(No Model.)

W. V. BLÉHA.

SASH HOLDER.

No. 426,905. Patented Apr. 29, 1890.

Fig. I.

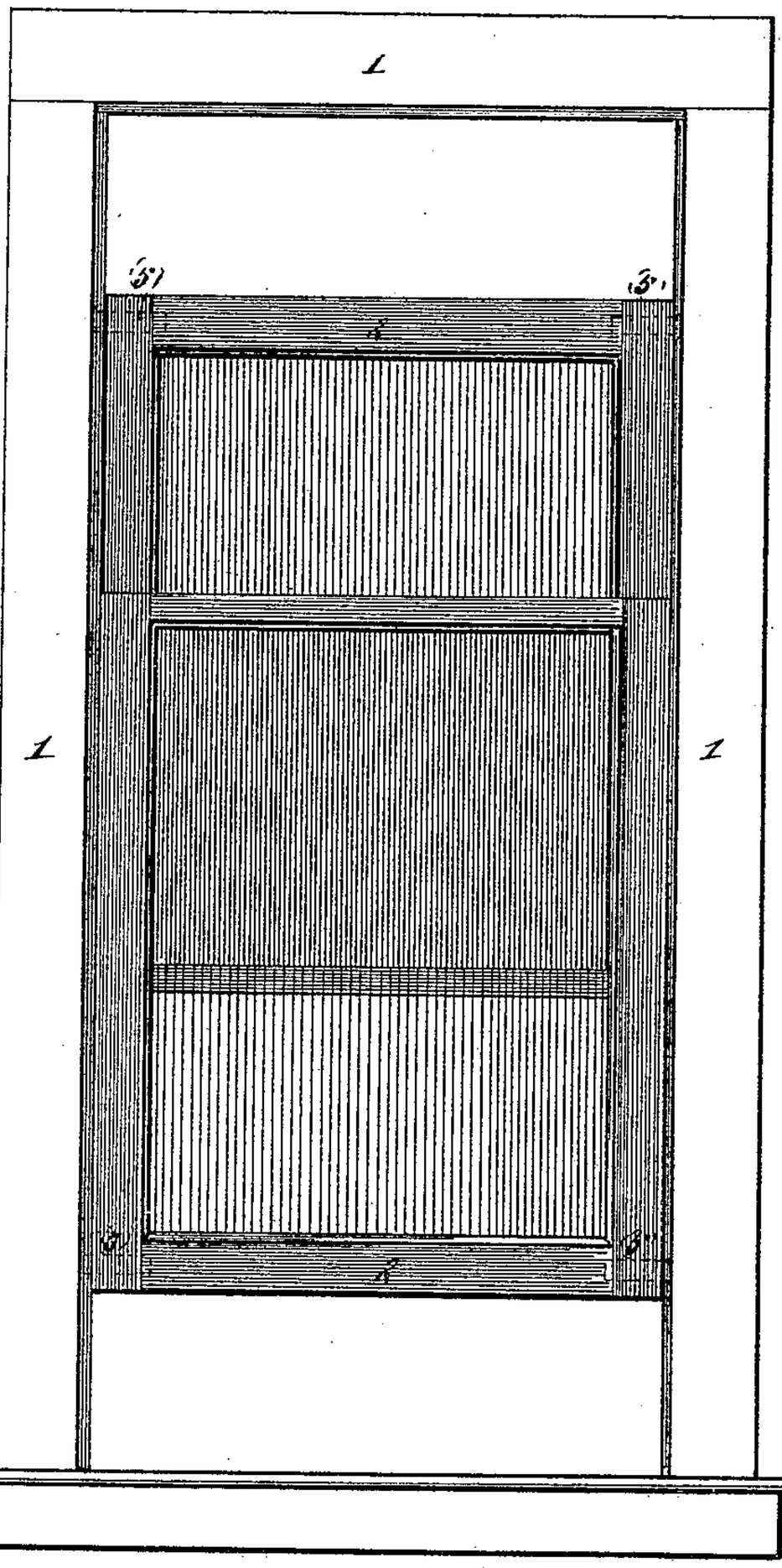


Fig. V.

