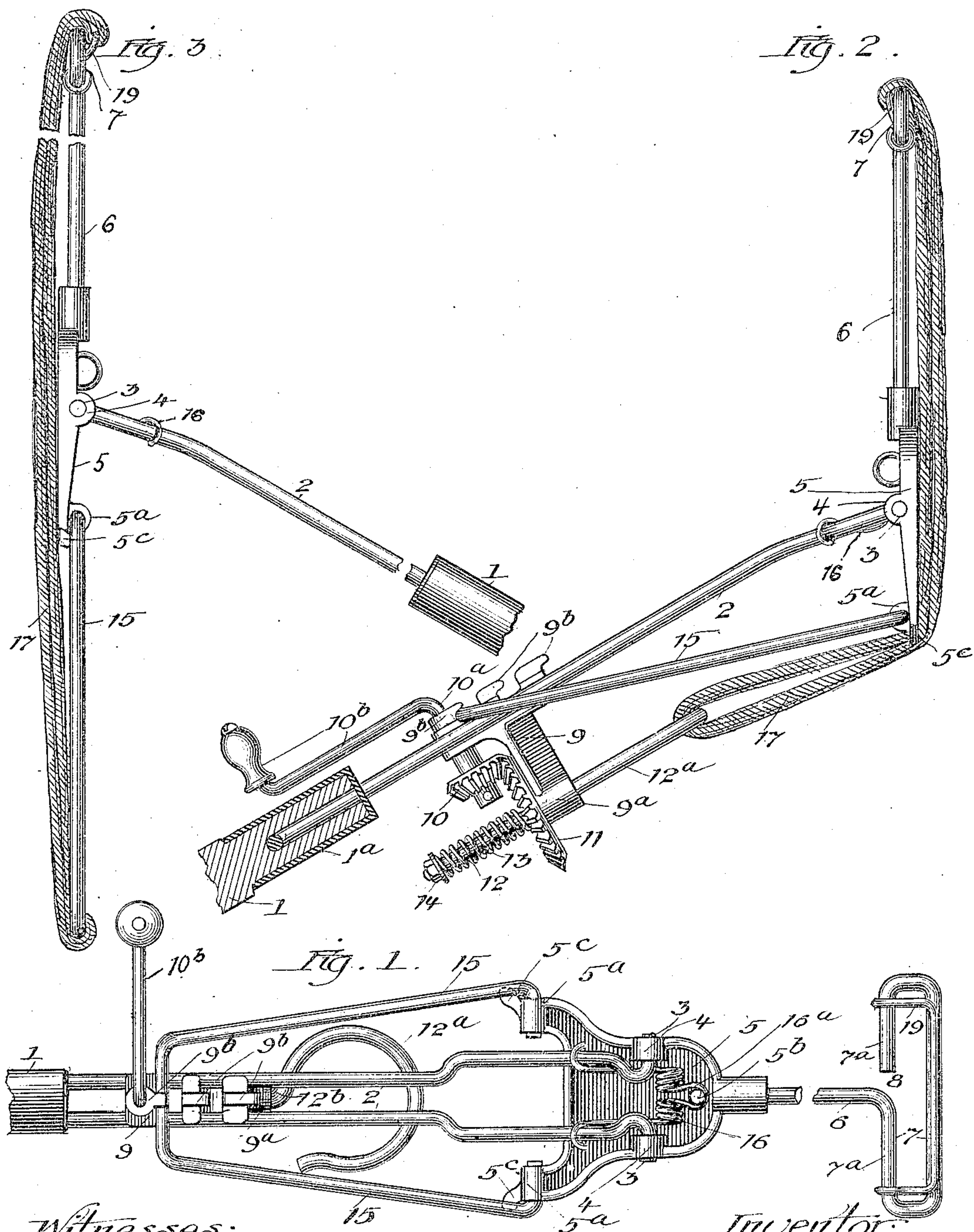


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H. O. THOMAS.
FLOOR OR WALL WIPER OR MOP
APPLICATION FILED MAY 11, 1903.



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UNITED STATES PATENT OFFICE.

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FLOOR OR WALL WIPER OR MOP.

