

(No Model.)

J. W. MILLER.
SLEEVE OR OTHER BUTTON.

No. 280,214.

Patented June 26, 1883.

Fig 1.

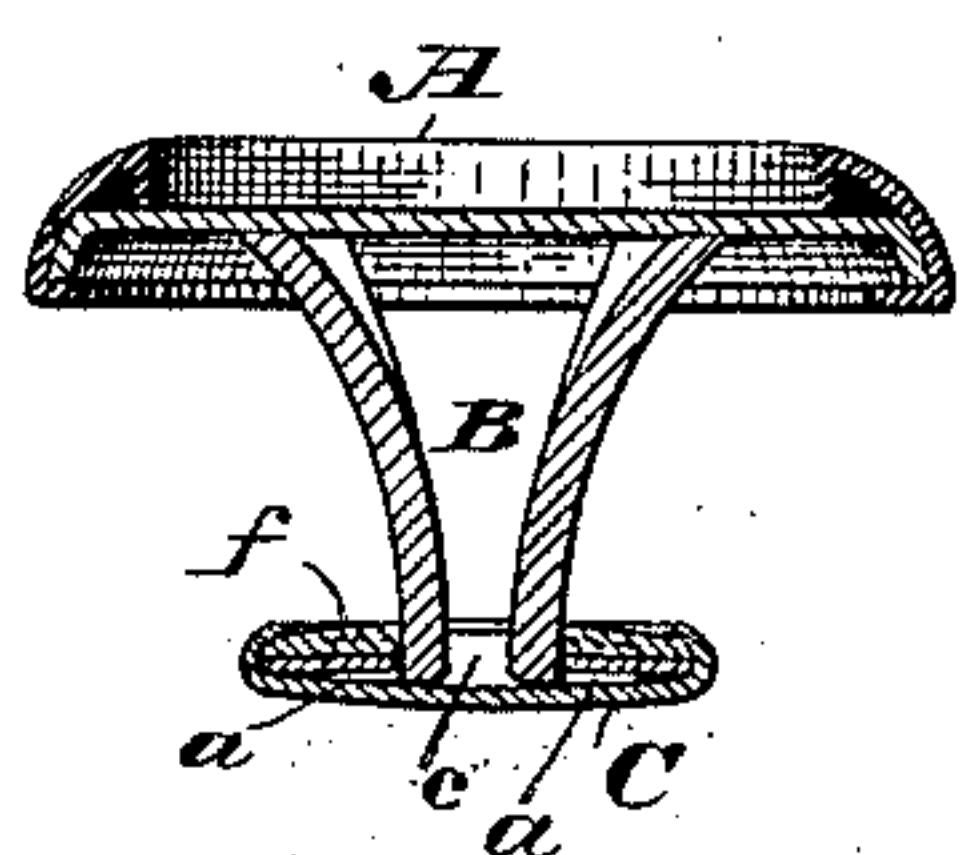


Fig 2.

