

No. 704,546.

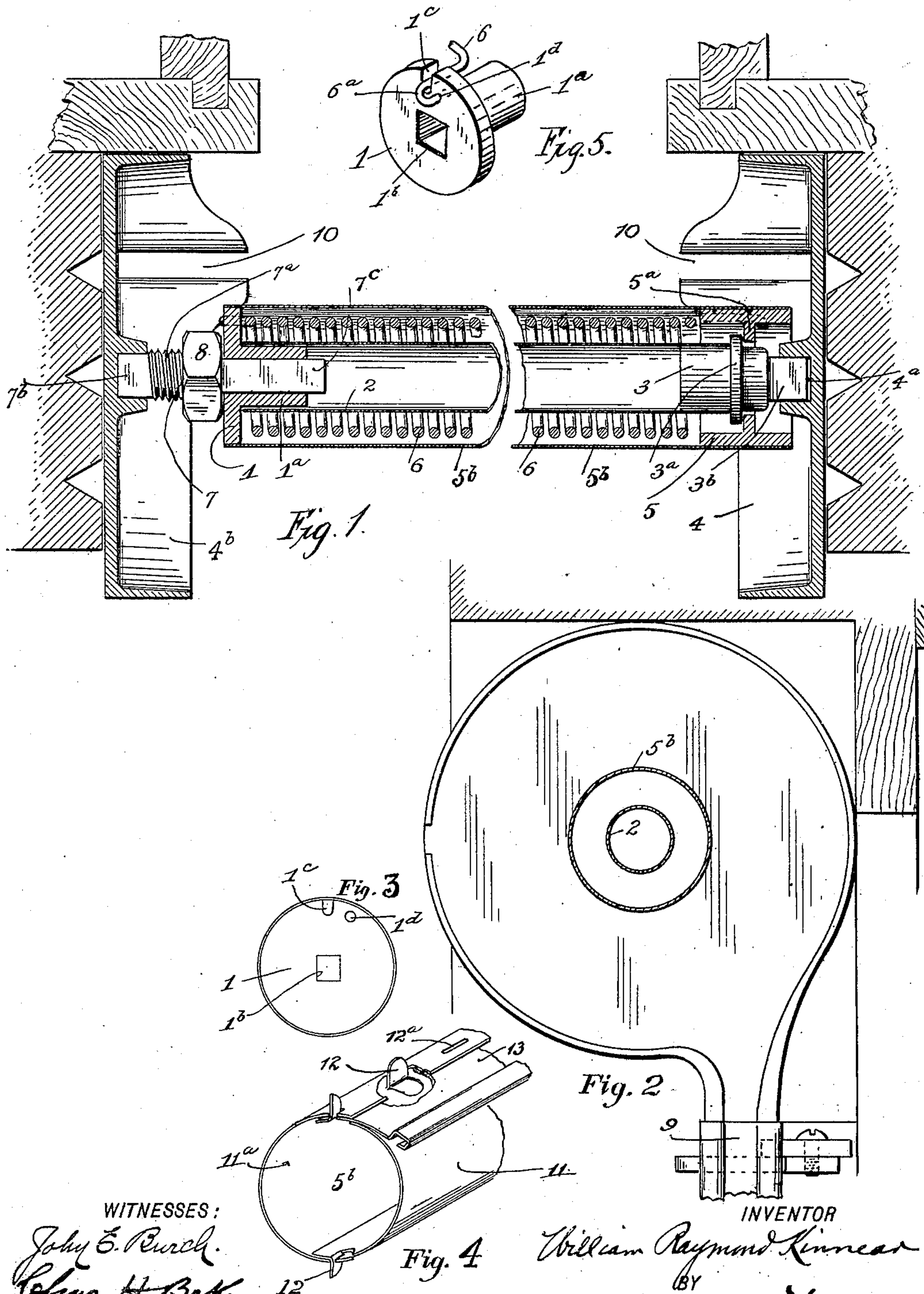
Patented July 15, 1902.

W. R. KINNEAR.

SPRING ROLLER FOR FIREPROOF BLINDS.

(Application filed Jan. 8, 1900.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

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SPRING-ROLLER FOR FIREPROOF BLINDS.

SPECIFICATION forming part of Letters Patent No. 704,546, dated July 15, 1902.

Application filed January 3, 1900. Serial No. 229. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM RAYMOND KINNEAR, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Spring-Rollers for Fireproof Blinds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates more especially to rollers for fire-resisting metallic curtains, and has for its object to provide a simple and economical construction that can be put up at small expense and without the aid of skilled and experienced help.

The invention is embodied in the construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a central horizontal sectional view of the roller and the end casings looking down. Fig. 2 is a sectional view taken through the roller vertically, showing also the end casing and a portion of the channel and its securing devices in elevation. Fig. 3 is a detail showing the outer side of the head of the roller at the left-hand end of Fig. 1. Fig. 4 is a detail perspective of a fraction of the outer tube constituting the drum or barrel of the roller. Fig. 5 is a perspective view of the head in the left-hand end of the roller.