SPECIFICATION forming part of Letters Patent No. 790,938, dated May 30, 1905.

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To all whom it may concern:

Be it known that I, HENRY O. THOMAS, a citizen of the United States, residing at Harrisburg, in the county of Banner and State of Nebraska, have invented new and useful Improvements in Floor or Wall Wipers or Mops, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide an improved device for either wet or dry cleaning in the nature of a wiper, duster, or mop.

It consists in the features of construction set out in the claims.

In the drawings, Figure 1 is a plan view of my improved device. Fig. 2 is a side elevation of the same in one form, with wringing devices attached and in position of use in wiping down a wall. Fig. 3 is a view similar to Fig. 2, showing the device as a duster or dry wiper with the wringer removed.

To the handle 1 there is secured a forked stem 2, of heavy spring wire or rod, the two ends of the fork being turned outward and terminating in gudgeons or pivots 3 3, which may be engaged with the lugs 4 4 of the plate 5, from the end of which there protrudes a stem 6, terminating in a transverse eye 7, formed by bending the rod or wire of which the stem is made, as seen plainly in Fig. 1, leaving the eye open at the point 8 for the purpose of introducing thereinto the mop or wiper, as hereinafter explained. The forked stem 2 supports the bracket 9, which is retained and guided longitudinally between its forked arms, being adapted to be entered between them from the open end of the fork and having lateral grooves in which said arms engage to retain it. On this bracket there are journaled intermeshing gears 10 and 11, the former being mounted on a shaft 10^a, journaled transversely in the bracket and having the crank-handle 10^b, the latter being journaled in the boss 9^a of the bracket 9 and feathered on the stem 12 of the hook 12^a, said stem extending through the gear 11 and having coiled about it above the latter a spiral spring 13, stopped by a nut 14 on the end of the stem 12. The spring thus operates to hold the hook 12^a, with its shoulder or bend 12^b, up

against the lower side of the boss 9^a, while permitting it to be retracted to the extent of the compressibility of the spring. A link 15 is pivoted to the plate 5 at the rear side, the plate being expanded to a considerable width at that side and terminating in bosses 5^a for pivoting said link, which is made in general triangular form and at its upper narrower end is lodged under one of the hooked shoulders 9^b of the bracket 9. A spring 16 is lodged upon the plate 5, having its middle tongue or finger 16^a engaged with the boss 5^b on the plate and the two ends hooked over the two forked arms of the stem 2, so that it operates to hold the rear end of the plate yieldingly up toward or against the back or under side of the stem, and thereby also tending to thrust the link 15 up on the stem, straightening the link into line with the plate 5, and resisting any tendency to fold it into the position shown in Fig. 2. It thus operates to hold the gearing-bracket 9 with which the link is engaged at the most remote position from the plate.

The wiper or mop 17 is preferably made as an endless web, which at one point is looped through the oblong eye 7 at the end of the stem 6, being entered through the aperture 8, and at the opposite point in its length is engaged with the hook 12^a, being intermediate said two fastenings extended under or behind the plate 5 and link 15. Preferably the wiper 17 is of such length as to require some compression of the spring 13 in order that it may be engaged as described, so that the spring tends to take up any slack in the wiper and hold it snugly against the parts which support it and by which it may be pressed to the floor or wall in performing the function of the device. The spring 13 thus tends to pull the bracket 9 down along the stem, and so keeps the hooked shoulder 9^b, with which the upper end of the link 15 is engaged, in position overhanging the latter, and so prevents its dislodgment.

Fig. 2 shows the position which the device may take when pressed against the wall or floor for wiping or mopping, and it will be understood that the wiper may be folded at any angle over the hinge which is controlled by the spring 16, according to the position of