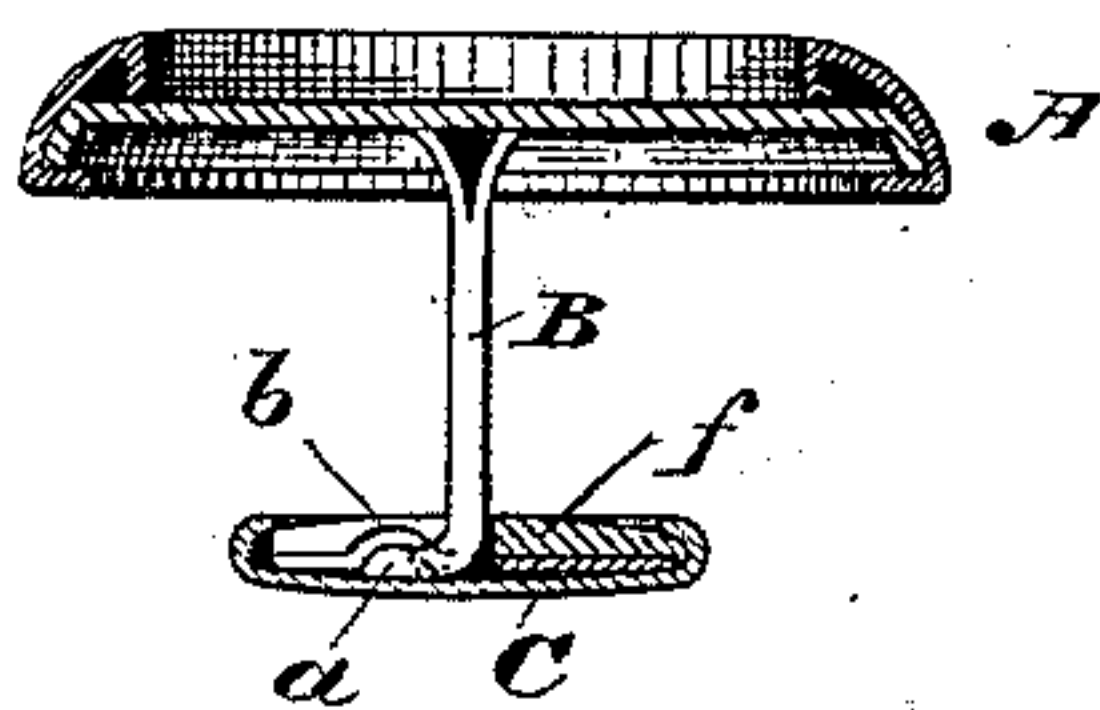


Fig 3.

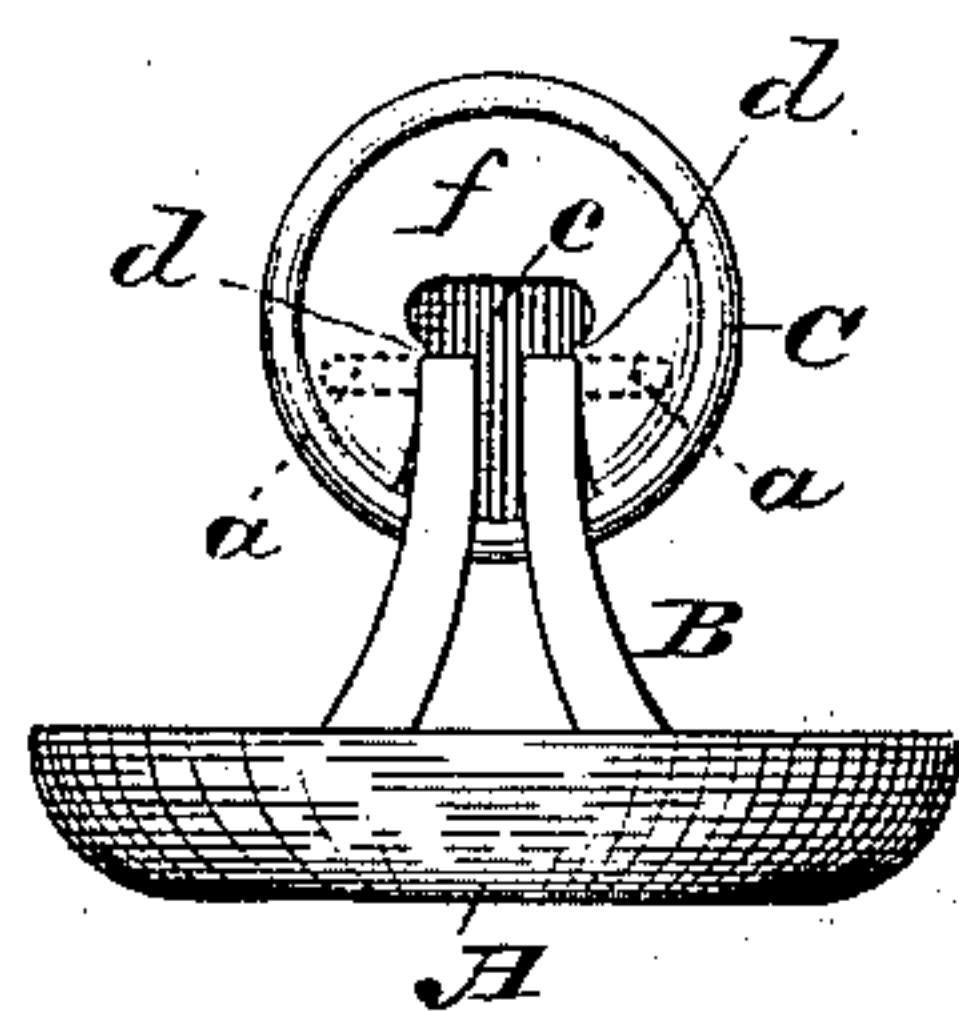


Fig 4.