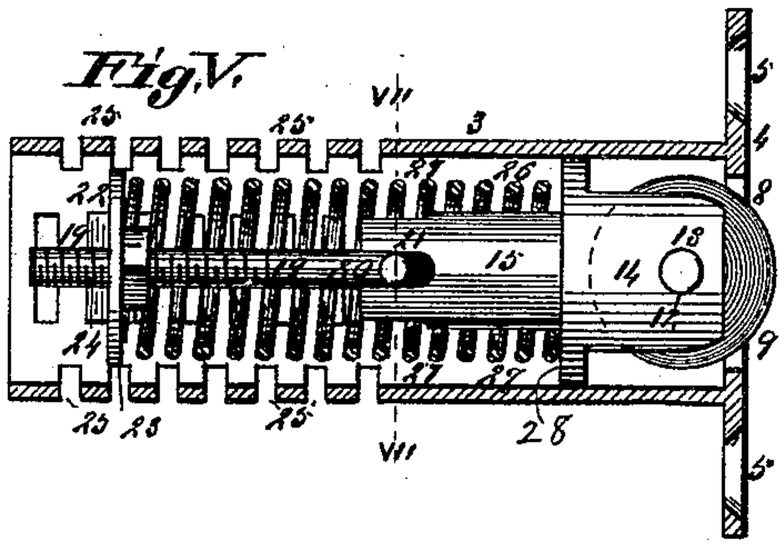


Fig. VI.

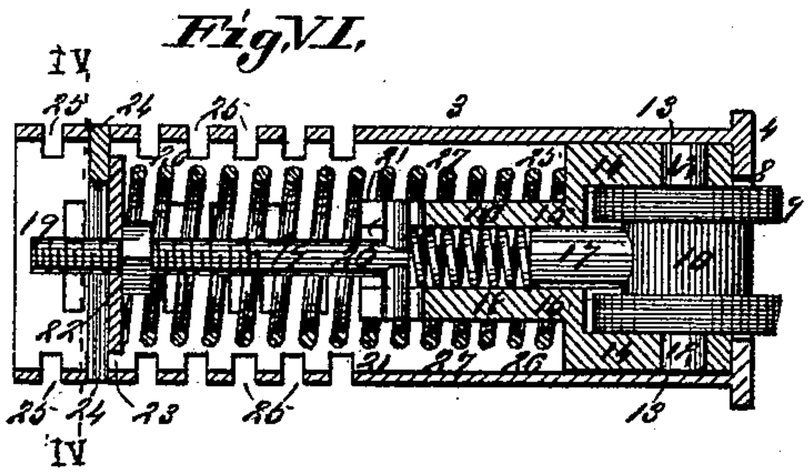


Fig. IV.

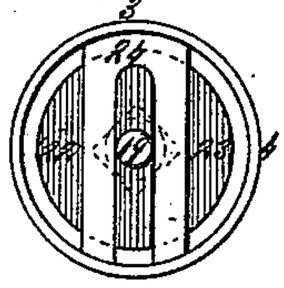


Fig. VII.

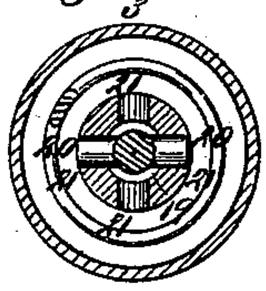


Fig. II.

