(No Model.)

S. FRISBIE.

DOOR CHECK.

No. 539,893. Patented May 28, 1895.

Fig. 1.

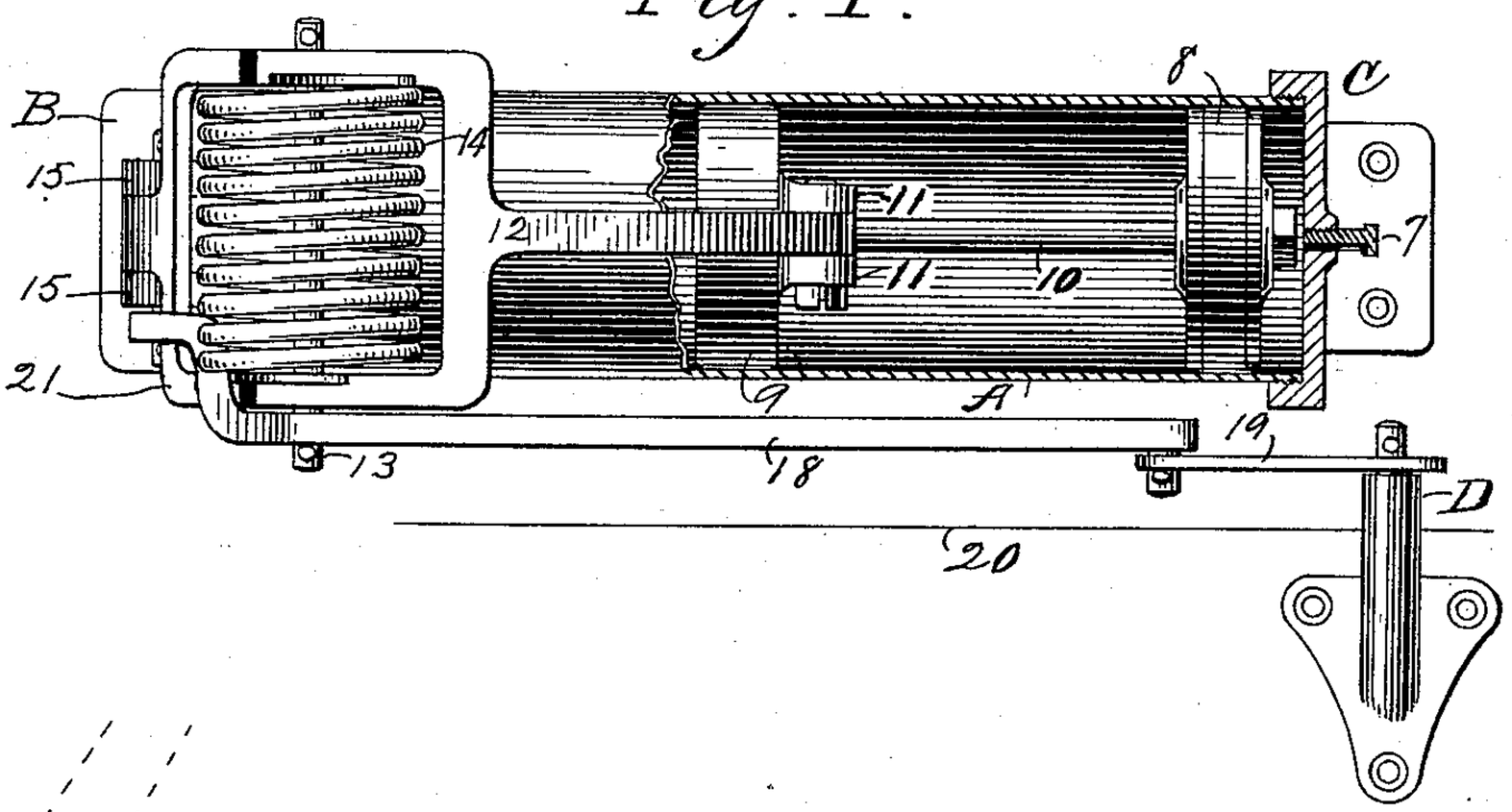


Fig. 2.