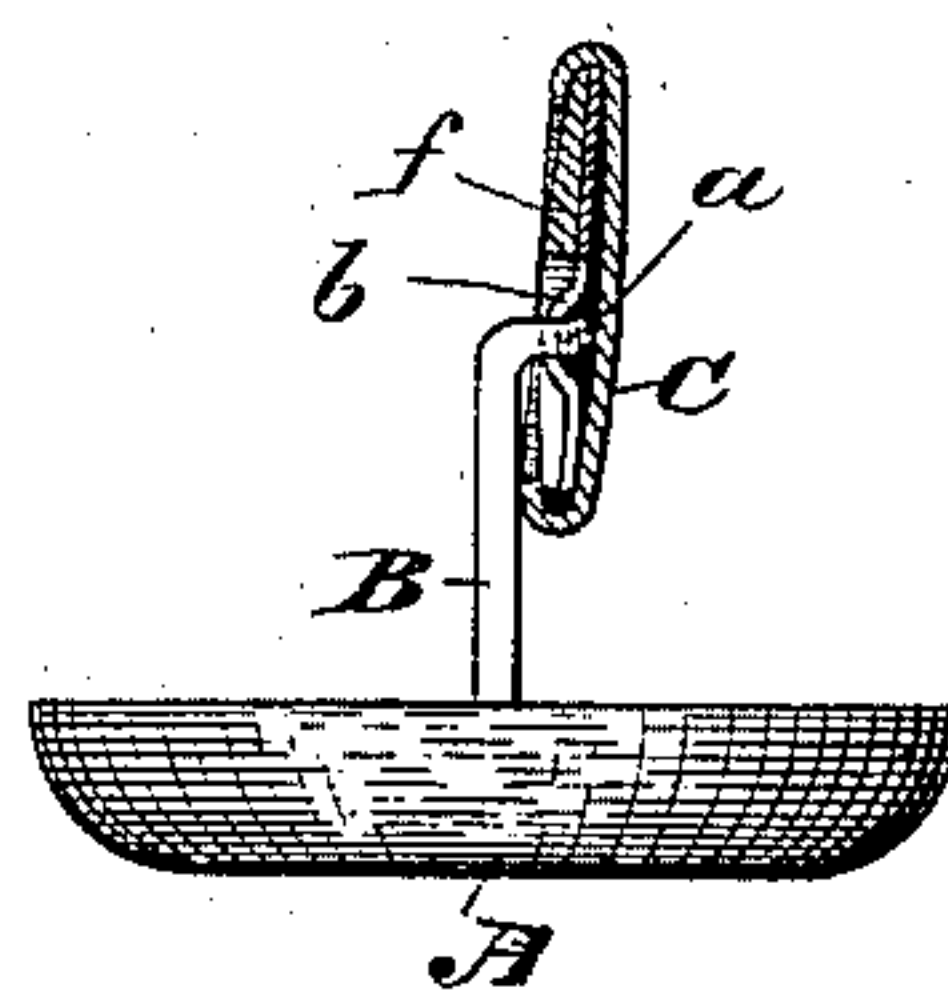


Fig 5.