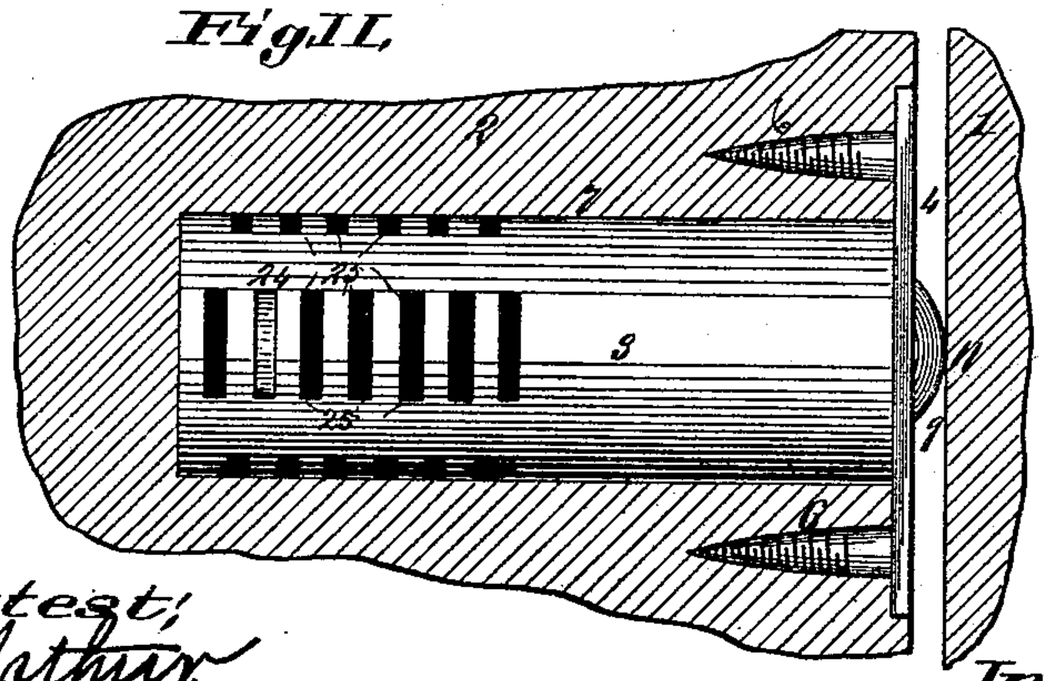
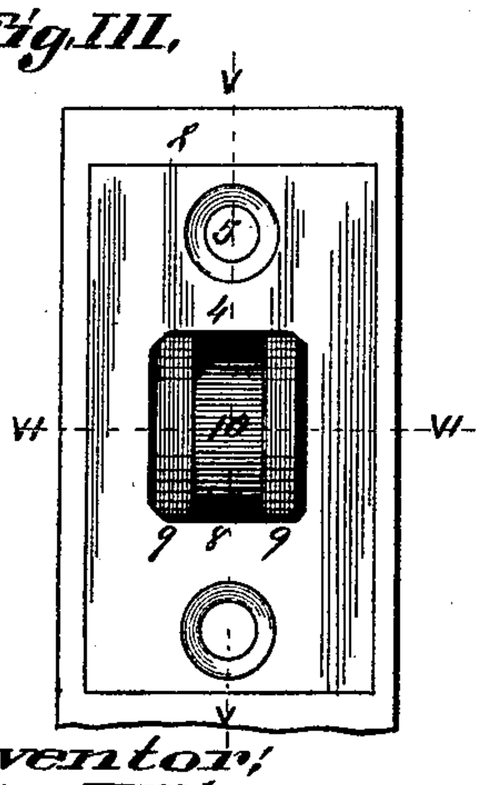


Fig. III.



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UNITED STATES PATENT OFFICE.

WILLIAM V. BLÉHA, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO JOHN F. DOMHOFF, OF SAME PLACE.

SASH-HOLDER.

SPECIFICATION forming part of Letters Patent No. 426,905, dated April 29, 1890.