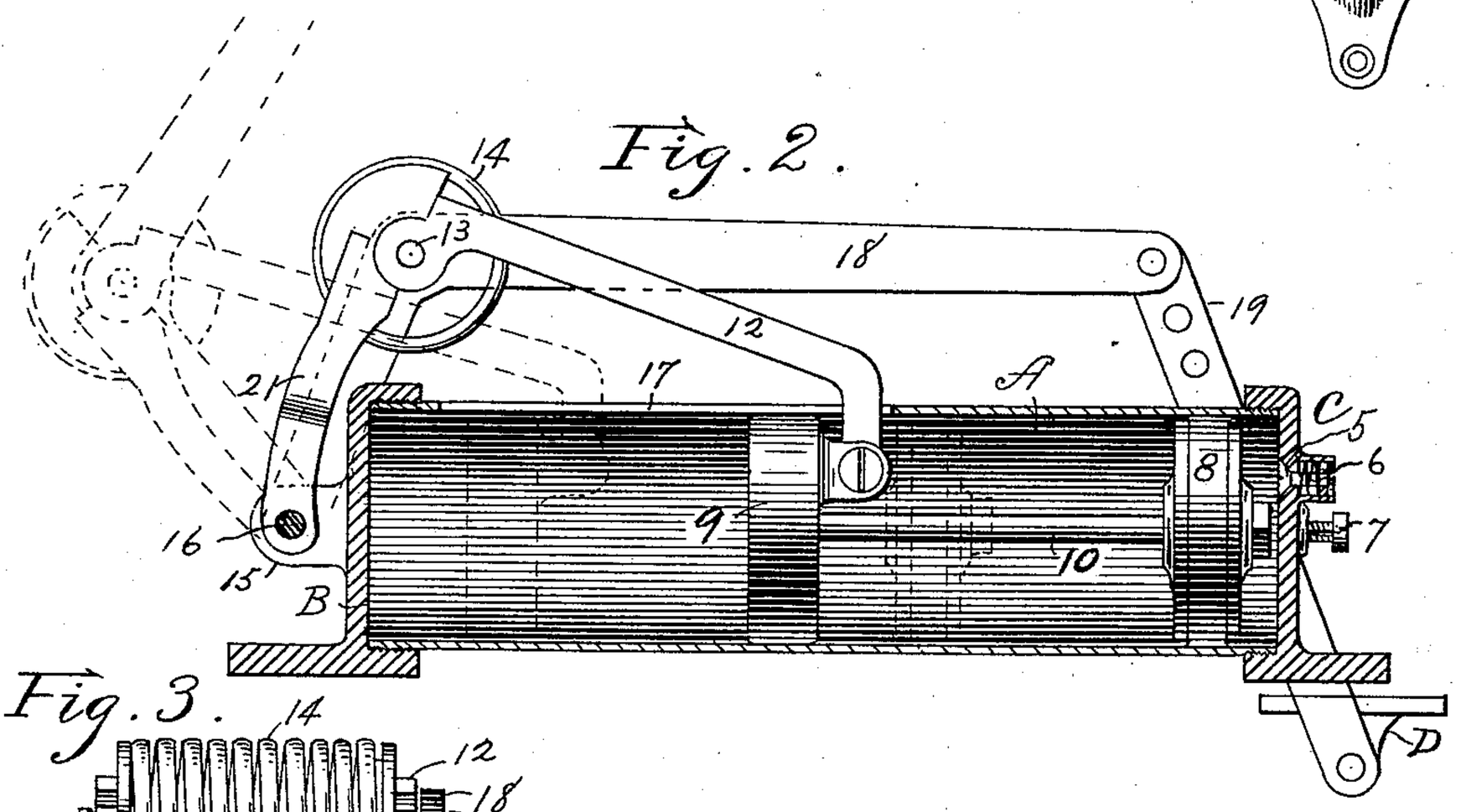


Fig. 3.

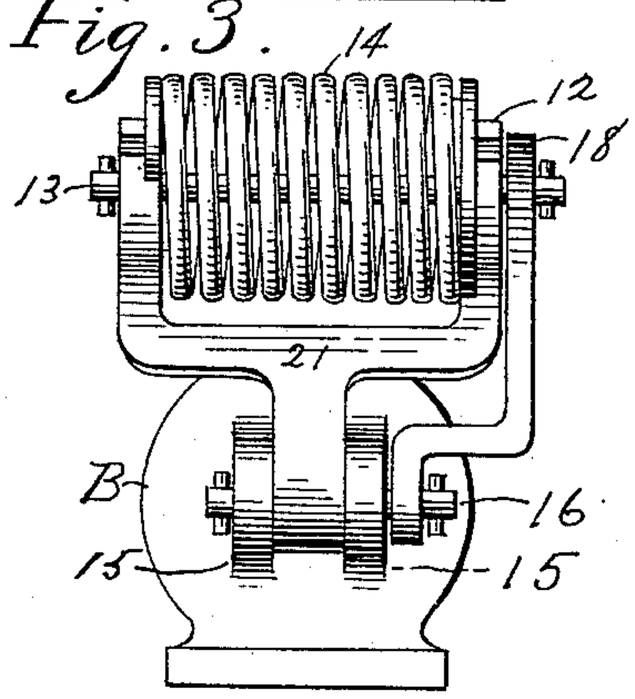
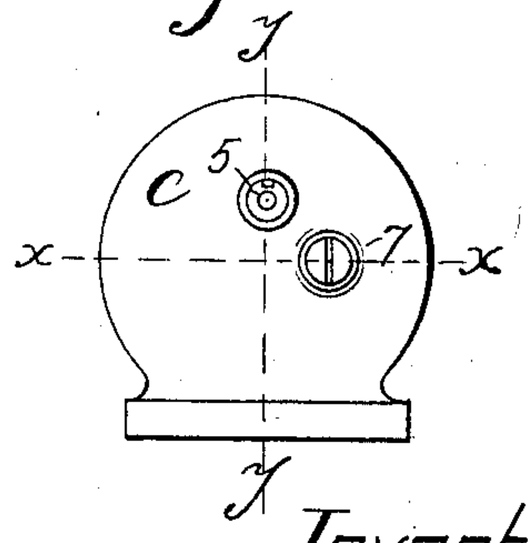