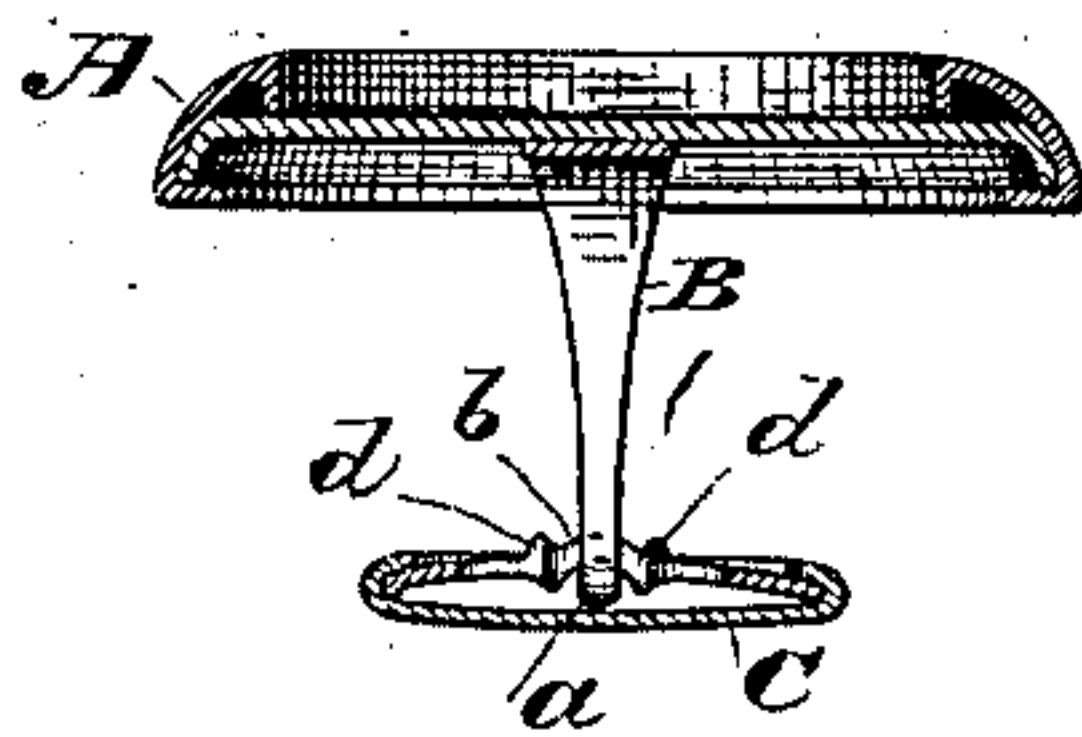
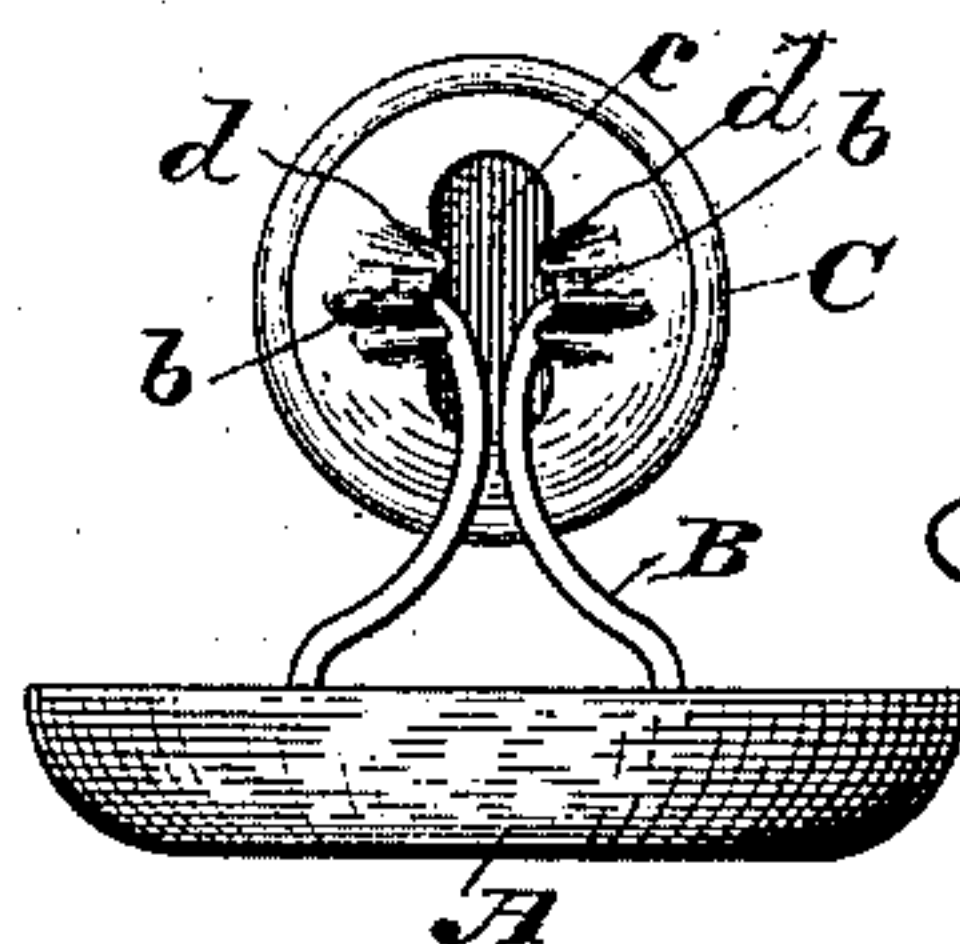


Fig 6.