the user of the device with respect to the surface being operated upon, and such flexure taking place substantially at the pivot of the two folding parts of the supporting-frame—
 5 *i. e.*, at the hinge between the plate 5 and the link 15—the wiper itself is not materially stretched, the spring 13, however, in any event accommodating any change in length that might be necessary. When used as a
 10 mop, it can be wrung out by allowing the device to straighten out under the action of the spring and rotating the crank-handle 10^b, whereby the hook 12^a is rotated, while the eye 7 remains fixed, thus twisting the mop to
 15 any desired extent, as in the familiar process of wringing by hand, the shortening of the mop in this action being at first accommodated by the yielding of the spring 13, and when the spring has yielded to its limit fur-
 20 ther rotation will squeeze the mop as tightly as desired. Independently of the accommodation which is provided by the spring 13 the stretch of the mop which may occur in the first few instances of use in wringing may be
 25 taken up by lodging the upper end of the triangular link 15 under one of the lower hooked shoulders 9^b, letting the bracket 9 move back on the forked stem 2 toward the end of the handle 1, which is provided with a
 30 ferrule 1^a for securing the forked stem, as clearly seen in the drawings.

For the purpose of forming a protruding nose at the forward end of the device, by means of which the mop or wiper may be in-
 35 truded into angles or corners, I may employ the supplemental wire loop 19, which is pivoted at one end on the upper or back cross-bar 7^a of the oblong eye 7 and at the other end has a hook by which the other side of
 40 said cross-bar may be engaged, the loop being of such width as to lodge upon the upper side of the lower or forward cross-bar of said eye 7, as seen in Fig. 2. To make use of this expedient for the purpose stated, the endless
 45 web forming the wiper 17 is engaged with this supplemental loop, the hooked end thereof being first disengaged from the eye 7, so as to be inserted through the endless web and then reengaged with said eye in the position
 50 shown, and the web is then carried around the lower or outer cross-bar of the eye 7 and back under the plate 5 for engagement with the hook, as described. By this means there is thrown up from or forward of the lower cross-
 55 bar of the eye 7 the bead or roll of the wiper which engages the loop 19, and this bead or roll constitutes the desired nose for reaching corners about casings, &c., in cleaning or wiping walls and floors.

60 When it is desired to use the device for a dry mop or dust-wiper without the necessity for wringing it, as when it is used as a wet mop, the bracket 9, with its gears, may be removed by first merely disengaging the rear
 65 end of the wiping-cloth from the hook 12^a,

releasing the upper end of the link 15 from the shoulder with which it may be engaged on the bracket, and sliding the bracket down between the forked arms of the stem 2 toward the plate, where the arms are spread widely
 70 enough to allow the bracket to escape from between them. The link 15 may be disengaged from the plate by spreading its ends to take them out of the lugs of the plate, and it may then be inserted into the loop of the end-
 75 less-web wiping-cloth at the rear end and the two spread ends again reengaged with the plate, leaving the link behind or under the stem 2. The rear end with which the web is engaged being then swung up into line with
 80 the plate, the side bars of the link will spread elastically to permit them to pass the stop-shoulders 5^c, the wiping-cloth being drawn taut in this action and operating to hold the link snugly down upon the upper side of the
 85 shoulders after the side bars have passed the latter. Assembled in this form it will be seen that the plate and link operating as a stretcher hold the wiping-cloth straight and in position to be used conveniently for wiping walls or
 90 floors, while at the same time it is free to fold at the rear end against the tension of the spring under any situation which may make this desirable.

Throughout all the uses of the device the
 95 plate 5 and the link 15, that are hinged together, might be considered as a stretcher for the wiping-cloth, and the form of these parts may be varied in any way consistently with this function. 100

I claim—

1. A floor or wall wiper comprising, in combination with the wiping-cloth, a stretcher or frame for carrying the same consisting of two elements transversely hinged together; means
 105 at the forward end of one element for attaching one end of the wiping-cloth; a handle pivoted to said element forward of the hinge and means at the rear end of the other element, connected therewith, for holding the rear end
 110 of the cloth and for affording said rear element sliding connection with the handle.

2. In a floor or wall wiper comprising, in combination with a wiping-cloth, a stretcher for the same consisting of two elements which
 115 are hinged together and provided with a spring operating to resist folding of said element at the hinge; means at the forward end of the forward element for securing one end of the wiping-cloth; a handle pivoted to said ele-
 120 ment intermediate the forward end and the hinge; a bracket sliding on the handle and connected to the rear element, constituting the connection of said rear element to the handle; means on the bracket for securing the rear
 125 end of the wiping-cloth and for rotating it to wring the cloth.