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL FRISBIE, OF UNIONVILLE, CONNECTICUT.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 539,893, dated May 28, 1895.

Application filed December 28, 1893. Serial No. 494,973. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL FRISBIE, a citizen of the United States, residing at Unionville, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Checks, of which the following is a specification.

My invention relates to improvements in door checks of the piston and cylinder class, and the objects of my improvement are simplicity in construction and general efficiency in operation.

In the accompanying drawings, Figure 1 is a front elevation of my door-check, partly in section, on the line *x x* of Fig. 4. Fig. 2 is a sectional view of the same, the plane of section being indicated by the line *y y* of Fig. 4. Fig. 3 is an elevation showing the left-hand end of my door-check, and Fig. 4 is an elevation showing the right-hand end of the cylinder of my door-check.

A designates the cylinder, which is supported upon a bracket head B at one end, and another bracket head C at the opposite end, each bracket head having a securing plate with screw holes so that the complete device (less a bracket post) may be secured in place by means of said bracket heads. If there is no valve in the piston, I place the inlet valve 5 in the bracket head C and provide the same with a light spring 6 for closing the valve. I also prefer to provide in this head the customary vent, which I have illustrated, as formed by the grooved screw 7. This valve and vent of themselves are not of my invention, and any other known valve and vent may be substituted therefor. Within the cylinder is a packed piston 8 of any ordinary construction and a piston like guide 9; said guide and piston being connected together by any suitable rod or connection, as at 10. Upon that side of the guide 9 which faces the piston proper, I arrange lugs 11 to which I pivot the toggle arm 12. A companion toggle arm 21 is pivoted to said toggle arm 12 by means of the rod 13 and within the toggle arms around said rod is the door closing spring 14. The outer end of the toggle arm 21 is pivoted to the lugs 15 on the bracket head B of the cylinder by means of the pin or rod 16. The toggle arms and connected spring of themselves are not of my invention, but are substantially the same as the spring and toggle arms of the expired patent, No. 136,371, of March 4, 1873.

That end of the cylinder A within which the piston like guide 9 operates is slotted longitudinally as at 17, Fig. 2, to permit the toggle arm 12 to be connected with said guide as shown. At one side of the toggle arms I arrange the operating lever 18 which is shown in the form of an angle lever and is secured by connecting it to both pivotal pins 13 and 16 of the toggle arms, so that said lever becomes in effect a rigid projection of the toggle arm 21 and swings with said arm in turning on the pivot 16.

D designates the post bracket which is designed to be secured upon the door and I have connected the upper end of said post bracket with the outer end of the operating lever 18 by means of a link 19 as shown. In the precise arrangement of the parts shown, the cylinder and connected parts are designed to be secured upon the door casing above the top edge of the door, which is indicated by the line 20 in Fig. 1. The hinge of the door in this arrangement will be on the left hand side of the bracket post B. The act of opening the door will throw the piston like guide, lever 18, and toggle arms into the position shown by the broken lines in Fig. 2, thereby compressing the spring. Upon the release of the door, the expansion of the spring will return the parts to their normal position, the force of the spring being checked by the air cushion in the end of the cylinder as in other pneumatic door checks. By this construction I am enabled to connect the toggle arms directly to the cylinder and piston with all of the parts supported by the cylinder and its heads (except the bracket post), thus bringing the device into a compact form and making a check which is convenient to put in place without any liability of mistake in mounting, while at the same time the cylinder and piston are connected with the spring actuated toggle arms in a very effective manner.

I claim as my invention—

In a door check, the combination of the slotted cylinder and its supporting bracket heads, the piston and connected piston like guide within said cylinder, the toggle arms and spring with one arm pivotally connected to said piston like guide, and the other pivoted to one of the bracket heads of the cylinder, and operating devices for moving said toggle arms and piston, substantially as described and for the purpose specified.

SAMUEL FRISBIE.

Witnesses:
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