Application filed July 11, 1889. Serial No. 317,125. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM V. BLÉHA, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Frictional Sash-Stops, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to adjustable frictional rubber rollers re-enforced by a system of compound pressure spiral springs; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is an elevation of a window sash and frame to which my sash-stop is attached. Fig. II is an enlarged longitudinal section of the cylinder that incloses spring-pressure devices that impress the frictional rollers, and shows one of said rollers in frictional contact with the window-frame. Fig. III is an enlarged detail edge view of the sash, and shows the frictional rollers projecting from the attachment-plate by which the device is secured to the sash. Fig. IV is a vertical section taken on line IV IV, Fig. VI, and shows the means of locking the adjustment of the impressment-springs. Fig. V is a vertical section taken on line V V, Fig. III, and shows the friction rubber roller and the action of the main spring in the impressment thereof. Fig. VI is a horizontal section taken on line VI VI, Fig. III, and shows the action of both the main and minor impressment-springs on the friction-roller, the minor spring acting by pressure on the rubber friction-pad which presses the drum that carries the friction-roller disks; and Fig. VII is a vertical section taken on line VII VII, Fig. V, and shows the adjusted action of the T-head ram-bolt on the minor spring.

Referring to the drawings, 1 represents a window-frame, and 2 the upper and lower sash of a window to which my frictional sash-stop is attached.

3 represents the cylinder which incloses the spring-actuated impressment devices, and which cylinder is brazed, soldered, or otherwise secured to the attachment-plate 4, through perforations 5 in which pass the wood-screws 6, that screw into the sash adjacent to the cylindric chamber 7, which is bored therein, in which chamber the cylinder 3 is seated. The attachment-plate is provided with a cut-away 8 in its center, through which the two rubber friction-disks 9 of the roller 10 project, so as to come into frictional contact with the side jams 11 of the window-frames 1 and to hold the sash in any position in which it is placed.

The trunnions or journal-pin 12 of the roller 10, that carries the friction-disks, have bearings 13 in the bifurcated head 14 of the hollow stem 15, which is located in the forward or outer end of the cylinder 3, the bifurcated forks of its head resting against the inside of the attachment-plate and the whole being inclosed within the cylinder. The interior of said hollow stem forms the minor-spring chamber 16, in which is housed the longitudinally-impressed friction-block 17, which is preferably of metal, and which presses against the roller 10, that carries the rotary rubber friction-disks. The said friction-block is pressed against said roller by the minor spiral spring 18, which is also housed in said spring-chamber 16, and is adjustably backed up to its work by the pressure-screw 19, the arms of whose T-head 20 press against the rear end of said minor spring and work within two of the opposite corresponding guide-slots 21 in the rear end of said hollow stem. The pressure force of the screw 19 on said minor spring is adjusted by the screw-nut 22, that engages on the screw-threaded end of said pressure-screw. The washer 23, that presses against said nut, is held to its required adjustment by the bifurcated key 24, that is held captive in the key-hole slots 25 in the side of the cylinder.

26 represents the main spiral spring, that is housed in the main-spring chamber 27, and which spring pushes against the shoulder 28 of the bifurcated head 14, in which are located the journal-bearings of the roller 10, that carries the rotary friction rubber disks 9. The said spring is adjusted to its required tension to accord with the weight of the sash to which it is attached by the same washer 23 and bifurcated key 24 that also adjust the tension

of the minor spiral spring 18, as the washer 23 presses directly on the main spring, and is, as previously stated, itself held by the engagement at its back of the bifurcated key 24 in the key-hole slots 25 in the cylinder, the said key being adjusted in the respective key-hole slots that will insure the tension-spring force required on the friction-rubbers that sustain the sash. It will thus be seen that my adjustable sash-stop exercises the functions of a compound friction-brake under a compound spring-pressure, the minor spring enforcing the pressure of the friction-block 17 (which is preferably of metal) on the roller 10, that carries the rubber friction-disks, and so retarding their movement with that of said roller and the main spring, which presses direct on the head whose journal-bearings carry said roller, and in consequence enforces the frictional pressures of the rubber disks against the side pieces of the frame within which the sash slides. The frictional rubber brake can thus be exactly regulated to sustain the varied weight of sash of various sizes and thickness. The use of weights and cords and the weight-chambers within the frames are thus dispensed with, and said chambers being dispensed with the inconvenient and unsightly removable strips to gain entrance to said weight-chambers are dispensed with also. It will also be seen that by the avoidance of said weight-chamber a harbor for rats, mice, and other vermin is dispensed with and the window-frame is much more readily made air-tight. Again, it will be seen that by means of the adjustable features of this device by the transference of the bifurcated locking-key from one corresponding pair of key-holes to another the spring-tension on the friction-rubbers can readily be either increased or diminished whenever from change of the weather from damp to dry, or vice versa, the sash becomes respectively either loosened or tightened in its frame; also, when from the seasoning of material or the conjoint wearing of the parts the usual joint-friction is reduced, as in old sash and frames that have shrunk by the seasoning and wear of years, the lost friction is replaced by the readjustment of the tension of the compound spring-actuated tension of the rubber friction-brakes.