3. A floor or wall wiper comprising, in combination with the wiping-cloth, the stretcher for the same consisting of a plate provided at
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the forward end with means for attaching the wiping-cloth; a handle having a bifurcated spring-terminal, whose two spring-arms are disengageably pivoted to said plate; a bracket
 5 mounted and retained with capacity for sliding between the arms of the bifurcated terminal; a link hinged to the rear end of the plate; a spring operating to resist the folding of the link and plate about the hinge, the rear end
 10 of said link being engaged with the bracket; a gear on the bracket having a shaft provided with means for attaching the rear end of the wiping-cloth, and a gear meshing with the first-mentioned gear provided with a crank-
 15 handle to rotate both gears to wring the cloth.

4. In combination substantially as set forth, the plate, 5, having lugs, 4, and provided with means projecting from the forward end for securing the wiping-cloth; the link, 15, hinged
 20 to the rear end of the plate; a spring-forked stem, 2, having at the ends of its forks the gudgeons adapted to disengageably engage the lugs, 4, of the plate; a bracket having lateral grooves and adapted thereby to be en-
 25 gaged and guided between the side bars of the forked stem; intermeshing gears on the bracket and means for rotating them, the shaft on the driven gear having means for securing the rear end of the wiping-cloth, and such
 30 cloth secured therein and to the forward end of the plate.

5. A floor or wall wiper comprising a wiping-cloth and a stretcher for holding same; means for attaching the cloth to the stretcher
 35 at the forward end comprising the loop, 19, at the upper side of the forward end of the stretcher, and the cloth engaged in said loop and folded down around the forward end of the stretcher, and means for securing it at the
 40 rear end, whereby there is formed a rib or nose of the cloth at the forward end protruding above the upper surface of the stretcher.

6. A floor or wall wiper comprising, in combination with a wiping-cloth, a stretcher or
 45 frame for carrying the same, consisting of two elements transversely hinged together; means at the forward end of one element for attaching one end of the wiping-cloth; a handle pivoted to said element forward of the
 50 hinge, and a spring reacting between the handle and said forward element to fold the rear end of the latter up toward the handle, the rear element being adapted for attaching the rear end of the wiping-cloth, and a stop adapt-
 55 ed to be passed by the rear element in folding from below upward to a position in line with the forward element, and to resist folding back from such position.

7. In combination substantially as set forth, the plate, 5, provided with means at the forward end for securing the wiping-cloth; a handle pivoted thereto; a spring reacting between
 60 the plate and the handle to fold the rear end of the plate up toward the handle, the link, 15, adapted at the rear end to engage the wip-

ing-cloth, and at the forward end hinged to the rear end of the plate, 5, with capacity for swinging about its pivot to said plate both ways from position in line with the latter; a stop which checks it from swinging back of
 70 or below said position in line, and means by which the link yields to pass this stop in swinging up to such position from below or behind the same.

8. In combination with the plate, 5, pro-
 75 vided with means at the forward end for securing the wiping-cloth; a handle pivoted to the plate, and a spring reacting between the plate and the handle tending to hold the rear end of the plate toward the back of the han-
 80 dle; a bracket guided longitudinally on the handle; a hook thereon for engaging the rear end of the wiping-cloth; the link, 15, engaged at its forward end to the rear end of the piv-
 85 otated plate and at its rear end adapted to be engaged at will with the bracket or with the rear end of the wiping-cloth; a spring reacting between the stem of the hook and the bracket to retract the hook for stretching the
 90 wiping-cloth rearward when it is engaged with the hook, the bracket having notches for the disengagement and engagement of the rear end therewith for adapting it to be se-
 95 cured by the link in stretching the cloth, whereby the link serves for stretching the cloth either by direct engagement therewith, or by holding the bracket in stretching position.