Like characters of reference in the different views designate corresponding parts.

The left-hand head 1 of the drum or roller, as seen in Fig. 1, has a hub 1^a, to which is shown to be secured a shaft or sheet-metal tube 2. In the opposite end of this tube is fitted a plug 3, having a shoulder 3^a and a stud 3^b, the latter engaging non-rotatably a socket 4^a in the end casing 4. On the plug 3 and beyond the shoulder 3^a thereof is placed the right-hand head 5 of the drum or roller 5^b. This head 5 has an internal web 5^a, that is bored centrally to fit and permit the turning of the head on the plug. Secured to and between the heads 1 and 5 is a coil-spring 6, the right-hand end of which can be secured in any appropriate manner to the head 5, while the left-hand end is shown to be bent to form a hook

6^a, the shank of which lies in a notch 1^c in the periphery of the head 1, the end of the hook entering a hole 1^d near the notch. This construction facilitates the assembling of the parts. The hub of the head 1 is shown to be made with a square socket or opening 1^b. Secured to the periphery of the head 5 is the sheet-metal drum or cylinder 5^b, hereinbefore referred to, that extends over the periphery of the head 1 and incloses the coil-spring 6. The left-hand end of the roller, as seen in Fig. 1, is supported by means of a pin 7, that has a thread 7^a and squared ends 7^b and 7^c. A nut 8 turns on the thread 7^a. One end of the pin 7 enters a correspondingly-shaped socket in the left-hand end casing, while the other end enters the square socket or hole 1^b in the head 1. Before the roller is hung in its bearings the nut 8 is turned up toward the end that enters the end casing. This will permit the insertion of the right-hand stud or pin 3^b in its socket in the end casing and the horizontal alining of the left-hand pin with its socket. Now upon turning in the proper direction the nut 8 on the thread 7^a the square end 7^b will be moved into its socket in the end casing and the roller thus becomes supported at both ends.

It will be observed that the sheet-metal drum or cylinder 5^b, as shown, is fast to the head 5, and that the other end of this drum turns freely on the periphery of the head 1. The curtain can be fastened to the drum, as hereinafter described, and rolled up thereon before the roller is placed in its support, a suitable opening in the end casing being provided for the manipulation of the nut 8.

The end casings 4 and 4^b are shown to be provided with mouths or slots 10, through which the edges of the curtain pass to the channels 9 in the sides of the window-opening.

The large outer drum or cylinder 5^b is economically formed of two sheets 11 and 11^a of metal bent to semicylindrical form, one of such sheets having along its edges tongues 12 cut therein and bent outwardly, and the other sheet has slots 12^a, through which said tongues are passed and bent down to lock the two parts together. When a curtain constructed of metallic slats like those shown in Fig. 5 of

the drawings of my Letters Patent of the United States No. 572,014, dated November 24, 1896, a longitudinal half of one slat will be first secured to the drum and the remain-
 5 ing slats added according to the length of the curtain. A convenient mode of doing this is to cut or punch slots, as indicated in Fig. 4, in the said half-slats and placing the same on the tongues between the lapped edges of
 10 one joint of the cylinder or drum.

It is obvious that the form and arrangement of the parts herein shown and described can be varied without departing from the substance of the invention.

15 What I claim, and desire to secure by Letters Patent, is—

1. A curtain-roller comprising a non-rotatable head, a tube one end of which fits thereon, a plug in the opposite end of said tube, a
 20 head, rotatable on said plug, a spring connected to and between said heads, and a drum or cylinder carried by the rotatable head.

2. A curtain-roller comprising a head, a tube one end of which fits thereon, a plug
 25 having a shoulder in the opposite end of said tube, a head rotatable on said plug beyond said shoulder, a spring secured to and between said heads, and a drum carried by said head.

30 3. A curtain-roller comprising an inner tube, a shouldered plug in one end of said tube adapted to engage a seat at one side of the

window-opening, a head turning on said plug, a drum carried thereby, and a head secured to the opposite end of said tube having a pris- 35
 matic socket, a threaded pin having prismatic ends to engage respectively said socket and a seat at the other side of the window-open-
 ing, a nut turning on the thread of said pin, and a spring secured to and between the afore- 40
 said heads, substantially as described.

4. A curtain-roller comprising in combina-
 tion an inner tube, a plug in one end thereof adapted to engage a seat at one side of a win-
 dow or door opening, a head having a pris- 45
 matic socket in the opposite end of said tube, a threaded pin having a prismatic end to en-
 gage said socket and an end to engage a seat at the opposite side of the window or door
 opening, a nut on said pin adapted to bind 50
 the tube between the aforesaid plug and head, a head turning on said plug and a drum car-
 ried by said head, substantially as described.

5. A curtain-roller cylinder or drum of sheet
 metal formed with securing tongues and slots, 55
 combined with a metallic slat or curtain se-
 cured to said cylinder or drum with said
 tongues, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM RAYMOND KINNEAR.

Witnesses:

GEORGE M. FINCKEL,
 GEORGE W. ALFRED.