The above-described parts, the constructive elements of my invention, may be formed of any suitable material.

I have shown the pressure-screw 19, that presses against the minor spiral spring 16, with a T-head that fits in the corresponding guide-slots 21 in the tubular stem 15, that houses said minor spring, which guide-slots may be extended to any length required to provide increased latitude to the operation of the pressure-screw in the compression of the spring; but, while I prefer the use of said T-head to the pressure-screw with said guide-slots in the tubular stem in which it is guided and held from rotation at its work, yet it may also be constructed without a T-head, and it then has a round head that freely follows on the head of the spring within the tubular spring-chamber 16.

In the upper arched sash in common use in some buildings the cylindric bore in the sash forming the cylinder-chamber 7 for housing the cylinder 3 may in such cases be inclined to adapt it to the incline of said arch, and the attachment-plate 4 will then be secured to the face end of said cylinder at the necessary bevel incline to still secure its vertical position.

Not only is the tension-pressure of the springs adjustable by the transference of the locking bifurcated key from one key-hole slot to another to adapt them to various sizes and consequent weights of sash which they are required to sustain, but also the strength and size of the springs, their housings, and attachments may be varied to adapt them to the labor imposed upon them.

The cylinder 3, the journal-box-bearing head, the tubular stem, the roller, and the friction-block 17 may be of iron, brass, or any other suitable material, and the friction-disks 9 are preferably, as stated, of rubber, but may be made of leather or any other suitable material.

I claim as my invention—

1. In a frictional sash-stop, the combination of the bifurcated journal-bearing-box head provided with a hollow stem at the rear of said box-head, the roller journaled in said box-head, the rubber friction-disks mounted on said roller, the friction-block 17, that presses against said roller, the minor spiral spring 18, that is housed in said hollow stem, the T-headed pressure screw-bolt 19, whose head works in the guide-slots 21 in the said hollow stem and enforces the tension of said spring, and the screw-nut 22, that adjusts the force of said tension in pressing the rubber friction-block against said roller, substantially as described, and for the purpose set forth.

2. In a frictional sash-stop, the combination of the metal cylinder 3, provided with key-hole slots 25, the journal-bearing-box head with its tubular rear stem, the roller journaled in said box-head, the rubber friction-disks mounted on said roller, the friction-block 17, that presses against said roller, the minor spiral spring 18, the pressure screw-bolt 19, that enforces the tension of said spring on said friction-block and said block on said roller, the screw-nut 22, that adjusts the force of said tension, the pressure-washer 23, and the bifurcated key 24, that is adjustably seated in the respective key-slots to regulate and lock the spring-tension on the friction rubber disk-brakes that stop the sash, substantially as and for the purpose set forth.

3. In a frictional sash-stop, the combination of the metal cylinder 3, housed in the sash and provided with key-hole slots 25, the journal-bearing-box head with its tubular rear stem, the roller journaled in said box-head,

the rubber friction-disks mounted on said roller, the main spring 26, housed in said cylinder 3, the washer 23, that fits against the rear of said spring, and the bifurcated key 24, that is adjustable in the respective corresponding key-hole slots of said cylinder 3 to enforce and regulate the tension of the spring on the journal-bearing-box head and through it on said roller and said rubber friction-disks that the roller carries to effect a friction-grip of said disks on the side jambs of the window-frame, substantially as described, and for the purpose set forth.

WILLIAM V. BLÉHA.

In presence of—
BENJN. A. KNIGHT,
SAML. KNIGHT.