9. A floor or wall wiper comprising, in combination with a wiping-cloth, a stretcher or
 100 frame for carrying the same, consisting of two elements transversely hinged together; means at the forward end of one element for attaching one end of the wiping-cloth; a handle pivoted to said element; a bracket sliding on the handle and connected to the rear one of
 105 said hinged elements; a spring reacting between said two hinged elements to resist their folding together forwardly, and to cause relative movement in the opposite direction about their pivot; a stop to check such opposite
 110 movement; a hook or eye on the bracket for engaging the rear end of the wiping-cloth, and a spring reacting between said hook or eye and the bracket to retract the former to stretch the wiping-cloth.
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10. A floor or wall wiper comprising, in combination with a wiping-cloth, a stretcher for carrying the same, consisting of two ele-
 120 ments transversely hinged together; means at the forward end of one element for attaching one end of the wiping-cloth; a handle pivoted to said element forward of the hinge; a bracket sliding on the handle and pivotally connected to the rear of said hinged element; inter-
 125 meshing gears on the bracket and means for rotating one of them to cause the other to rotate; a hook or eye for engaging the rear end of the wiping-cloth, having a stem connected with the rotated gear for rotation and adapt-
 130 ed to slide longitudinally therethrough, and

a spring reacting upon said stem to retract the hook to stretch the wiping-cloth.

11. A device for the purpose stated, comprising a stretcher consisting of two parts 5 transversely hinged together; a spring operating to prevent them from folding toward each other; a handle pivoted to the forward of such hinged parts in advance of the hinge; an element sliding on the handle and pivotally 10 connected to the rear of such hinged parts; and a wiping-cloth attached at the forward end to the forward end of the hinged parts and at the rear end to said sliding element.

12. A floor or wall wiper, comprising, in 15 combination with a wiping-cloth, a stretcher for the same consisting of two elements which are hinged together and provided with a spring operating to resist the folding of said element 20 at the hinge; means at the forward end of the forward element for securing one end of the wiping-cloth; a handle pivoted to said element intermediate the forward end and the hinge; a bracket sliding on the handle and connected 25 to the rear element and constituting the connection of said rear element to the handle; means on the bracket for disengageable connection with the rear end of the wiping-cloth and means for rotating the same to wring the 30 cloth, the bracket being disengageable from the rear element and removable from the handle, said rear element being adapted at the end which engages the bracket for engaging the cloth when disengaged from the bracket.

13. A floor or wall wiper, comprising, in 35 combination with a wiping-cloth, a stretcher for the same consisting of two elements which are hinged together and provided with a spring operating to resist the folding of said element 40 at the hinge; means at the forward end of the forward element for securing one end of the wiping-cloth; a handle pivoted to said element intermediate the forward end and the hinge; a bracket sliding on the handle and connected 45 to the rear element and constituting the connection of said rear element to the handle; means on the bracket for disengageable connection with the rear end of the wiping-cloth and means for rotating the same to wring the 50 cloth, the bracket being disengageable from

the rear element and removable from the handle, said rear element being adapted at the end which engages the bracket for engaging the cloth when disengaged from the bracket, the hinged connection between said forward 55 and rear elements being adapted to permit the rear element to swing about its pivot to the forward element both ways from position in line with the latter; a stop which checks it from swinging back of or below said position 60 in line, and means by which the rear element is adapted to yield past said stop in swinging to such position from below or behind the same.

14. In combination for the purpose set forth, 65 the plate, 5, provided at the forward end with means for securing the wiping-cloth; the link, 15, hinged to the rear end of the plate with capacity for swinging about its hinged pivot 70 both ways from position in line with the latter; lugs, 5", on the plate adapted to check it from swinging back of or below said position, the link being adapted to spread to pass said lugs in swinging to such position below 75 the same; the plate having means at its forward end for securing the forward end of the wiping-cloth, and the link being adapted at the rear end for engaging the rear end of said cloth; a handle pivoted to the plate forward 80 of the hinge of the link thereto; a bracket disengageably mounted and sliding on the handle and having notches adapted for engagement of the rear end of the link when the latter is disengaged from the cloth, and having 85 means for engaging the cloth, whereby the cloth may be stretched, either by means of the link when the bracket is disengaged and removed, or by means of the bracket engaged with the link and the cloth, for conversion of the implement from one form of 90 use to another.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 5th day of May, A. D. 1903.

HENRY O. THOMAS.

In presence of—

CHAS. S. BURTON,
FREDK. G. FISCHER.