Attest:

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UNITED STATES PATENT OFFICE.

JAMES W. MILLER, OF NEWARK, NEW JERSEY.

SLEEVE OR OTHER BUTTON.

SPECIFICATION forming part of Letters Patent No. 280,214, dated June 26, 1883.

Application filed February 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES W. MILLER, of Newark, county of Essex, and State of New Jersey, have invented a new and useful Improvement in Sleeve-Buttons and other Buttons or Studs, which improvement is fully set forth in following specification.

This invention relates to that class of buttons or studs (mostly used for sleeve-buttons or solitaires) which have at the end of the shank or pillar (usually at the inner end) a hinged shoe adapted to be tilted and brought nearly into line with the shank, to facilitate insertion through the button-hole, and then to be turned back to retain the stud or button in place. In order to prevent accidental turning of the shoe, it is customary to combine therewith a spring capable of yielding, to allow the shoe to be turned when desired, but having sufficient strength to retain it against accidental displacement.

The present invention consists, first, in making the shank or pillar serve as the spring, and at the same time providing it with lugs to serve as the pintle or pintles of the hinge. Heretofore the shank or pillar has been made to serve as the spring, by the use of an elastic bifurcated shank, combining with a cam-shaped plate fixed to the shoe and placed between the legs of the shank; but it has been pivoted to the shoe by a separate pin, fitting loosely in the holes in the two legs, so as to allow them to separate or draw together, as required. This part of the invention avoids the use of the separate pin, thereby lessening the number of parts and the liability to wear, and cheapening the article. Heretofore, also, the shoe has been fastened to the shank or pillar by lugs or projections integral therewith; but in this form of button the shank does not act as a spring. This part of the invention also consists in confining the lugs or projections on the spring-shank between a front and a back plate of the shoe. This is the preferable construction of the button; but it is obvious that the lugs or projections on the spring-shank could be confined in perforated ears on the shoe or in suitable holes or recesses otherwise formed.

The invention secondly consists in forming the cam-surfaces which act upon the spring

pillar or shank upon the back plate of the shoe, the same being slotted to receive the end of the shank or pillar. Heretofore, when spring-pillars have been used, the cam-surfaces have been formed upon a short post, or similar device, fastened to the shoe.

The invention thirdly consists in arranging the spring-pillar between the cam-surfaces instead of having the latter between the two members of the spring-pillar, as heretofore. There are several advantages in this arrangement, among which may be mentioned compactness and neatness of finish, in that the two members may be brought closer together, and also in that when the back plate of the shoe is used, as it preferably is, one slot therein may contain both members of the pillar or shank.

The invention further comprises certain other constructions and combinations of parts, as hereinafter set forth.

The accompanying drawings, which form a part of this specification, represent, on an enlarged scale, sleeve-buttons constructed in accordance with the invention.

Figs. 1, 2, 3, and 4 show one form, and Figs. 5 and 6 another. Figs. 1 and 2 are sectional elevations of the sleeve-button with the hinged shoe in its normal position, and Figs. 3 and 4 an elevation and a sectional elevation of the same with the shoe tilted up for insertion through the button-hole. Fig. 5 is a sectional elevation with the shoe in normal position, and Fig. 6 an elevation with the shoe turned up.

A is the head of the button, B the shank or pillar, and C the shoe. The head A is of any ordinary or suitable construction. The pillar or shank B is made of metal or other elastic material, and has two arms or members. It is fastened to the head by riveting, soldering, brazing, or in other known or suitable way.

