 28 in the treadle and into the lower side bar 13. The upper end of the slot 28 provides a cam face 29 which serves to translate downward pressure on the treadle into lateral movement of the upper end thereof and thus position a notch 30 under the shank of the stud 27 at the end of the downward movement of the treadle. Depression of one treadle elevates a side of the stand substituting the casters for the coaster feet of the corner posts as the prime supports for that side of the stand and, the weight of the stand on that side having been transferred to the casters, relief of foot pressure on the treadle permits the treadle to follow upwardly until the notch 30 engages the stud 27 thus effectively latching the toggle in extended position as shown in Figure 2. It will be obvious that the angularity of cam slot 28 from the face 29 to the lower end of the slot tends to maintain the treadle in substantially upright position while making the substitution of one form of support for the other.

After one toggle has been operated and latched the other toggle is similarly operated and set in position and the stand is supported by the casters and may be rolled along the floor.

It is not desirable to rely upon caster support for stands of this type when the machines mounted thereon are in use as many of the operations of the machine exert pressures which are not sufficiently resisted by anti-frictional floor contacts. Therefore, after the machine has been moved to the desired position the treadles are again pressed downwardly and given a slight lateral urge to release the latch whereupon the operator gradually relieves the foot pressure allowing the treadle to rise guided by the stud and slot connection and the toggle to break under the weight of the stand until the corner posts descend to the floor and reassume the weight. After one side of the stand has been lowered the other side is lowered in similar fashion.

The forked ends of the toggle bars may be formed by spot welding straps 31 to the bars 20 and 22. Outer ends of the straps are formed with reverse angle bends and a pivot pin 32 is passed through the fork thus provided by each toggle bar and through the corner post of the machine. Slightly inward from each pivot pin 32 the strap and bar are reversely curved as indicated at 33 and 34 to receive a conventional caster housing 35 and hold the same against end thrust. The housing 35 contains the usual vertical swivel of the caster which terminates in the fork 36 in which the roller 37 is journalled. By thus locating the casters on the toggle bars, spaced inwardly from the respective corner posts, the stand requires no additional floor space and the casters are not in position to be stumbled over as the operator moves around the machine.

What is claimed is:—

1. A stand having corner posts, a cross bar between two corner posts, a pair of toggle links connected together near their inner ends and having their outer ends connected to the two corner posts respectively, an antifriction support on each of said links, a treadle connected to one of said links, and a pin on the bar, the treadle being upstanding and slotted to receive the pin, the slot being directed obliquely upward for a substantial length then upward obliquely in the reverse direction and defining a shoulder below its upper end.

2. A stand having corner posts, a cross bar between two corner posts, a pair of toggle links connected together near their inner ends and having their outer ends connected to the two corner posts respectively, an antifriction support on each of said links, a treadle connected to one of said links, and a pin on the bar, the treadle being upstanding and slotted to receive the pin, the slot being directed obliquely upward for a substantial length then upward obliquely in the reverse direction and defining a shoulder below its upper end, and a corresponding structure on the opposite side of the stand.

3. A stand having corner posts, a cross bar between two corner posts, a pair of toggle links connected together near their inner ends and having their outer ends connected to the two corner posts respectively, an antifriction support on each of said links, a treadle pivotally connected to one of said links, and a pin on the cross bar, the treadle being in an upstanding position and having a slot receiving said pin, the slot being directed for a portion of its length to compensate for the arcuate movement of the treadle pivot to maintain the treadle in upright position as it is depressed and restored and the upper end of the slot defining a cam edge for translating downward pressure on the treadle into lateral movement thereof, and the slot defining a shoulder which rides under said pin in said lateral movement.

4. A stand having corner posts adapted to bear the weight of the stand, a cross bar between two corner posts, a pair of toggle links having their outer ends pivotally connected to opposite corner posts and being connected to each other near their inner ends, anti-friction supports carried on the links respectively, a treadle connected to an end of one link and upstanding adjacent the cross bar, and a pin and slot connection between the treadle and cross bar adapted to maintain the treadle in substantially vertical position as it is depressed to straighten the toggle and restored in the breaking of the toggle, said pin and slot connection comprising a treadle latch effective when the toggle has been straightened to depress the anti-friction supports and elevate the corner posts and the pressure on the treadle is relieved.

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