The shoe is composed of a front and a back plate united at their edges by turning the edge of the former over that of the latter, or otherwise. The shoe is hinged to the pillar or shank by means of the lugs *a*, which fit between the front and back plate of the shoe in recesses *b*, formed in the back plate. The latter is slotted or cut away, as shown at *c*, for the passage of the pillar or shank through it. The edges of the slot or central opening, *c*, in the back plate are so shaped as to form pro-

jections *d*, that extend into the slots *c*. When the shoe is turned from the normal position (shown in Figs. 1, 2, and 5) into the position for insertion through the button-hole, (shown in Figs. 3, 4, and 6,) the arms of the spring-pillar ride over these projections *d*, and are pressed in by them. When the shoe is turned back into normal position, the elasticity of the spring-arms carries them behind the points of the projections, so that they hold the shoe in position until sufficient force is applied to it to retract them by the action of the inclined surfaces of the projections *d*. Preferably the surfaces incline away from the spring-arms on both sides of the points, so that the spring-arms will be compressed in turning the shoe in either direction. A slight compression only is desirable in turning the shoe back to normal position, and therefore the outer surfaces of the projections *d* have, or should have, a slight falling away from the points of the same less than that on the inner side.

The spring pillar or shank is shown with the lugs *a* on the outside of the two arms or members, and as fitting within the slot *c* between the two projections *d*, and this is considered the best construction; but the lugs *a* could be placed on the inside of the two arms of the pillar or shank, or on both inside and outside, each arm fitting within a separate slot in the back plate of the shoe. The projections *d* could then be inside or outside of the spring-arms, as preferred. The spring-arms of the shank or pillar could be made in one piece by bending a strip in the middle, as shown in Figs. 5 and 6; or they could be made in separate pieces, as shown in Figs. 1, 2, 3, and 4. In these figures each arm is made of a strip having half the thickness of the arm, the same being bent upon itself and having the two layers brazed or soldered together. The two ends of the strip are shown in Fig. 2 separated where they join the head *A*. The arms of the pillar or shank could be made in various other ways, as well known to those skilled in the art. In both forms of button the lugs *a* are formed integral with the arms of the pillar or shank, and it is obviously desirable that they should be so made; but they could be soldered or otherwise fastened to the arms and still be within the invention.

In Figs. 5 and 6 the lugs lie in the same plane with the pillar-arms and occupy the diameter of the shoe, and the slot *c* is of the same shape on both sides of the shank or pillar. The shoe can be turned in either direction, and when turned the shoe will be half on the side of the head *A* and half on the opposite side of the lugs *a*. In Figs. 1, 2, 3, and 4, however, each of the pillar-arms has a rectan-

gular bend, *e*, which bring the lugs *a* at one side of the center, so that when turned less than one-half of the shoe is on the side of the head. It also allows the shoe, when turned up, to lie more nearly parallel with the shank or pillar, and has other advantages. In this construction the shoe turns only in one direction. The back plate of the shoe is preferably stamped and cut out of a sheet by means of dies. It may be made of a single layer, as shown in Figs. 5 and 6; but preferably one layer is stamped up and the outer surface of it is covered with a smooth finishing-plate, *f*, and the space between is filled with a softer composition or alloy. (See Figs. 2 and 4.)

Modifications may be made in the details of construction without departing from the spirit of the invention, and parts thereof can, if desired, be used without the others. For example, the arrangement of the spring-pillar between projections or cam-surfaces on the shoe could be employed in buttons or studs having a separate pivot-pin; so, also, the construction of the spring-arms with the rectangular bends, and the shoe with cam-surfaces formed by the edges of a slot or slots in the lock-plate. In like manner the spring-pillar having the lugs could be used with cams formed on a short post or otherwise.

The terms "lugs" and "projections" are of similar import; but for convenience of reference the former is applied herein solely to the parts *a*, the latter to the parts *d*.

Having now fully described my said invention and the manner of carrying the same into effect, what I claim is—

1. A sleeve or other button comprising a shoe having a slotted back plate with projections that extend into the slot, in combination with a spring-pillar, the shoe hinged thereto and provided with lugs fitting under the said back plate, substantially as described.

2. In a sleeve or other button having a hinged shoe with projections, the spring pillar or shank having its arms or members between the said projections, which serve to hold the shoe open or closed, substantially as described.

3. A pillar or shank provided with rectangular bend at the shoe end, and lugs at the end of the bent portion and at right angles thereto, in combination with the shoe hinged to said lugs, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES W. MILLER.

Witnesses:

B. F. LEE,
R. A. PIPER.